

Royal Holloway and the £2.8 million fuel bill

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Next year the government is to start extracting annual financial penalties from non-energy intensive institutions for excessive carbon emissions at £12 per tonne of carbon.

Royal Holloway acknowledges that work needs to be done to reduce our carbon footprint. The College released 13,716 tonnes of carbon in 2010/11 which is an improvement from previous year's, but this is still about the same as the emissions produced by 7,000 return flights to New York or the average yearly emissions of 4,500 motorists.

From April Royal Holloway is likely to end up being charged between £150,000 and £200,000 a year in emissions charges through the Carbon Reduction Commitment legislation. This does not make Royal Holloway particularly exceptional amongst higher education institutions but if the university does not drastically reduce the amount of energy it consumes, a combination of rising energy bills and emissions penalties will make this a problem the College cannot afford to ignore.

The cost of energy in the UK has been a prominent issue in the news over the last year and Royal Holloway is not exempt from the rising prices of gas and electricity. In the 2005/6 financial year, Royal Holloway spent £1.8 million on energy, four years later, the college spent £2.8 million. The college's total income in 2009/10 was £132 million.

Speaking to me last week, RHUL's Energy and Sustainability Manager, Anna Kosteletos explained: 'We are really committed to reducing our carbon emissions. We reduced our electricity consumption last year by 200 carbon tonnes but our electricity bill actually increased. Gas consumption has remained roughly the same but overall our costs are going up despite the reductions that we have been making.' One of the college's providers, Southern Electric says that the cost of wholesale gas has gone up by 40% and electricity by 23%. Next year the university could be paying about £3.6 million – or £360 for every student and member of staff (assuming 8500 students and 1500 members of staff).

One challenge faced by the College is the need to improve facilities to enhance the student experience whilst simultaneously reducing carbon emissions. The Carbon Management Plan outlines how this may be achieved in conjunction with the possible growth of the estate outlined in the Masterplan.

In order to meet all of these requirements and its emissions targets, existing buildings would need to become 8% more efficient every year from now until 2020 and the new buildings would have to be 60% more efficient than the average estate building is today (97.43 kg CO₂/m² or the D band (yellow) on the Energy Efficiency Certificates).

'We have managed that with the extension to the Moore Building', says Anna Kosteletos. 'It has solar panels on the roof and an air source heat pump.'

The college has already made considerable progress towards reducing its emissions 'We took out the steam heating in 2008/9, that was quite a big project. We did an energy efficiency lighting project last year in most of the academic buildings and most of our halls have PIR sensors. We have put gas, electricity and water meters in every building. If you can't monitor what you are using and measure it properly you don't know where to make the necessary changes.'

Anna works in a particularly warm part of Founder's where the central heating and hot water system enters the building. 'I'm in here wearing open-toed sandals but if I go outside I will be freezing. In the summer there is no air-flow, it's boiling in summer, about 33°C. With Founder's heating it is an ongoing problem. It is trying to balance an old building and having massive heating requirements in different areas. Another problem with Founder's is it is Grade I listed so we can't change much of the fabric of the building. We have looked into double glazing but the cost would be enormous.'

To bring RHUL in line with HEFCE's plans for a 48% reduction in emissions by 2020, the college has established a Carbon Management Plan that outlines the required changes needed to achieve this goal. The college will have to reduce its emissions by 1097 tonnes/year to keep in line with HEFCE's targets.

Anna believes this is only possible if students and staff incorporate a green ethos into their everyday lives. 'We can reduce gas and electricity by a certain amount but it is really about becoming a sustainable community. I could put all the solar panels on the buildings that I wanted but if people left everything on then it wouldn't make a difference. It is when individual people start to really think about it that actual changes will happen.'

For more information about Royal Holloway's sustainability plans and how you can help visit: <http://www.rhul.ac.uk/sustainability>.