University of Essex

Sustainable Essex

Green Living at the University of Essex

2009-10



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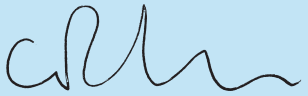
Welcome from the Vice-Chancellor

Sustainability is a core principle of all the research, teaching and business activities at the University of Essex. Through these activities, we seek a future for Essex as an educational model for healthy and sustainable living. The University aspires to be one of the greenest in the country, and to act as an exemplar both to other institutions of higher education and to regional bodies.

The need for more sustainable patterns of living sets enormous challenges for institutions and individuals. Sustainable development is not easy. Graduates of every discipline will have to address the sustainability agenda in one way or another, and we wish to equip those from the University with the best skills and leadership capacities to effect change in the future.

In 2008, I asked Professor Jules Pretty to establish and chair a Green Task Force (GTF) for the University. This is an internal body of staff and students of the University of Essex that coordinates and implements the University's sustainability policy. The GTF's primary aim is to provide a vision and road map to move the whole University towards sustainability.

The GTF is seeking to improve waste, energy, transport and catering management by working with existing human resources and enthusiasms. In all its activities, the University has a considerable carbon footprint, but we are targeting considerable reductions in net emissions of carbon in the coming years. Although much has been achieved, there is much still to be done by all of us. I hope you find this leaflet both interesting and useful.



Professor Colin Riordan
Vice-Chancellor

Recycling in residences and offices

Why is this important?

In 2006 in the UK, around 78 million tonnes of waste from households, commerce, industry, and construction and demolition were sent to landfill sites. This was a decrease of 16 per cent from 1998, when 93 million tonnes went to landfill. But between 2000 and 2007 household waste per person increased by 2.4 per cent, with each person generating, on average, half a tonne per year. Nonetheless the proportion of waste recycled or composted has been increasing and accounted for 31 per cent of household waste in 2007 (sadly still low compared with many other countries in the EU). The University produces both domestic waste from residences and commercial and industrial waste from offices and laboratories.

Tell me more

There are now 14 recycling centres located by Colchester Campus student residences and four in Squares 2, 3, 4 and 5. Recycled materials are collected daily, and recycled waste is baled and compacted on site, and then sold.

What can I do?

In University accommodation, we rely on students to sort their waste and carry it down from their flats to the recycling centres. Bags for this purpose are available from the Accommodation Office and these can be used for sorting waste in the kitchens and removing it to the recycling centres.

In offices and computer labs we will be trialling a new binless office scheme in 2009-10. Individual waste bins will be replaced with central waste and recycling bins on each corridor. These schemes have been found to increase recycling rates dramatically even though, to begin with, many people object to losing their personal bin. The Students' Union was the first in the University to remove bins from all its 26 offices.

Looking ahead

The University is planning to roll out the recycling in residences scheme to University Quays and to student accommodation in Southend, once this opens in 2010.

Biodiversity and habitats

Why is this important?

The University maintains managed grounds and natural habitats, including farms, parkland, grazing marsh, woodland, old hedgerows and acid grassland. Biodiversity plays an important role in the life of staff and students. The Colchester Campus is set in a former deer park by the River Colne. It was painted in 1816 by John Constable, who described it as 'a beautiful wood and piece of water'. The newer campuses at Southend and Loughton are in urban settings but close to important coastal and inland habitats.

Tell me more

The grounds of the Colchester Campus retain acidic grassland, now a scarce habitat. Together with taller grassland, scrub and lakes, these form a complex mosaic of habitats with an extremely rich invertebrate fauna. The campus also contains coastal grazing marsh and notable specimen trees. Bird and bat boxes have been installed.

There are 18 major habitats on campus. These are Poplar Row, Nightingale Wood, Skipper's Meadows, Grazing Marsh, Green Lane, South Courts Grassland, Cherry Row, Kidney Wood, Hance Meadows, Oak Parkland and the two lower lakes, the Ha-Ha and House Pleasure Gardens, Ice-House Pleasure Gardens, Campus Farm and Pond, Kingfisher Lake, Bluebell Wood, Benton's Top Heath and Hay Meadows, Rookery Wood and Lower Heath and Woods.

Rare nightingales are regular visitors in spring. There are also Black and Carolina poplars, 400 year old oaks, and redwoods, eastern-white pines, cedars and Wellingtonias. The grazing-marsh retains many rare species and ditches support stands of reed. Spotted flycatchers nest on campus, and the many butterfly species include the Essex skipper and purple hairstreak. The acid grassland is dominated by red fescue, sheep's sorrel and field wood-rush, with rare parsley-piert and blinks in damp seepage areas. A map showing the habitats can be found on the Sustainable Essex web pages.

What can I do?

Take time out to notice the natural environment. Take regular walks around the campus and discover many secret places. A half-hour lunchtime walk will both reduce stress hormone levels and improve mood.

Looking ahead

The University will soon produce guidance on nature trails and a leaflet for students, staff and visitors.



Local and fairtrade food

Why is this important?

Food links people from the farm to the fork. We eat every day, so have regular impact on whole food chains from agricultural to transport systems. Local and fairtrade food can reduce food miles, improve the positive side-effects of agriculture on the environment, and contribute to the social sustainability of farmers and their families.

Tell me more

Fairtrade status has been confirmed for the whole University. All University outlets at the Colchester Campus now offer fairtrade beverages and a range of fairtrade fruit and snacks.

Water jugs are now available to all hospitality customers from Catering Services, and can be requested rather than bottled water for any event or meeting. Fresh water is offered in all outlets to minimize the number of plastic bottles on campus. Bottled water at all outlets includes Resource, a local water supplied from Cambridge, with the added incentive of off-setting its carbon emissions by buying one acre of rainforest for each pallet delivered, in conjunction with the Cool Earth Foundation.

A considerable success has come from the recent launch of insulated University of Essex mugs. These save on the purchase and disposal of cardboard cups (a higher price now has to be paid for drinks using a cardboard cup). By early 2009, 2,600 insulated mugs had been sold, with an estimated 1,500 in circulation. A total of 30,000 discounted coffees are sold per year from University outlets, thus saving on the purchase of 30,000 cups (and their disposal).

All waste oil from the kitchens is now recycled at a local farm into biodiesel.

Suppliers have been sourced to ensure, where possible, fruit, vegetables and meat products are from local farms and growers. The Students' Union has arranged a fruit and vegetable market every Friday in Square 3 of the Colchester Campus.

The use of plastic carrier bags from food outlets has ceased. Biodegradeable bags are now offered to reduce the amount sent to landfill. All takeaway consumables are now biodegradable, including boxes and cutlery.

What can I do?

- Eat five portions of fruit and vegetable a day, and buy local produce if you can.
- Refill your water bottles rather than buy new ones.
- Purchase fairtrade products. Purchase Resource water and reduce carbon emissions.
- Buy an insulated coffee mug.
- Get involved in the new Colchester Campus farm and allotments when they are established.
- Ask suppliers where their food comes from.
- Buy food from one of the many local farmers' markets in the region.

Looking ahead

At the Colchester Campus, a herb garden has been located in the northern amphitheatre, below Food on Three, and will supply Catering Services with a wide range of herbs. Interpretation boards will be put in catering outlets to indicate that herbs are locally grown.

The University plans to establish a campus farm and allotments. These will be east of Wivenhoe House Hotel and the Pleasure Gardens. This will require the development of an old pond to irrigate the farm/allotments. Rabbit fencing will be bought and the farm laid out, with an institutional mechanism identified for staff/student co-management. Food grown on campus will be eaten on campus.

Opportunities for composting food waste will also be assessed.

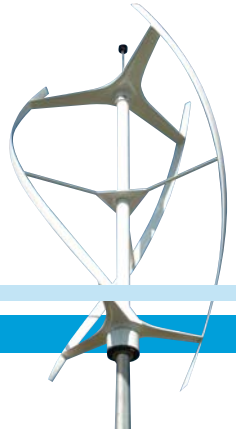


Energy management

Why is this important?

Energy consumption contributes substantially to emissions that produce climate change. A more sustainable energy sector is one in which less energy is used (because of the conserving actions of end-users), and more energy is generated from renewable resources or sources that produce no carbon dioxide. Electricity generated from renewable sources has been increasing steadily since 1996.

In 2007, five per cent of the total electricity generated in the UK was from renewable sources, up half a per cent from 2006. There was a 25 per cent increase in the amount of energy generated from wind and wave sources making it the largest renewable source. Previously, hydro power had been the source generating the most renewable electricity. In buildings, between 25-60 per cent of the energy used is generally on lighting.



Tell me more

The University is developing ways to reduce energy consumption and gradually increase its own energy production from renewable sources. Automatic lighting controls have been fitted in many corridors, seminar rooms and student kitchens to reduce energy consumption.

A 6 kW wind turbine was installed on the roof of the new building for the School of Health and Human Sciences. In the same building, all kettles were removed and replaced with energy efficient tea points, and automatic low water use toilet facilities, washbasins and flush systems were installed. The new Centre for Brain Science has ground-source heat pumps, solar collectors and a rain water collection system.

Thermal imaging has been used to identify the heat leakage profiles for a number of work and accommodation buildings. The University has been accredited by the Energy Institute under the Energy Efficiency Accreditation Scheme.

What can I do?

If you are out of a room for more than 15 minutes you can help to reduce energy consumption, and save the University money, by switching off the lights.

Do not leave doors open in winter – corridors are not heated to the same extent as offices and teaching rooms. Close the blinds in summer to keep cool.

Do not overheat your room – put on a jumper before you turn up the heating. A reduction of 1°C can reduce emissions by 10 per cent.

Do not leave TVs, DVD players and stereos on standby. Some appliances still use a quarter of their normal power when in standby mode.

Unplug chargers and power supplies (eg mobile phones, laptops and printers) when not in use. They still use energy when plugged in, even when not in charging mode.

If your home does not suffer with damp, do not let your bath water out until it has cooled down: that heat energy is better used in the house than lost down the sewer.

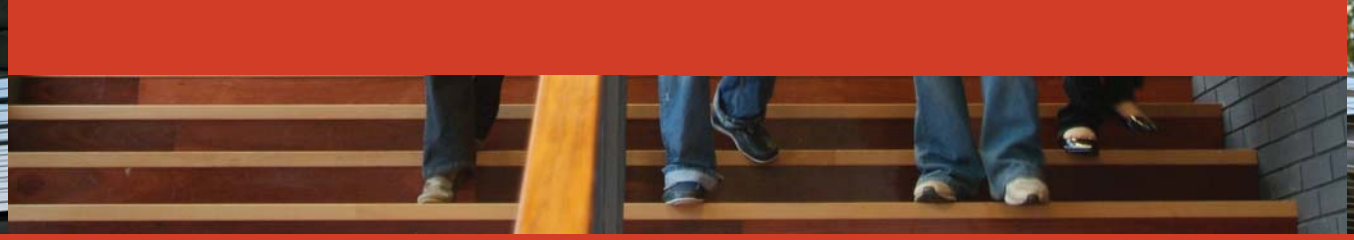
Looking ahead

The heat generated by a new air conditioning system for the Lakeside Theatre will be recycled to heat the water in the Library. The air conditioning for one of the computer laboratories will also generate heat for the office area known as the old physics building.

More thermal imaging will be used on the Library, academic buildings, and student accommodation at the Colchester Campus.

The University will develop plans for the next generation wind turbine, which will be twice the size of the first one.

Dyson Airblades (for hand-drying) have already been successfully used in the Students' Union, so will be fitted in the Library toilets for further assessment and later rolled out across the University.



Sustainable transport

Why is this important?

Between 1990 and 2006, total carbon dioxide (CO_2) emissions fell by 6 per cent in the UK. Much of this decline has come from a reduction in emissions attributable to business (14 per cent decline). Emissions from residential users have declined by 5 per cent since 1990, but those from transport rose by 12 per cent. Transport makes a significant contribution to climate change, as well as resulting in both health costs (air pollution) and local environmental costs. Car ownership in the UK is now at more than 20 million vehicles. CO_2 emissions from private cars increased by 4 per cent between 1990 and 2006. Over the same period road traffic volume (measured as total car-kilometres travelled) increased by 20 per cent.

Getting people out of private motorised transport and into public transport, as well as encouraging more cycling and walking, can be hard as many people do not have immediate choices.

However, some 58 per cent of car trips are less than five miles, and 25 per cent less than two miles. Many of these trips can be substituted by walking, cycling or public transport.

Tell me more

The University has been working to introduce a range of options to make alternative forms of greener transport more accessible to students and staff.

Cycle town funding was gained by both Colchester and Southend in 2008. This will lead to improvements in local cycling routes and promote cycling and bike-rail travel for both campuses. A cycle route from upper Wivenhoe to the Colchester Campus has been approved for funding by Essex County Council and, in the University's cycle-to work-scheme, staff can acquire a new bike at a discount of 30-40 per cent.

Dr Bike sessions offer free cycle checks and repair services every Friday during term at the Colchester Campus. Re-cycle, Colchester's bike charity, sells refurbished bikes on campus at the beginning of each term. The University's Bicycle User Group (BUG), with representatives at Colchester and Southend, also organises social rides/events and meetings, see: www.essex.ac.uk/bug.

Staff and students can use the 'Unicard' annual bus pass that discounts travel on First buses in Colchester. First's No 62 bus from the main Colchester Station to the campus is University-branded.

As part of the Colchester 2020 Travel Plan Club, the University is engaged in measures to promote public transport usage, cycling and walking, as well as car sharing.

The University has invested in storage facilities for cyclists and motorcyclists, bus shelters, and pedestrian and cycle routes. Efforts to promote cycling and manage car parking are made in consultation with the University's Bicycle User Group and Car User Group.

At the Southend Campus, with its town centre location, proximity to Central and Victoria railway stations and local bus routes, no University-owned car parking is provided and staff, students and visitors are encouraged to use public transport. The Loughton Campus is well-served by public transport.

What can I do?

Walk more – walking is good for personal, mental and physical health. Each person should try to walk 10,000 steps a day (roughly four miles).

Use public transport when possible – take advantage of the 'Unicard' and other bus ticket offers available from the University Post Office at the Colchester Campus.

Cycle more – get your bike checked for free by Dr Bike and use it regularly. If you are looking for a bike, buy a cheap refurbished one from Re-cycle. If you are staff, join the 'Cycle to Work' scheme at: www2.essex.ac.uk/estates/Pages/CycletoWorkScheme.htm. Join BUG at: www.essex.ac.uk/bug and be part of efforts to enjoy and improve cycling. Staff who cycle to meetings can claim business mileage.

Carshare and save money; find a match at: www.colchester2020traveltogether.com and/or join the University's car share scheme.

Use video conferencing and other audio-visual means where possible to save on travel to meetings, please see: www.essex.ac.uk/avms/AVS/default.htm.

Looking ahead

A wide range of measures are planned for 2009-10 including a car sharing scheme with designated bays and having a carshare car at the Colchester Campus. This will be managed by the Wombat Car Club.

The results of the first Southend Campus travel survey will inform the development of the Southend Travel Plan.

Measures to improve pedestrian access at the Colchester Campus will include the launch of a walking map, improved signage and safer, all-season access from Wivenhoe with the construction of the wide cycle route alongside the Colchester road.

Water management

Why is this important?

Some 1.5 billion people in the world have no access to drinking water. In Europe, daily per capita water consumption is some 150-200 litres (in the UK it is 148 litres per person per day). In the USA it increases to 400 litres per day and in Las Vegas it amounts to 1,600 litres per day. In Essex, average daily consumption is 159 litres per day.

Today, clean water is assumed to always be available, yet consumption patterns by users can make a difference to both costs and environmental impacts. Household water consumption accounts for around two-thirds of water in the public supply (excluding leaks).

Tell me more

The University is developing ways to reduce water consumption. It is also developing ways of making use of grey water.

On the Colchester Campus, an aerator (that works like a fountain) was recently located in the lakes to improve oxygen levels and water quality.

What can I do?

Always put the plug in your sink when having a wash or shave. Leaving hot water running is throwing money down the drain.

Do not leave the tap running when brushing your teeth – this can save ten litres of water per day.

Taking showers rather than baths saves enough water each week for 1,000 cups of coffee or tea.

Washing clothes at 40°C rather than 60°C means you use 30 per cent less electricity. Reduce the wash to 30°C and save even more. Always wait until you have a full load before using your washing machine. You will save energy, water and washing powder too.

Looking ahead

A trial of low water use urinals has been conducted and there are plans to roll out to six new areas. This could save 1,600 m^3 water per year.

The University will investigate green roofs, rainwater harvesting, willows for filter beds and harnessing energy from the weirs on the campus lakes. Low water use toilets and automatic taps have been fitted in many buildings.

Buying green

Why is this important?

Everything we buy and use has an impact on the environment somewhere. We shop every day but only vote every four to five years. Our buying votes for certain types of production, transport and resource systems. Added up this can make a large difference to the wider environment.

The University itself is a major contributor to the local economy and, through responsible spending, hopes to increase the likelihood of suppliers acting responsibly, not only to meet environmental legislation but actively to reduce the environmental impact of their products and services.

Tell me more

The University has a new sustainable procurement policy to move all purchasing towards greener options. This policy encourages staff to consider the lifetime impacts of the products they buy, including resources needed to create, operate and eventually dispose of them. Staff may need to spend more upfront to achieve a lower lifetime cost and environmental impact. For example, careful procurement can reduce the amount of packaging and the number of deliveries.

In the future, alternatives to procuring new items will be explored: departments may pool resources, lease instead of buy and refurbish current items instead of replacing with new.

The University has been awarded fairtrade status. All drinks at the Colchester Campus are now fairtrade, as are many products in the shops. Bottled water is sourced from a local company that contributes to rainforest protection in the Amazon.

What can I do?

As students and staff, you can contribute by choosing greener options when you purchase goods and services both at the University and off-site.

Consider items that are made from recycled or low-impact materials, that have a low environmental impact in operation and, where possible, are locally produced. And, when you no longer need an item, consider ways of passing it to others such as through Freecycle or the University small-ads, hence reducing the amount of material going to landfill.

Looking ahead

As part of an increased central overview of University procurement, training will be offered to all appropriate staff on environmental procurement.



Carbon footprint

Why is this important?

All institutions should take responsibility for the carbon they directly and indirectly emit to the atmosphere. Reductions in emissions are essential if the impacts of climate change are to be mitigated or even reversed.

Tell me more

A carbon audit for the University was first completed in 2009. This indicates that the University's carbon footprint is approximately 25,000 tonnes per year or 3.3 tonnes per student FTE. This represents a 5 per cent decrease per FTE since 2005.

This compares with a range of 19,000 to 43,000 tonnes emitted by other universities of similar size (eg Royal Holloway, Surrey, Hertfordshire, St Andrews, Exeter, University College London and King's College London).

What can I do?

All daily activities contribute to carbon footprints. However, acting sustainably does not just reduce harm; it can also contribute to well-being, health and a good quality environment.

Become a carbon expert. Educate yourself (and your friends) about the carbon cost of different activities. Do your own carbon audit by filling in a carbon calculator to see if you can reduce your carbon emissions over time.

Looking ahead

The University will monitor its carbon footprint and set targets for reduction that will drive further social and technological innovation.

The Interdisciplinary Centre for Environment and Society (iCES)

The iCES is an interdisciplinary centre designed to increase collaboration between disciplines and departments. A regular film and seminar series is held each term. The Masters in Environmental Governance is a scheme run across a range of departments.

The iDorm

The Intelligent Dormitory (iSpace) is a student study bedroom built using the same design, furniture and fittings as those in halls of residence but fitted with intelligent gadgets that can detect and learn the occupant's behaviour, with the aim of providing services that could improve the quality of their lives by generating an environment that suits their needs.

Further enquiries

The Green Task Force (GTF) is an internal body of staff and students that coordinate and implements the University's sustainability policy. The GTF reports to the University Strategy Group chaired by the Vice-Chancellor. Members are drawn from the student body, academic staff and administrative staff. The GTF membership in 2008-09 was:

Professor Jules Pretty OBE (Chair, iCES and Department of Biological Sciences)
Mark Ager (Estate Management Section, EMS)
Neil Barnard (Member of Council, and Department of Biological Sciences)
Professor Ted Benton (Department of Sociology)
Daisy Blench (Students' Union, SU)
Dr Steffen Böhm (Essex Business School)
Professor Ian Colbeck (Department of Biological Sciences)
Richard Frost (EMS)
Rachel Hine (iCES)
Dr Maria Iacovou (ISER)
Vivien Insull (Accommodation Office)
Jo Leyland (EMS)
Richard Moger (SU)
Tim Morris (Catering Services)
Andrew Nightingale (EMS)
George Papaioannou (SU, from 2009)
John Pavey (SU)
Dan Satterthwaite (EMS)

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Sources of information

The University of Essex Guide to a Green Planet (2002, editor J Pretty). Copies are available from the Communications Office, e-mail: comms@essex.ac.uk

Defra. 2008 The Environment in Your Pocket. London. Available as pdf at: www.defra.gov.uk/ENVIRONMENT/statistics/eiyp/.

Defra. 2008. Sustainable Development Indicators in Your Pocket. London Available as pdf at: www.defra.gov.uk/sustainable/government/progress/data-resources/sdiyp.htm.

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