

Stepping Up in Sustainability

South Nottingham College case study



Title of project	Electrifying the Automotive Curriculum	
Lead partner organisation name and address	South Nottingham College SNC Training East Midlands Centre for Automotive Training Mere Way Ruddington Fields Business Park Ruddington Nottingham NG11 6JZ	
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1. Aims of the project	<p>The aims of the project were to:</p> <ul style="list-style-type: none">• Train teaching staff in the assembly, testing, demonstration and reassembly of the electric vehicle at our world class East Midlands Centre for Automotive Training (EMCAT) based at Ruddington, Nottingham• Facilitate the use of e-learning resources to support delivery.• Pilot the delivery of unique education and training programmes to understand the technology behind electric vehicles and from there the application of repair and maintenance into delivery at EMCAT.• Support the current work developing National Occupation Standards to understand the application of electric vehicle technology• Significantly contribute to the creation of vocational qualifications• Encourage participation in Science, Technology, Engineering and Mathematics (STEM) subjects to a wider, more diverse audience of learners.• Promote and encourage participation with the low carbon skills agenda.	

<p>2. Situation: Identify the situation or issue that faced you</p>	<p><u>The Issue</u></p> <p>25% of all UK Carbon emissions can be allocated to the activity of the Transport and Motor Vehicle Sector.</p> <p>According to the European Commission, the global car fleet is predicted to grow from 800 million to 1.6 billion vehicles by 2030. In order to ensure sustainable mobility, a step change in automotive technology must happen.</p> <p>Green vehicles, including those capable of using electricity can contribute significantly to the European 2020 priorities of promoting a more resource efficient, greener and more competitive economy with the UK being a prime supporter.</p> <p>Currently within the UK no training education provider offers an electric vehicle (EV) component within its programme. (Source the Sector Skills Council, The Institute of Motor Industry and associated awarding body IMI Awards Ltd.</p> <p><u>Project Activity</u></p> <p>Responding to European and National Strategies on clean and energy efficient vehicles we will embed training on electric vehicles within our training programmes. To facilitate this activity we identified match funding which part purchased a dedicated electric vehicle for this purpose.</p>
<p>3. Task: Define the outcomes you needed to achieve</p>	<p>The outcomes we sought to achieve were:</p> <ul style="list-style-type: none"> • Train four teaching staff in assembly, testing, demonstration and reassembly of the electric vehicle at our world class East Midlands Centre for Automotive Training (EMCAT) based at Ruddington, Nottingham. • Facilitate the use of e-learning resources to support delivery. • Pilot the delivery to 25 learners between the ages of 14-16 to understand the technology behind electric vehicles and from there the application of repair and maintenance into delivery at EMCAT. • Support the current work developing National Occupation Standards to understand the application of electric vehicle technology by working with IMI and feeding back to them our experience and lessons learnt during the project. • Encourage participation in STEM subjects to a wider, more diverse audience of learners by using the project as a practical case study for curriculum areas throughout the college. • Promote and encourage participation with the low carbon skills agenda.

4. Actions that you took in order to achieve your plan, and your approach

Activities

1. Purchase of the Missile Electrical Car Kit (ECK)
2. Secured additional funding from Nottinghamshire County Council through their STEM Next Generation Fund, which helped purchase the Missile Electrical Car Kit. They also helped facilitate the communication of the project to local secondary schools.
3. Initially not part of the project, but as a result of the Next Generation Fund, a Level 1 programme was designed for the 2010-2011 academic year. This recruited 40 learners on a Qualifications Credit Framework (QCF) accredited provision as opposed to the target of 25 learners on the pilot provision. Particularly pleasing was the recruitment of 14 females to an area that is traditionally thought of as a male occupation.
4. SNC staff trained in the assembly, testing, demonstration and re-assembly of the ECK by a Mills Extreme Vehicles Ltd representative. Staff also attended Honda's base in Luton – a specialist training in Hybrid car maintenance. This was only possible because of our very good relationship with their training staff based at the EMCAT centre in Nottingham
5. Development of teaching & learning resources. The team worked hard throughout the project to develop bespoke training resources and the activity was led by the Project Manager who enthusiastically guided team members. In addition and in response to our Critical Friend, the project also bought in an existing E-learning resource and adapted it for the programme.
6. Consultation with IMI, IMI Awards Ltd and nominated stakeholder representatives such as the Honda Institute Training Manager was on going. the Project Manager was particularly effective in keeping all parties informed and up to date of events.
7. E-learning teaching and learning resources were developed through which learners could independently access the College's SharePoint.
8. Delivery of the following Qualification:
Course Title: STEM and Low Carbon Technology
Level: 1
Awarding Body: IMIAL – IMI Awards Ltd
Course Description: The course combines two separate qualifications; the Level 1 Award in Vehicle Maintenance (501/0550/4); plus the Level 1 Award in Personal & Social Development for the Automotive Environment (501/0962/5) with a specific focus on Low Carbon Technology and Sustainability. The course provides a good understanding of the rapidly growing renewable energy generation industry and prepares participants for further study
9. The Project Manager, in line with LSIS requirements and with reference

to our allocated critical friend, produced an Interim Report. This was sent before the deadline of 14/12/10.

10. Project Promotion has been on going, our prestigious EMCAT Centre houses apprenticeship programmes for BMW, Jaguar, Land Rover, Honda, Mazda, Suzuki, Vauxhall and VW in 'Motor Vehicle Maintenance & Repair' and/or 'Motor Vehicle Body Repair & Paint'. All employers were kept informed of activity, particularly from Honda and have been extensively involved. However all employers have responded positively to the development.

The Sector Skills Council (IMI) has also been communicated to and we have found that the most effective promotion has been word of mouth through formal meetings with in-house demonstrations.

An alternative strategy has been employed internally with the Project Manager working alongside the Head of School for Automotive Training in showcasing the project as a practical example of how the low carbon agenda can be introduced into the curriculum

11. Dissemination has been on-going throughout the project and has been targeted at a wide range of stakeholders including those mentioned in the previous section. There has also been dissemination to secondary schools, Nottinghamshire County Council, Local Councillors and car dealerships.

On 11 January 2011 the Project Manager presented to the Nottinghamshire STEM Forum Meeting with 14 attendees present representing 10 other organisations.

On 31 January 2011 the Project Manager presented to the 'Renewable Technologies & Development of Low-Carbon Frameworks Meeting', with 12 attendee's representing 7 other organisations including National apprenticeship Service, Skills Funding Agency, the CEO of SummitSkills, IMI and National Association of Professional Inspectors and Testers .

12. Project Evaluation has been through formal quality assurance processes involving the College Principal as well as the Executive Manager responsible and the Vice Principal for Market Development. They have monitored the progress of the project in line with College processes and procedures. Externally, Nottinghamshire County Council sent a team of auditors who observed the pilot qualification and spoke with learners undertaking the Level 1 course - feedback was excellent! We have also incorporated the suggestions and recommendations made by the Critical Friend allocated by LSIS. This has been very constructive.

5. Results that you obtained including:

- **practical achievements (what's in place)**
- **quantitative change (statistics etc)**
- **qualitative change (behaviour, culture, thinking, attitudes etc)**
- **what the organisation(s) have learned from this**
- **what it means for learners**

- The project recruited 40 learners - 15 more than targeted (+60%)
- 14 learners are female (38%) of our 2010 -2011 intake This is significantly higher than our already ambitious target of 20% and is a rate of recruitment higher for automotive training than on any other programme in the college and we believe, nationally
- 4 EMCAT staff have undertaken the specialist Hybrid training course offered by Honda UK
- The creation of the Level 1 Programme for cohort aged 14-16 (further details supplied in our answer to question 10)
- 100% Success Rate recorded for the Level 1 Award in Personal & Social
- Development for the Automotive Environment (501/0962/5)
- One internal dissemination event attended by all the HEAD of SCHOOLS at SNC, showcasing the role that STEM has in delivery
- Support for the current work developing National Occupation Standards to understand and the application of electric vehicle technology. The Project Manager has kept the
- Sector Skills Council – IMI - informed and involved with the project.
- Encouraged participation in STEM subjects to a wider, more diverse audience of learners. Internal dissemination and promotion of the project has generated significant interest; further, the work on other projects has been brought to the attention of relevant Heads of School who will signpost the case studies produced by all participants.
- Promoted and encouraged participation with the low carbon agenda particularly with the secondary school sector the College currently works with 21 and 2 specialists' providers.
- Showcased that young females have a role both in the automotive industry and addressing the low carbon agenda.
- Generated closer ties with the secondary sector - the scheme was promoted by Nottinghamshire County Council to 60 different schools, creating some new partnerships. One in particular is the Retford Oaks Grammar School, based in the north of the county and is the first time we have we have collaborated together.

In summary, the project is much needed in the sector. Everyone recognises there is a real need for this type of development work and we have had positive responses from all of our stakeholders. Learners enjoy the activities, and staff are genuinely enthusiastic and motivated about delivering it. Stakeholders endorse it and are keen to receive our feedback. The Executive Management Team is keen that the lessons learnt will be applied college wide.

6. What made the project a success? What were the key ingredients?	<p>Firstly, crucial to any project is the leader (This response is being written by the External Funding Manager and not the Project Leader). We have in post somebody with the vision, intelligence and enthusiasm to drive the project. He has kept the project focused and forged good relationships with all the participating stakeholders.</p> <p>Secondly, there has to be a real need for the activity so that all those involved can buy into it. Clearly, we are addressing a need for an industrial sector that is conservatively estimated to be responsible for 25% of all carbon emissions.</p> <p>Therefore everybody shares a common goal.</p> <p>Thirdly, the college was able to attract further funding which helped, but as the funder was Nottinghamshire County Council it also made it a whole lot easier generating partnerships with secondary schools and convincing them of our intentions in offering the learning programme to their pupils.</p>		
7. Any resources or tools produced by the project	<p>Please view the following as activity generated because of the project.</p> <p>https://docs.google.com/leaf?id=0B2e-vempJOg9ODM5ODkxZTEtZGVkYS00MDY0LWJiNzUtZmY2YmRhODg4N2Zi&sort=name&layout=list&num=50</p> <p>The fuller version</p> <p>https://docs.google.com/leaf?id=0B2e-vempJOg9NTMzODkxNjUtNDg2Zi00NzI5LTg4ODUtNDM5Nzk4YTlkMGJk&hl=en_GB&authkey=CLfC5oEM</p>		
8. Total costs of the project	LSIS funding	Match funding	Total funding
	£25,000	£14,725	£39,725



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