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Skills for a Low Carbon Economy - FE Task Group
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*Words: **Phil Fone***

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East Midlands



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further education colleges leading the way



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Foreword

As the East Midlands Development Agency's (*emda's*) Head of Low Carbon, responsible for the region's low carbon and sustainability programmes, I am delighted with the response from the Further Education Colleges to the growing need to deliver the skills needed by businesses in the 21st century's low carbon and resource efficient economy.

Their early and pro-active decision to commit to joint working through the formation of the Skills for a Low Carbon Economy – FE Task Group, and to work closely with *emda* to support the region's low carbon ambitions, has added value and impetus to our programmes.

A rapid transition to the delivery of low carbon skills was one of the key objectives behind *emda's* decision to invest in the Skills4Energy programme which has provided the seed finance for our colleges to acquire the resources needed for the delivery of an entirely new curriculum.

As a clear sign of the importance *emda* attaches to low carbon skills, around £1m has been allocated to support colleges in the Skills4Energy programme. Through this programme (managed by Pro Enviro) we have been able to pump prime a wide range of projects suggested by colleges. *emda* has been pleased to see colleges investing their own capital funds in low carbon projects, especially in the capital building programme where many examples of Building Research Establishment Environmental Assessment Method (BREEAM) 'Excellent' rated construction projects have helped to showcase best sustainable practices for everyone to see.

A strong and confident partnership is now in place between employers, colleges and all other stakeholders with an interest in a low carbon economy. *emda's* role in stimulating interest in, and demand for, the skills needed by the 'new industry new jobs' agenda has been successful, as this booklet testifies. Together the partners can go on to transform the skills landscape and ensure that businesses have access to the skilled employees they need to thrive in the 21st century's challenging economic environment.

Peter Strutton

Head of Low Carbon - emda



Skills for a Low Carbon Economy FE Partnership Group

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- **Castle College Nottingham**
Interim Principal: Mal Cowgill
- **Chesterfield College**
Principal: Judith McArthur
- **Derby College**
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- **Loughborough College**
Principal: Jim Mutton
- **Moulton College**
Principal: Chris Moody OBE
- **North Nottinghamshire College**
Principal: John Connolly
- **Northampton College**
Principal: Len Closs
- **South Leicestershire College**
Interim Principal: Matt Pinches
- **South Nottingham College**
Principal: Mal Cowgill
- **Stephenson College**
Principal: Nigel Leigh
- **West Nottinghamshire College**
Principal: Asha Khemka OBE
- **Pro Enviro Ltd**
- **National Skills Academy for Power**



Introduction

The global effort to move towards a low carbon economy is having an impact on Further Education in the East Midlands. Spearheaded by funding and support from the East Midlands Development Agency (*emda*) and focused upon recent Government policy statements such as the National Skills Strategy, Further Education Colleges in the region are making a major contribution to the changing economic landscape. This contribution is demonstrated through their commitment to low carbon skills activism and to ensuring that environmental sustainability is at the heart of the capital investment programme in new college buildings and learning facilities.

Colleges have set as their ambition:

- To make the East Midlands Further Education sector synonymous with an exemplary, innovative and comprehensive approach to delivering the skills to drive the transition to a low carbon economy; and in their operations to strive to achieve the highest standards of low carbon, sustainable practices.

Many of today's Further Education Colleges are able to trace their roots back to the mining colleges established in the 1920s when coal was still king. Today those same colleges are embracing the low carbon sustainable technologies needed in the 21st century.

Across the East Midlands, Further Education Colleges are supporting the fast growing low carbon economy by:

- providing the high level training and skills needed in the manufacture, installation and maintenance of low carbon technologies
- stimulating business and employer demand for low carbon sustainable technologies by showcasing the latest developments
- supporting knowledge exchange and professional development to train the teams who will expand the learning and skills sector's capacity to deliver low carbon skills
- ensuring that the colleges' own building and capital investment programmes achieve the highest standards of environmental sustainability and low carbon technology such as the BREEAM 'Excellent' rating for new college buildings
- introducing low carbon skills and efficiency gains into the general management of colleges through process improvement and supply chain management efficiencies
- bringing an awareness of sustainability and low carbon technologies to the tens of thousands of learners who each day study at Further Education Colleges committed to this 21st century curriculum imperative.





In this publication we are showcasing and celebrating just a few of the exciting examples of how Further Education Colleges in the East Midlands are ahead of the curve contributing to the growing low carbon economy in the region.

We hope you will enjoy reading about just a few of our successes:

Skills for a Low Carbon Economy – FE Task Group

This group, established and facilitated by the Association of Colleges (AoC) East Midlands network at EMFEC, in partnership with *emda*, provides a focus and platform for information sharing and joint development projects and provides a key strategic function for the Skills4Energy programme.

Already the group has completed a low carbon curriculum sharing and mapping project to link employers in the sector to relevant training opportunities. A project to develop a suite of Higher Level Learning modules and, potentially, a Foundation Degree, is well under way. This is in addition to the developments in technologies supported through the Skills4Energy project (see below).

Skills4Energy

Skills4Energy is the region's flagship project to develop the skills needed for a low carbon economy in the 21st century. It is funded by *emda* and features prominently in the latest National Skills Strategy entitled 'Skills for Growth'.

Eight colleges across the region have benefited to the tune of £600k of grant which has been used to purchase all types of resources from photovoltaic systems through high tech building services systems to specialist hydraulic filtration equipment used in the maintenance of wind turbines.

Key to the success of the projects has been the advice and support of the specialist consultants, Pro Enviro, who have acted on behalf of *emda* to assist colleges in developing low carbon strategies linked to government policies and priorities.

In addition the colleges' capital building programme (part funded by the LSC together with European funding) and other specialist grants have generated the capital to provide many colleges with new buildings which have achieved the BREEAM 'Excellent' rating for sustainability and low carbon standards.

Knowledge Management Platform

Partner colleges in the Skills4Energy project have benefited from sharing members' expertise through the Knowledge Management Platform established by Pro Enviro Ltd as part of their programme co-ordination role funded by *emda*. The platform is developing into a key resource for colleges as they expand their skills offer to employers.

Qualifications

From City and Guilds Certificates in Installing and Testing Domestic Photovoltaic Systems to Foundation Degrees in Low Carbon Technologies, backed by the region's leading universities, colleges in the East Midlands are forging ahead with the introduction of the qualifications needed to train, accredit and quality assure the 21st century workforce needed to support the nation's low carbon economy of the future.

Employers, Sector Skills Councils and trade associations are all involved in making sure these qualifications are what businesses need to be competitive.

Knowledge and Technology Transfer Hubs and Short Knowledge Transfer Partnerships

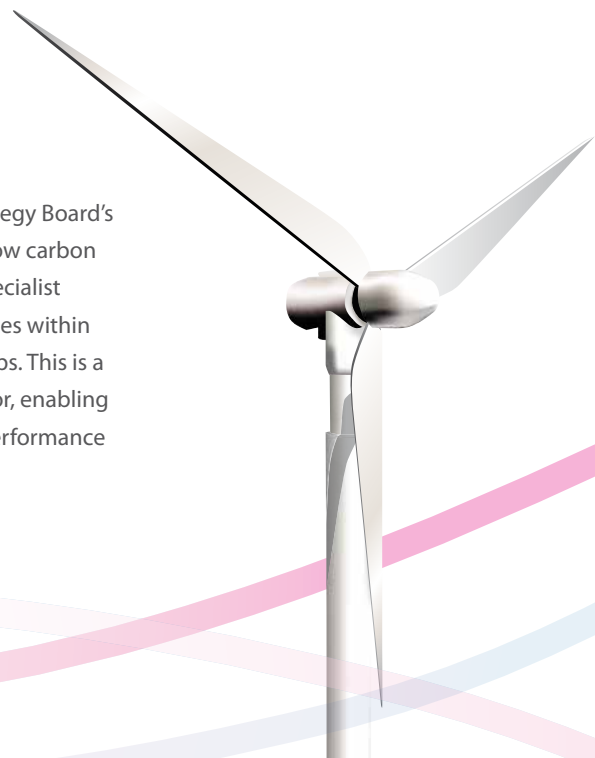
Led and funded by *emda*, an exciting new development is the establishment across the region of six low carbon Knowledge and Technology Transfer Hubs (KTTHs) in partnership with Further Education Colleges. Each KTTH will operate as an industry-facing "shop front" to engage with businesses for knowledge transfer and innovation to lead the way in embedding low carbon technologies in the region. The six likely themes which the Hubs will drive are:

- low carbon manufacturing
- low carbon vehicles
- renewable energy
- low carbon building services
- low carbon power systems
- low carbon management and innovation

The KTTH programme will work closely with the Technology Strategy Board's Knowledge Transfer Partnership (KTP) programme to deliver 30 low carbon short-KTPs over the next 18 months. In support of the Hubs a specialist short-KTP "Finder Service" will identify new short-KTP opportunities within business in the East Midlands and deliver them to each of the Hubs. This is a region-wide programme, driving innovation through the FE sector, enabling businesses to improve their competitiveness, productivity and performance and helping to build the transition to a low carbon economy.

"In wind turbine generation alone we need a vast array of skilled people who are trained in working at heights, have high voltage electrical skills such as cable jointing and, if working off-shore, have survival training similar to those in the oil industry."

Simon Parke
Director, TBAT Innovation Ltd





Skills4Energy:

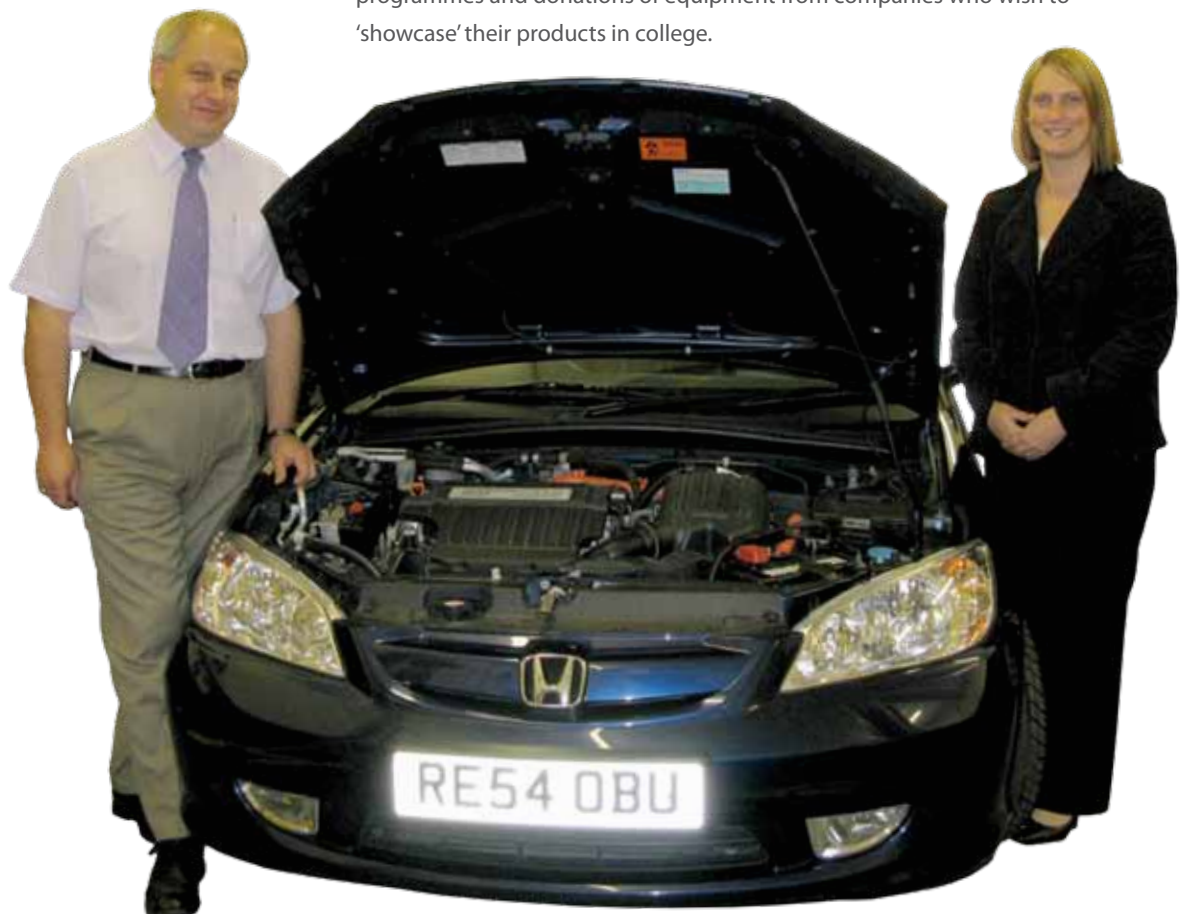
New Skills through Energy Technologies Grants

Developing alternative and renewable energy skills in support of the move towards a Low Carbon and Resource Efficient Economy in the East Midlands.

From hybrid cars to ground source heat pumps, colleges in the East Midlands have been investing heavily in the capital equipment and training resources needed to skill the technologists and engineers of tomorrow in the low carbon competencies required by business in the 21st century.

This investment programme has been funded by a major capital grant programme from *emda* and co-ordinated by Pro Enviro Ltd, one of the country's leading low carbon consultancies.

In all, eight colleges have received grants totalling £600k. This funding has been used to supplement the colleges' own substantial investment programmes and donations of equipment from companies who wish to 'showcase' their products in college.



Typical of the investments being made, Grantham College has purchased a hybrid car and numerous components to enable motor vehicle technicians to learn how to service, repair and maintain hybrid cars to the standard they left the factory in. With concern for the environment increasing yet transport needs showing no signs of abating, hybrid vehicles, which are powered by a combination of petrol and electricity, are becoming a popular choice with motorists. Following the lead of hybrid-driving celebrities including Cameron Diaz, Leonardo DiCaprio and Jack Nicholson, this mode of transport is increasing in popularity.



At Moulton College the grant funding has purchased rain water harvesting equipment and solar water heating technology.

South Nottingham College is focusing its grant funding on installing alternative energy monitoring and measuring technology. This includes thermal imaging systems, energy metering and monitoring add-ons to photovoltaic, solar and wind turbine generators.

In a similar vein, South Leicestershire College has purchased air and ground source heating systems, solar and photovoltaic technology and rain water harvesting equipment.

Many of the other projects funded by *emda* are featured elsewhere in this booklet and include:

- Northampton College
- Stephenson College
- North Nottinghamshire College
- Lincoln College

Collectively the region's colleges have invested over £1m in bringing the latest in low carbon technology into the hands of tomorrow's technicians. That investment is now hard at work and, even at this early stage, there is every indication that the targets set are on track to be achieved and surpassed. Equally significant is the interest from students and employers that hands-on experience of low carbon technology has generated.



The programme has reported some 2,000 training provisions to students and over a hundred engagements for training employees from local businesses. The current phase will run through until 2012 and will deliver an additional 1,820 training provisions in low carbon technologies to students in the FE colleges as well as a further 300 provisions to employees from local businesses.





Derby College

Industrial Heritage Transformed for Tomorrow's Technologies

The crumbling remains of Derby's extensive Victorian railway works have been transformed into Derby College's flagship vocational campus. It is an outstanding and innovative example of renewal of industrial heritage and also demonstrates aspects of sustainable construction methods and technologies. The pioneering transformation of the once derelict grade II* building has resulted in impressive new buildings which perfectly complement the character of the original premises whilst saving millions of tons of construction materials from the crusher.

The Roundhouse is unique in that it has been based around the renewal of a building of outstanding importance to Derby's industrial heritage. The site was once the NASA of its time as famous engineers such as Robert and George Stephenson, Matthew Kirtley and Samuel Johnson pioneered the mass production and standardisation of locomotive manufacturing in England



in the 1830s. The original railway turntable that was home to the early steam engines is now the centrepiece of the college campus alongside newer buildings that house state-of-the-art learning facilities for the next generation of engineers, industrialists and scholars.

The Roundhouse offers 18,000 square metres of learning and teaching space, and was part of a £48m regeneration scheme. This has been the most ambitious project in Derby College's history. The campus is now home to more than 2,500 students studying on a range of full-time, part-time, Apprenticeship courses from Entry level to higher education. To add even more to the Roundhouse's 'green' credentials, it is home to courses teaching the latest in low carbon technologies in Building Services and Engineering.

Whilst estimates vary, there is no doubting that the reuse of millions of tons of construction materials has had a considerable impact on CO₂ emissions and the use of finite resources such as clay and cement which are heavy consumers of energy in their respective production processes.

The project would not have happened without the support of local stakeholders and funders including English Heritage, Derby City Council, *emda* and the LSC in addition to all the college's employer partners. Without the college and its partners' investment in this site, an important landmark building that was central to Derby's industrial heritage would have been lost, as the structure had been deteriorating over many years and was close to collapse. It is no surprise that the Roundhouse project won the East Midlands Constructing Excellence Project of the Year.

The project has provided opportunities for knowledge transfer and skills development in the fields of sustainable construction, heritage skills, design and engineering during the construction phase. The Roundhouse now provides a focal point for all Derby's high level vocational skills training and higher education. The building is a symbol of Derby College's commitment to "equipping this country for globalisation by making sure we have the skills that underwrite the industries of the future. Skills for high-tech, low carbon driven growth" (Peter Mandleson, Nov. 2009: Foreword to Skills for Growth – The National Skills Strategy).

"This is a building in which the whole community can take pride and the fact that it houses training for the low carbon technologies of tomorrow makes its heritage all the more impressive."

David Croll

Derby College Principal



Idle Valley Rural Learning Centre

A Model of Sustainable Practice

With support from local partners and regional and national funding bodies, North Nottinghamshire College has created one of the most environmentally sensitive college buildings in the country. Located on an existing Site of Special Scientific Interest (SSSI), the building had to achieve a minimal environmental impact and deliver a learning environment which would exemplify outstanding sustainable practices.

The centre was created with assistance from:


- the 2000-2006 Objective 2 European Regional Development Programme
- Single Programme Fund via the Alliance Sub-Regional Strategic Partnership
- North Nottinghamshire College
- the Nottinghamshire Wildlife Trust
- the Low Carbon Buildings Programme (run by the former Department of Trade and Industry).

The single-storey, 800 sqm fully ICT-enabled facility includes a range of workshops and learning/resource rooms, outdoor 'green classroom' area and information and advice area. The centre has the capacity for up to 100 full-time equivalent learning places. New courses at NVQ Levels 2 and 3 in Environmental Conservation have been specifically developed for delivery in the new facility.

The project has a dual focus – firstly, to help diversity and improve the competitiveness of the rural economy by working with local businesses, particularly SMEs, and, secondly, to inspire people from rural areas to participate in lifelong learning, especially in environmentally sustainable practices such as bio-mass production. As well as striving to become a centre for excellence in conservation and environmental education, the centre is providing training facilities to support SMEs and social enterprise business development; a new business-to-business networking forum; advice, guidance and training for individuals living and working in the local area; and on-site work placements with Nottinghamshire Wildlife Trust.

The Idle Valley Rural Learning Centre is one of the most environmentally sustainable in the UK with wide-ranging technology from solar panels to rain water harvesting – significantly reducing carbon emissions. Features within the design include enhanced insulation to minimise heat loss; increasing





natural daylight through large areas of wall and ceiling glazing and sun pipes; and maximising natural ventilation throughout. Space heating is provided by a geothermal heat pump system, which utilises the adjacent lake water to provide a highly efficient under-floor heating system. Hot water is predominantly generated by roof mounted solar thermal panels. Rainwater falling on the roof is collected, filtered and used to flush the toilets and percussion taps reduce usage.

Lighting throughout is controlled by movement and light sensors to minimise energy consumption. Materials used were also carefully selected for their sustainable properties, pedigree and capability of being recycled at the end of the building's life. The above technologies combined mean that the building emits at least 65% less carbon, in comparison to a building designed to the 2002 standards, and achieved a BREEAM rating of 'Excellent' at the design pre-assessment stage.

The Idle Valley Rural Learning Centre has already won an environmental award by the UK Sustainable Development Association in recognition of its 'green' credentials. In addition, it was a finalist in three categories of the 2009 Local Authority Building Control East Midlands Regional Excellence Awards:

- Best Sustainable Building
- Best Educational Building
- Best Technical Design & Construction.

Despite the very high standard of entries, the project finished within the top five in each category.

The centre is also developing a new Foundation Degree in Environmental Conservation that should see the centre go from strength to strength in terms of the range of curriculum on offer.





Grantham College

Renewable Energies House

In 2008/09 Grantham College successfully secured *emda* funding through the Skills4Energy Programme. This enabled the purchase of ground source, air source, underfloor and solar hot water heating systems. This equipment is installed in a mews 'renewable energies house' within the college campus providing a realistic 'domestic' environment in which to deliver training on the installation and maintenance of domestic renewable energy equipment. In January 2010 the college was successful in securing additional funding to expand the facilities and technologies to include photovoltaic, heat recovery and rain water harvesting technologies.

Most colleges use a classroom or workshop as a teaching environment whereas Grantham College has created a 'real-life' environment as close as possible to that which would be encountered in the workplace.

This is an exemplar facility that will be accessed by students, staff, employers, partners and the wider community including the local authority.

The project has received £56,000 of external funding for the purchase of equipment. This has been matched by the college with the donation of the house and capital funding towards refurbishment and installation. They have currently delivered power flushing courses and will be running introduction to solar, air source and ground source heating from April 2010.

This project has had a significant impact in assisting the College Energy and Environment Committee to raise awareness of alternative sources of renewable energy within the college. The vision is to do the same with the wider local community.

As part of the project, partnership working has been established with:

- Ice Energy who have supplied equipment and provided staff training. They will also be using the facility for the delivery of their own training.
- Worcester Bosch and BPEC who are using the facility for the accreditation of courses.

"It's with great pleasure that British Eco can announce that they have been chosen to supply a solar PV installation at the Grantham College Renewable Energy Centre. We look forward to working together in partnership with the college on this excellent scheme, which will not only provide the college with substantial savings on their electricity, but will be an inspiration to all who use the facility"

Robert Vine

British Eco Ltd.

Leicester College

Carbon Reduction Wins Through

A college wide strategic approach towards carbon reduction has helped Leicester College win the Carbon Reduction Prize at the Green Gown Awards in 2009. The Green Gown Awards are organised by the Environmental Association for Universities and Colleges. They recognise the exceptional initiatives being undertaken by Further and Higher Education to embrace and promote low carbon sustainability practices.

Leicester College's success was based upon the construction of the new Abbey Park Campus and the refurbishment of its St Margaret's and Freeman's Park sites.

The college is also in partnership with the Carbon Trust to become more energy efficient. A report produced in conjunction with the Trust became a catalyst for change across the college resulting in an action plan being published on the college intranet for both staff and students. This awareness raising of potential savings and environmental benefits was soon backed up by a major investment programme of over £200,000 on:

- adjusting space heating time controls
- upgrading the building insulation
- installing variable speed drives
- upgrading heating controls
- insulation of pipe work
- installing automatic lighting controls
- installing double glazing

The impact of installing variable speed pumps, improving building insulation (thermal imaging of buildings), installation of heating and lighting controls has so far reduced the college CO₂ footprint by 317 tonnes and a potential energy saving of 950,000 kWh. The report also identified the 'poor' performance of the heating plant at one campus. This led to a £1.2million two year plan of replacement boilers and a renewable energy installation of solar panels which increase boiler efficiency to 94% and reduce energy consumption by 40%.





To monitor and benchmark the improvements in its carbon performance, the college is investing in much more sophisticated and detailed performance systems by:

- Using the CIBSE Guide F for energy usage and CO₂ emissions within the FE sector. The college is setting itself targets to reduce its carbon emissions below the benchmark of an average of 99kg CO₂/m²/yr (source: CIBSE Guide 2004). At present one of the college campuses, Abbey Park's building management system monitors the CO₂ emissions and at present it is running below the benchmark at an average of 94kg CO₂/m²/yr and the college is working towards having this monitoring facility on the other sites.
- At the Freeman's Park campus, the boiler house CO₂ emissions were independently analysed by edp Consulting Limited. They project that the new installation will reduce CO₂ emissions by 33% (From 960,805 to 637,267 kg/pa). This will give the college further long term savings in energy usage and CO₂ reductions. The system has been designed to fulfill the role of a central heating system for the whole campus which will accommodate further new builds on site and score strongly in giving these new buildings a BREEAM excellent rating.

The experience of seeing its own campus 'go green' has been the stimulus to Leicester College construction lecturers to take a key role in the Innovation in Sustainable Construction Project.



National Fluid Power Centre



The team at North Nottinghamshire College's National Fluid Power Centre (NFPC) is at the cutting edge of developments in training for a low carbon energy future.

An exciting range of training programmes are either on offer or under development at the internationally famous centre of excellence in Workshop.

Using funding from the Skills4Energy programme, the centre is working with Hydac Technology Ltd, the International hydraulic and filtration company and Shell Lubricants to develop training courses in the maintenance of wind turbine generators. The reliability and output from wind turbines relies heavily on the lubrication and contamination control systems.

NFPC staff, supported by colleagues from Hydac and Shell, are developing training programmes for maintenance engineers to ensure they can inspect, diagnose and rectify faults in the turbines both in-situ and the workshops. Great emphasis will also be placed upon fault prevention throughout the courses and the development of vital skills through hands on experience at the NFPC.



Reducing energy consumption in power and motion control systems is another key development item at the NFPC. The centre is already delivering a range of one day energy workshops. These are for design and maintenance engineers and focus on how to create systems which optimise component specifications to reduce energy input whilst maximising the usable power outputs.

John Savage, Director of the NFPC says "Our team at the NFPC is at the forefront of helping international companies to design, manufacture and maintain low carbon solutions through the improved knowledge and skills of their workforce relating to mobile and industrial applications.

Working with our long standing partners such as Bosch Rexroth, Eaton Hydraulics, Parker Hannifin, Pall, Moog Controls, Sauer – Danfoss and Webtec products, we are able to provide an extensive range of advanced training on hydraulic, electronics, pneumatic and complex programme logic controlled systems. Many of the courses provided also lead to recognised competence-based qualifications."

Paul Cooke, Managing Director of Bosch Rexroth, who is a big advocate of the NFPC, says "Bosch Rexroth have used the centre as a preferred training provider for more than 15 years. Together we have been at the forefront in developing training solutions to meet the customers' needs at every level.

Together we are facing the challenges of a low carbon, energy efficient future for power and motion control and we intend to meet the challenge with positive solutions and the development of a high performance, competent workforce."



"Hydac has been a partner with the National Fluid Power Centre for many years and we have collaborated successfully on several projects to develop and deliver high technology training. The collaboration on wind turbines is further evidence of the high regard we have for the team at Worksop who we trust to deliver the advanced training our engineers need in order to support the rapidly expanding wind turbine market."

George Muscat
Managing Director of Hydac UK





Northampton College

The Power of Hands-on Experience

Northampton College's successful bid for *emda* funding under the 'Skills4Energy' programme has enabled it to purchase a whole list of low carbon skills related technology including:

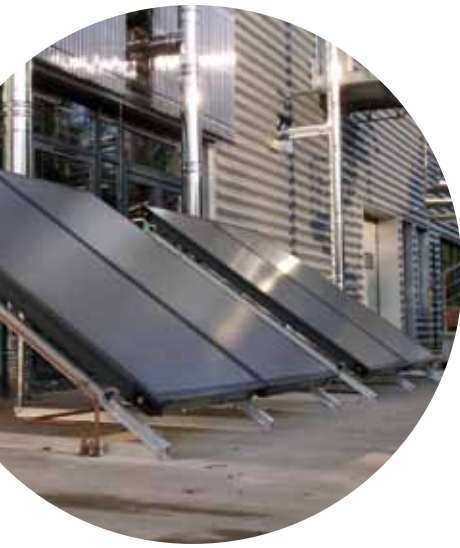
- micro-wind turbines and associated equipment
- air-to-air heat pumps
- photo-voltaic solar panels and associated equipment
- desk top training resources including those for hybrid and hydrogen powered vehicles

Already in the past 12 months, 120 students have each had six hours of enrichment training using the equipment purchased. Their enthusiastic and positive response has demonstrated the power of hands-on experience of new technologies and several of them now wish to develop their skills further with the ultimate aim of working in the low carbon sector.

Local SMEs looking to reduce their carbon footprint have also benefited from the new resources as the college has provided them with lunchtime demonstrations of the new equipment and its capabilities.

Practising what it preaches, the college is moulding many of these technologies into its own new building at its Booth Lane site. The 'low carbon' aspirations of the design have resulted in a BREEAM 'Excellent' rating. Students will be able to gain practical experience on the college's own installations which use a high tech building and management system (BMS) to control load shedding, sub-metering and voltage optimisation technology.





Stephenson College

Businesses Benefit from Low Carbon Investment

“We are grateful for all the financial support from *emda* and the advice of Pro Enviro in developing our new centre. We are equally proud of the close professional relationships we have built up with partners in delivering low carbon training.”

Nigel Leigh
College Principal

Strong relationships with low carbon equipment manufacturing companies are a key feature of Stephenson College’s strategy for a sustainable future.

At its main campus in Coalville, the college has invested over £200,000, over the last six years, to provide building services courses up to Higher National Certificate level with experience of the most advanced technology in:

- Rainwater Harvesting
- Grey Water Recycling
- Ground Source Heat Pump
- Air Source Heat Pump
- Solar Domestic Hot Water
- Commercial Solar
- Mini Combined Heat and Power
- Biomass Systems
- Underfloor Heating

Such an impressive range of resources has attracted a large group of clients including:

- British Plumbing Employers Council
- Baxi Group plc
- Chartered Institute for Building Services Engineers
- Buderus and Worcester Bosch (UK boiler manufacturers)
- EU Train Energy project. This encompasses eight European country partners to establish accredited courses in sustainable construction energy systems





“The college recognised that an enthusiastic sustainability ambassador could make a major impact on progress. The CUSP project has helped us accomplish a lot A number of initiatives started by our intern have put sustainability firmly on the college’s agenda.”

John Thawley, Vice Principal,
Wyggeston and Queen Elizabeth I College

Beyond the CUSP

More than half of the Further Education Colleges in the East Midlands have benefited from the ‘College and University Sustainability Placement’ (CUSP) programme. Developed in conjunction with The Environmental Association for Universities and Colleges (EAUC), this project provides internship for recent graduates who undertake sustainability initiatives in such diverse areas as curriculum development, green travel plans, reducing waste and energy consumption minimisation.

Interns have helped develop sustainability plans, run low carbon training sessions and in many colleges impacted upon college culture to raise awareness of sustainability issues and opportunities.

The College and University Sustainability Placements scheme recognises the potential of recent graduates to enhance your college or university sustainability team. The graduates are integral to reviewing, promoting and embedding the many varied facets of sustainability within all aspects of campus, curriculum and community.

Joining forces with the EAUC – the environmental and sustainability champion within Further and Higher Education in the UK – enables a CUSP graduate to realise your institution’s sustainable development goals.



The graduates can support current sustainability teams or instigate new areas of development, save your institution money through energy saving and procurement initiatives and promote and develop staff and student interaction with wider sustainability initiatives such as:

- EcoCampus
- Carbon Academy
- Joining the 81 Student Unions working towards a Sound Impact Award
- Carbon Reduction Commitment
- Review environmental impacts of procurement
- Universities That Count



East Midlands Specialisation and Innovation Pathfinder

“Danilith UK Ltd approached the East Midlands Development Agency looking for grants and assistance to open a production unit in the UK. We were introduced to an array of influential people from the region including Martin Jones (Derby College) of the East Midlands (NTI) Construction Innovation and Sustainability Pathfinder project. At this point we were unaware of the East Midlands Colleges and University commitment towards construction training from architects to bricklayers”.

The company was introduced to other colleges in the Pathfinder and received a range of further support to meet its objectives. The Sales Director added “It is refreshing to know that colleges are responsive in meeting the needs of industry...”.

Jeremy Jordan

Sales Director of Danilith UK

A consortium of further education colleges (East Midlands NTI Construction Network) bid successfully, with other partners through the LSC Specialisation and Innovation Pathfinder Initiative for funding to invest in sustainable construction technology.

In addition to investing in demonstration equipment such as rain water harvesting, each college in the partnership has employed a specialist advisor to research what innovative products and services are available and to offer expert advice to construction companies on how such components might assist in meeting Government targets on energy efficiency and carbon reduction. Training to support the introduction of this new technology is part of the package on offer to construction companies and college students.

Just a few of the support solutions currently being offered to the construction industry by the consortium are:

- Chesterfield College, as a member of the consortium, is focusing on Water Management, Rain Water Harvesting and Grey Water Recycling technology. The funding has helped to develop specialist demonstration facilities allowing local companies to experience the systems in a working situation.
- Derby College is specialising in Modern Methods of Construction (MMC) and Off Site Manufacture (OSM). To meet amendments to the Building Regulations and the Code for Sustainable Homes in 2010 and beyond, research has been undertaken to explore the benefits of building systems, processes and materials. Structures and components manufactured and assembled in a factory environment improve the buildability, quality, airtightness and thermal energy efficiency, whilst minimising waste and contributing to reducing the carbon footprint of buildings.



- Lincoln College's specialism is 'Thermal Mass' in buildings and its impact on new technologies in construction. To meet the Government's challenging targets within the initiative of the Energy Performance in Buildings Directive (EPBD) the 'Thermal Mass' of a building is once again being recognised as being important. In fact it is proposed that in the revised Approved Document for 2010 that deals with the design of elements and their ability to conserve heat and therefore fuel, 'Thermal Mass' is to become part of the calculation process in the assessment of the building as a whole.
- West Nottinghamshire College has invested in training resources for solar, thermal and air source heat pumps technology. Generating electricity within the domestic building and office environment is a key theme in the college's expansion of low carbon training and advisory services.

By using the Pathfinder funding to purchase specialist equipment to replicate and demonstrate Thermal Mass in practice, Lincoln College is now well placed to advise and train staff in the construction industry on what is available and, just as importantly, how to research appropriate applications and get the contacts needed to install low carbon solutions across the region and beyond.

"You have given me numerous contacts all of whom have been really helpful and productive. I very much value the networking process in building business and have a lot of experience doing so in various other ventures. I have to say I am very pleasantly surprised that the hub of my current networking activity, having branched out into sustainable developments, is my local Further Education College!"

Russell Davison
(Director) Peace & Love Homes Ltd

