

NORTH WEST CONSTRUCTION KNOWLEDGE HUB

APRIL 2009 TO MARCH 2012

FINAL EVALUATION

SEPTEMBER 2012

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Priority 1 – Stimulating Enterprise
Action Area 1.3 – Increasing Sustainable Consumption and Production



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Executive Summary

This project was led by the Centre for Construction Innovation, an enterprise centre of the University of Salford, along with four delivery partners:

- Building Research Establishment (BRE),
- University of Central Lancashire (UCLAN),
- University of Liverpool, and
- Urban Vision, Capita Symonds.

The project ran from 1st April 2009 to 31st March 2012, funded 50% by the European Regional Development Fund (ERDF), around 22% by the Northwest Regional Development Agency (NWDA) Single Programme and around 28% by partners own resources. The initial total value of the project was £6m, reduced mid-term to £4.5m following national reductions to the Single Programme. The project mission was: *“less carbon, less waste, more jobs”*.

ABOUT THE PROJECT

The opportunity presented to Construction SMEs by the project was to become more sustainable through the winning of further business opportunities by exploiting the new markets born out of carbon and waste minimisation. The project provided tailored business support to help Construction SMEs develop innovative products and services, to secure new customers and new contracts and to sustain and grow their business and provide opportunities for local employment and training.

*SMEs Assisted - 167
Jobs Created – 47
Job Safeguarded - 231*

Support from the project included specialist advice on the development of new products and services including: low carbon construction technologies and services; water efficient solutions; product and process design improvements which enable better recycling and re-use; low or zero waste products; and responding to the needs of potential clients and to supply chain pressures.

Companies were provided with a combination of:

- mentoring and peer-support,
- evaluation, performance measurement through key performance indicators and benchmarking, ‘kite-marks’ and awards,
- greater awareness of what construction clients and large firms are looking to purchase in the current climate and how to respond effectively,
- better awareness of what innovative products and processes are ‘best in class’,
- links to graduate placement to help in the development of specific projects adopting an eco-innovative approach, and
- access to University knowledge of applied research and development.

Support included a range of options tailored to each SMEs action plan:

- awareness raising workshops and workshops on tools and techniques available to help organisations reduce waste to landfill and carbon emissions,
- on-site 'business diagnostic' to identify what individual organisations need, to set benchmarks and to identify potential environmental, social and economic savings to the organisation, both in sourcing products and in construction and refurbishment of buildings,
- continued support via our website with specific advice on waste minimisation, national programmes including Construction Lean Improvement Programme (CLIP), BREEAM (the Building Research Establishment Environmental Assessment Method) concrete technologies, zero-carbon homes and offices, and on improving organisational processes, and
- the opportunity to share knowledge through the NW Constructing Excellence Construction Best Practice Clubs.

CONCLUSIONS FROM THE PROJECT

The following figures and conclusions have been extracted from the various Project Claims spreadsheets and Progress Monitoring Reports (PMRs) which can be found in [Appendix A](#) of this Evaluation which were usually submitted quarterly to the funding bodies to account for the expenditure and activities within the project. The extracts from PMRs then form the remainder of this report.

In terms of outputs, the project performance was as follows:

	Target	Actual	In Merseyside	Achieved
Construction SMEs assisted	150	167	17%	111%
Jobs Created	30	47	-	156%
Jobs Safeguarded	235	231	16%	98%
Low Carbon Technologies adopted by SMEs	25	25	-	100%

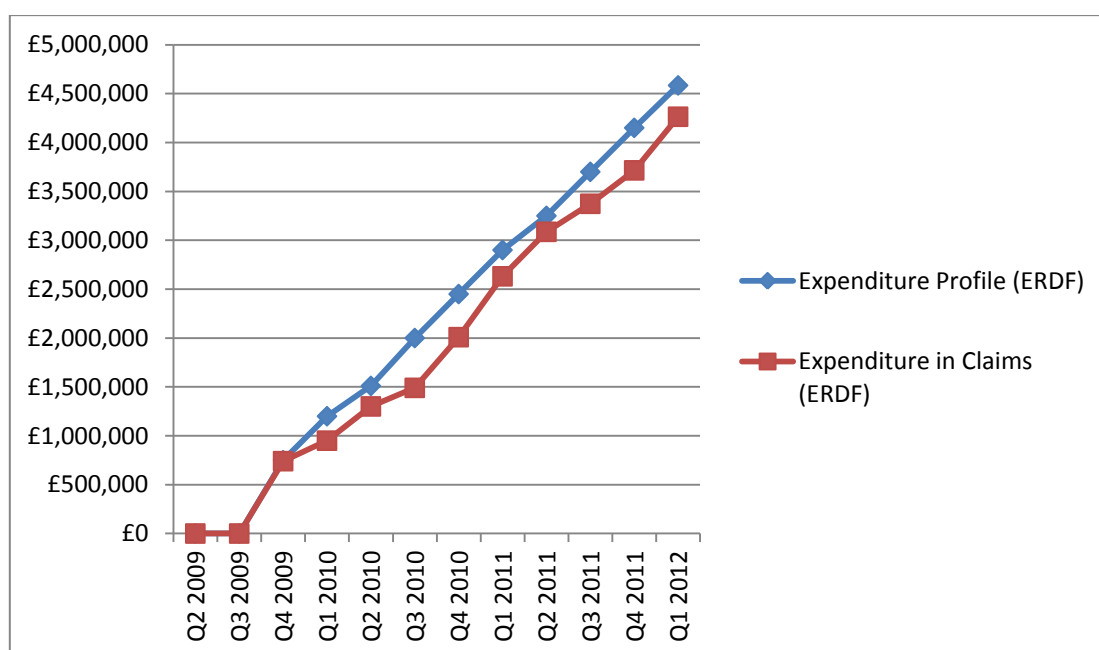
Table 1: NWCKH Project Performance & Outputs

In terms of impacts, the evaluations to date made during and just after the project's time span indicate the following key findings:

- The project was successful in targeting SMEs in the more disadvantaged areas of the region, where 70% of the SMEs assisted were in the region's more disadvantaged localities as defined by the regional *mean* average in the Government's Index of Multiple Deprivation 2010.¹, and was even more focussed on disadvantaged neighbourhoods in the Liverpool and Manchester LEP areas. [\[pages 47 and 48\]](#)

¹ <http://www.communities.gov.uk/communities/research/indicesdeprivation/deprivation10/>

- The project was less successful at improving the Gross Value Added (GVA) of Construction SMEs in the region overall, where the GVA of beneficiary SMEs fell on average by £159,222 but with some Construction SMEs experiencing extreme gains (up to £6.6m) and some others with extreme losses (down by £6.2m). [page 52]
- Based on a sample survey, Construction SMEs reduced their carbon emissions by an average of 4.5% (5.6 tonnes CO₂ / year) following their contact with the project. [page 48]
- On Green Travel, based on analysing the project's staff travel expenses within the ERDF claims, between 51% and 72% of project travel was by public transport, calculated by value. [page 50]
- The project has claimed 95% of the ERDF awarded to the project, and has reasonably tracked the quarterly expenditure profile as shown in the graph below.



Graph 1: Total NWCKH Project Expenditure as reported in ERDF Claims

This evaluation is not external, and is not econometric in terms of measuring factors such as displacements and multipliers. Within the resources available to CCI in the post-project period, this evaluation seeks to record and self-evaluate the activities and impacts that the project has made.

The project was designed in different economic conditions during the early stages of the credit crunch, banking crisis and subsequent recession, and has faced working with SMEs in the construction sector which is acknowledged as the UK sector most adversely affected by the recession. Recent reports continue to indicate a decline in activity in construction, down by 3.9% in Q2 2012 (revised by ONS from their previous 5.2% estimate); being down 9.5% year-on-year and with infrastructure spending currently down 24.8% year-on-year. The spikes in growing unemployment levels for certain key built environment professions have

reached above 600% at times during the recession, for example architects and project managers.

Consequently, it is suggested here from these figures that the performance, outputs and impacts of the NWCKH project have been *delivered well*, especially given the current economic conditions for the sector.

Tony Baldwinson
Programme Manager, CCI
September 2012

CASE STUDY 1: YEARSLEY LTD

Yearsley Ltd is a family-owned SME based in Merseyside, mainly working in the North West as a building contractor for new build and refurbishments since 1874. Yearsley provides expertise and experience across a number of industry sectors. Yearsley's employees provide industry specific knowledge to provide high quality, value driven solutions tailored to the clients' requirements. The company caters to both the public and the private sector and their main work sector is commercial and retail, education, residential and health.

The business need which the NWCKH addressed was: the SME had been gathering carbon and waste data and needed advice on reducing emissions.

Following NWCKH assistance, the SME successfully implemented a **Site Waste Management Plan** and began looking to **calculate carbon emissions** with an aim of achieving a **zero carbon Head Office**. The SME started year-on-year calculations on carbon accounting. Partly due to slowdown in the economy and partly due to the SME's positive efforts to improve, Yearsley pro-actively encouraged:

- a) the use of Passive Infra-Red (PIR) detectors within their site cabins in order to conserve energy, and
- b) the use of eco-cabins with solar panels.

They also aim to offset their emissions by buying and planting a tree each year within the forest park at Sutton Manor in St Helens, a former colliery slag heap, as part of the Mersey Forest.

NWCKH workshops attended by the company's managers helped the SME identify **six Key Performance Indicators** (KPIs) which it then started to use to assist in managing and

"In terms of tangible benefits – we have been able to submit high quality responses to three framework agreements and we are awaiting the results of these. We have also reduced our carbon footprint and we have committed to gaining three ISO standards."

Yearsley Ltd Managing Director, Joe Yearsley

developing the company, and for the company to adopt a **Corporate Social Responsibility (CSR) Policy**.

The NWCKH assisted Yearsley Ltd during 2010 and 2011, during which time they saw a fall in employment and in turnover, but managed to safeguard the majority of jobs and to **increase productivity** from £168,000 to £211,000 per person per year. The SMEs **carbon footprint** also fell by 6.4 tonnes CO₂, a 14% reduction and they now have the reporting methods in place to continue to drive this down.

DELIVERY METHOD EXAMPLE 1: BUSINESS IMPROVEMENT GROUPS (BIG) FLYER TEXT

FREE Business Improvement Groups for Construction SMEs in the NW

Building a Better Future with the NW Construction Knowledge Hub
“Less carbon, less waste, more jobs”

Question:

- Are you committed to the pursuit of best practice and willing to make suitable improvements to your business?
- Are there issues that you feel you could resolve through discussion with your peers?
- Do you want to know more about how you could deliver a better service to your clients and win more work?

Join a Business Improvement Group

St Helen Chamber of Commerce and Centre for Construction Innovation are offering you the opportunity to join a small Business Improvement Group (BIG), designed to support you in addressing those questions. BIG comprise *senior representatives* of small and medium sized enterprises operating in the built environment sector. They meet four times, at regular (monthly) intervals. Each meeting includes a topical seminar and a facilitated process of action learning. The duration of each meeting is four hours, from 10am to 2pm at St Helens Chamber of Commerce.

The seminar programme covers:

- Bid Coaching
- Carbon Accounting / Waste Management
- Lean Thinking and Practice
- Performance Measurement

The objectives of the action learning are to resolve specific issues within each individual's business and, thereby, to help the group develop skills in open questioning and critical thinking.

How much does it cost to join?

BIG membership is *free of charge* to Construction Small to Medium Enterprises (SMEs) in the North West. SMEs are defined as having fewer than 250 employees, an annual turnover less than €50m and/or balance sheet funds less than €43m, and with over 75% independence from large enterprises (less than 25% owned by a non-SME).

How to join

Places are limited, so in the first instance we would like all interested parties to provide an *Expression of Interest*, giving a short paragraph explanation of how they think the Group would benefit their business, the key issues / opportunities that they would wish to discuss, and the potential for improvements in their business (including bids, turnover, creating or safeguarding jobs, and carbon and waste reductions). The Expression should be sent to...

About the North West Construction Knowledge Hub

The North West Construction Knowledge Hub is a three-year project, funded by the European Regional Development Fund (ERDF) and the Northwest Regional Development Agency (NWDA), to help small and medium-sized enterprises (SMEs) in the North West Built Environment Sector grow their business and improve their resource efficiency.

The project is being delivered by Centre for Construction Innovation in conjunction with Building Research Establishment (BRE), University of Central Lancashire (UCLAN), University of Liverpool and Urban Vision.

DELIVERY METHOD EXAMPLE 2: A BUSINESS CLUB FOR BENCHMARKING

The NWCKH aimed to help SMEs deliver projects that ***perform to the highest standards*** - demonstrating their business and resource efficiency as evidenced by sales, both safeguarded and increased, by jobs safeguarded and created, and by waste and carbon emissions reduced. A robust performance measurement system is key to capturing, improving and communicating an enterprise's business and resource efficiency. Therefore supporting enterprises in instituting a ***performance measurement system*** was an essential way for the NWCKH project to deliver in-depth assistance. The ***Business Improvement Group Benchmarking***

Implementing, maintaining and generating value from performance measurement systems.

Club was a group established for SMEs who were beneficiaries of the NWCKH, where most of these SMEs had participated in a Business Improvement Group, had been given a free licence for the ***Construction KPI Engine***, and received a half-day workshop in Performance Measurement and Benchmarking.

Performance Measurement and **Performance Benchmarking** are regarded as critical to a business's capacity to drive continuous improvement, to win work and to support collaborative working in the supply chain. The **Benchmarking Club** involved a programme of six confidential meetings taking place in consecutive months. Each meeting was two hours duration and involved content delivery, sharing of resources, workshop-style activities, round-table discussion and action-planning. The **Benchmarking Club** had a positive outcome, fulfilling the aim of supporting SMEs in implementing, maintaining and generating value from performance measurement systems and providing them with the facility to drive and demonstrate their business and resource efficiency.

APPENDIX A: EXTRACTS FROM PROJECT PROGRESS MONITORING REPORTS

PMR FOR CLAIM 1

Project Board

The first meeting of the Project Board has been convened for 12 January 2010, to consider wider issues of governance as well as performance and updated reports on the Project Plan.

Project launch

The project had its formal launch on 10 November 2009, with key speakers from NWDA and from the University of Salford, along with partners in delivery and with Business Link. A key message on the day was for the need to have an impact across the regional construction industry “in the real world” as well as meeting the project’s targets. Presentations and publicity materials have been given and put in circulation since April 2009 in order to build momentum for the project.

Business Journey

All partners within the project have discussed the ‘model’ business journey for SMEs through this project, allowing for local flexibility such as the Action Learning Set model described under future plans.

Marketing and Communications

A bespoke front cover was commissioned for the project using the Solutions for Business and the ERDF Publicity Guidelines, and finalised on 3 November 2009. The exhibition space next to the CUBE Gallery has explanatory text on the walls along with ERDF and NWDA logos.

A Marketing and Communications Strategy for the project is being developed for 15 January 2010. This will include a schedule of events to date and planned ahead. Plans include a joint regional tour in February / March using the exhibition trailer with partner organisation BuilderScrap in association with Envirolink and a radio awareness-raising campaign, with a focus on construction SMEs visiting builders merchants premises across the region.

Enhancement to the Carbon Calculator

Please see below under Sustainability Monitoring for the report on this item. We have also been working closely with an SME (BuilderScrap) to enhance their website to show the carbon saved by reusing excess materials from one site to another, and from one SME to another. This will be reported through the Enworks toolkit alongside the other carbon impacts achieved.

Outreach to Construction SMEs

No outputs have yet been completed so none are reported at this stage (December 2009). However, there has been substantial activity in terms of engaging with Construction SMEs, including presentations to the Greater Manchester, Merseyside and Lancashire Construction

Best Practice Clubs, the Elevate Sustainable Construction debate, the Step Clever construction forum (previously Build Sefton), and seminars on the Code for Sustainable Homes and on Building Information Modelling. A strong focus has been given to presentations in Merseyside in order to fit the programme-wide requirements in the first year especially.

Analysis of SME contact details from this range of presentations and events has shown that 307 eligible SMEs have been engaged directly through attendances in the preliminary phase of the project, along with a further 121 SMEs indirectly through 10 regional and sub-regional supply chains to major clients and to main contractors as new partnership working being developed by the project.

Project Exhibition Space

Next to the CUBE Gallery on Portland Street, the Hub Exhibition space has been created to display leading-edge construction products, with the first set of products being associated with a sustainable timber housing range which also featured in the Grand Designs and the Interbuild exhibitions. The “slice” or cross-section of the house on display allows for SME visitors to see into the form of construction as well as to learn about the sustainable products used, including highly efficient windows and low energy recessed lighting.

The second phase of developing the exhibition space has been specified as follows:

Theme – low energy lighting, for commercial, civic and domestic buildings, especially for products whose use is innovative and not already established within trade practices.

Timescale – in liaison with CUBE Gallery staff and CUBE Seminar staff, to install and maintain the exhibition from end January / early February 2010 for around 13 weeks in the first instance. Off-site partial or full assembly may be required to fit around existing bookings and installation commitments.

Location – the basement area between the front flight of stairs and the CUBE Seminar Room, where all materials will be above head height leaving a clear floor plate.

Safety – all fittings to be fully tested by a qualified electrician, with earth-leakage circuit breakers throughout, to the standard required by client staff within the University of Salford.

Sourcing - the project manager is expected to source the exhibition contents on a no-cost basis from suppliers in the North West as far as possible, giving suppliers free regional publicity within a prestige city-centre location.

Claims profile

Although the bulk of the project expenditure in Claims 1 and 2 relates to the University of Salford, which within the project is funded by ERDF and the Single Programme on a 50:50 basis; due to the Claims spreadsheet design it has only been possible to claim the Single

Programme expenditure at 25% because of the 'locking' of the intervention rate at the overall contract rate. While this will adjust back in time when partners' expenditure also flows into the claim, nevertheless it does have an impact now in terms of the claims profile being lower than planned.

The University of Salford expenditure lines cover mostly salaries and overheads, with some revenue items and no premises costs, due to operational needs to ensure that expenditure submitted has minimised the risk of an irregularity being flagged and consequent loss of grant. While the plan is for these additional April – November costs to be brought forward by March 2010, it is appreciated that ERDF is profiled to December each year.

A revised financial profile has been compiled based on further submissions from project partners and submitted to NWDA on 18 December 2009, showing a plan to regain the existing expenditure profile by 31 March 2010. There has been no revision to the outputs profile, as shown in the new ERDF Claims Spreadsheet outputs forecast sheet issued on 6 January 2010.

With three of the four Collaboration Agreement (Service Level Agreements) now fully signed, the University of Salford is prepared to submit the eligible costs from these partners. At the time of writing the signed agreement from Urban Vision Ltd is still awaited, though there is confidence that concerns raised will be addressed in the short term.

The issuing of revised national ERDF Guidance on the calculation of university overheads on 3 August 2009 has also caused some delays in (a) needing to get agreement for three universities' systems to calculate their overheads, and (b) a reticence in some to sign Collaboration Agreements (Service Level Agreements) in advance of having such agreements in place, in order to reduce their uncertainty and sense of risk.

**NW Construction Knowledge Hub
Project Plan, Summary of Recent Actions (Nov 2009 – Jan 2010)**

ACTIONS	BENEFITS
Actions implemented to date to improve the project, and their benefits	
Additional finance staff member assisting within CCI as interim project finance manager (Nov -) to assist in claims being submitted to NWDA (4 Dec onwards)	Improved quality and quantity of claims source materials
Additional staff member recruited part-time within CCI for 3 months in first instance as project assistant (4 Jan)	Additional capacity in project administration
SME contacts collated to show work-in-progress towards outputs (project spreadsheet, 6 Jan)	Better visibility of project 'reach' to date to 10 supply chains (indirectly) and to 307 eligible SMEs (directly) and sufficiency shown to lead to outputs

	being achieved and recorded
Financial reprofile undertaken with all partners, (18 Dec, project spreadsheet)	Essential to maintaining level of funding in current fiscal environment
Financial work-in-progress collated (project spreadsheet, 16 Dec)	Improved visibility of where claims are below profile and feasibility of future claims to the revised profile
Accelerated Exhibition Trailer expenditure within financial regulations (Nov)	Project capital expenditure profile improved
<p>Programme schedule developed to give funders and potential clients a stronger sense of the project 'offer'. Examples:</p> <ul style="list-style-type: none"> • Action Learning Set publicised to SMEs and over-subscribed, with plans to run second set in parallel, possibly in Merseyside • Schedule of monthly Twilight Seminars being established in conjunction with Greater Manchester Chamber of Commerce; similar interest from Liverpool Chamber • Strategic partnerships established with 10 public and private major clients and main contractors to work improvements into their SME supply chains 	Raised profile and interest in project within the primary audience of construction SMEs in the NW
<p align="center">List of intended actions and underway actions but not yet in place - and their benefits</p>	
Recruitment of 2 to 3 project assistants for 3 months – individuals identified and contacted (7 Jan)	Additional capacity to project delivery and administration
Service Level Agreement for a Project Exhibition Manager for phase 2 of the project exhibition area on low-energy lighting	Additional marketing impact, and Knowledge Transfer to Construction SMEs on low-energy lighting
Need for UCLAN to agree overheads methodology with NWDA	Improvement in level of claims being made to NWDA, as current approach is for UCLAN claims to be without overheads
Need for Urban Vision to agree SLA with University of Salford	Improvement in level of claims being made to NWDA, as currently UV is ineligible to be included
Negotiations continue with BRE on using their innovation website as part of the project offer	BRE have increased their staffing resource within the project
<p align="center">List of potential future actions that we could take, with support, to make a further difference</p>	
Contract with delivery partners based in Liverpool to extend the project's outputs and impacts in Merseyside (NWDA requirement);	This high-level impact will assist in extending the scale of delivery possible by this project; but must be

and if possible more in Cumbria for the flood rebuilding activities especially in Cockermouth (see national press coverage on file)	notwithstanding excellent claims performance from now onward
Develop a quality-assured template of proven CCI interventions for SMEs which can be scaled up by other University of Salford staff and/or consultants and/or partner organisations	This would be a key enabling activity for the potential further action with delivery partners above

The University of Central Lancashire

The Offer Letter for the commencement of this project was significantly delayed so this report relates to the initial setting up phase from UCLan's perspective. The project is currently being reprofiled in relation to expenditure and targets phased across the remaining period. However every effort will be made through accelerated activity to make up the deficit in SME assists to ensure that results and cross cutting themes will be achieved as contracted in the Offer Letter. Staff at UCLan are actively progressing these issues.

The Centre for Waste Management (CWM) and its advisory staff are based at the Preston campus of the University of Central Lancashire. The role of the advisors is to:

- promote the project to the eligible target companies, with particular emphasis on the local and regional priorities.
- interview the owners and/or Managing Directors of the companies,
- make assessments of the needs of the interviewed companies,
- devise programmes of support activities for the companies,
- perform agreed support tasks directly for the companies.

The recruitment of staff to the project has begun and where required and necessary posts will be advertised and interviews will take place for the available posts in the near future.

Internal Project Team meetings are being held monthly and feed into the monthly Partner meetings. The internal project team meetings include delivery staff and all staff matched into the project.

The main activity this quarter has been to initiate an awareness raising and recruitment campaign for SME participants on the project. A number of workshops and seminars have been planned for the forthcoming months:

- Jan 2010 Presentation to Regional Meeting of Institute of Civil Engineers
- Feb 2010 Launch event Preston
- Feb 2010 Launch - Cumbria
- Feb 2010 Construction Waste Awareness Workshop
- Feb 2010 Quick Wins Workshop Merseyside
- Mar 2010 Half Day Conference – Carbon Reduction Commitment

Development activities have also taken place for a series of seminars to launch the NW-CKH and disseminate information on SME assistance and development projects that will be under way by then. These are planned to be high profile events that, as part of their delivery, will promote the Regional Action Plan ERDF intervention widely.

Much of the initial activity has taken place in relation to analysis of databases of eligible SMEs who have been assisted in previous projects. Those SMEs who require support related to waste management and carbon reduction have been prioritised for recruitment onto the NW-CKH. Potential beneficiary SMEs have been identified in accordance with the local and regional priorities using background knowledge and databases.

Advisers have engaged with a number of companies and recruited them onto the project. To date 20 eligible SMEs have been recruited, 10 of which have begun assistance through having attended a Quick Wins Workshop with follow up visits being planned for January and February.

The formation of networking groups has begun through SMEs being recruited. The aim with the networking groups is to assist with waste reduction at source, increase reuse and recycling and development projects to implement innovative solutions for waste management.

The website (to be: www.cwm-nw.org.uk) is currently under construction and a holding page can be accessed at www.uclan.ac.uk/cwm/businesssupport/knowledgehub

The University of Liverpool

The University of Liverpool's element within the project will involve technology transfer activities promoting knowledge transfer between Higher Education Institutions and Industry to develop innovative products, services and construction practice to reduce waste and carbon emissions. The project will assist local construction enterprises to adopt sustainable approaches in design and delivery; helping to embed principles of recycling, waste management and carbon reduction in all aspects of design, procurement, construction and demolition. This will be done through a series of workshops and demonstrators calling on the resources of the Higher Education partners including leading researchers in the fields of construction regeneration and sustainability and providing access to laboratories and testing facilities within each of the partner institutions.

Building Research Establishment

Business Engagement:

- BRE held a stand at GreenBuild Expo 2009 at Manchester Central.
- BRE sponsored the 'Project of the Year' at the North West Regional Construction Awards 2009 in Southport.
- BRE sponsored the 'Sustainability Award' at the Builder & Engineer Awards 2009 at the Palace Hotel in Manchester.
- In collaboration with CCI, BRE shall be delivering a series of 6 half day works shops to a number of regional based SME's and supply chains.
- BRE have conducted a number of business engagement visits to SME's and main contractor supply chains with a view to supporting them through the NWCKH. This

includes presentation at large main contractor offices (Barratts, NG Bailey, Balfour Beatty, Manchester Airport, and the like) to explore the opportunity of engaging with their supply chains through a structured programme.

- In the next quarter BRE plan to deliver a series of free workshops around the topics of CLIP, Site Waste Management Planning and Sustainable Construction (BREEAM & CfSH). The workshops will be held around the region at various locations.

Business Assists:

- Mainporte Ltd, Ellesmere Port – BRE have delivered a 2-day business assist with an Ellesmere Port based polyurethane manufacturer to develop a sustainable building product. The assist comprised a review of concept product ideas created by the company. The assist also involved a visit and guided tour of the BRE Innovation Park in Watford.
- JTC Modular, Salford – BRE have delivered a 2-day business assists to review design proposals for an off site manufactured modular timber frames building system in the context of BREEAM.
- JTC Developments, Salford – BRE have delivered a 2-day business assists to review a standard specification for retrofit housing projects in the context of sustainable refurbishment in line with the Code for Sustainable Homes.
- Polygauss Ltd – BRE are in the process of preparing a 2-day business assist to this SME which is developing a solar roof tile.

Urban Vision Ltd

Urban Vision are ready to progress the following activity with several Salford based SMEs, subject to being able to agree the contractual issues which are critical to our participation in this project.

1. Assessing the office environmental practices - UV have identified the SMEs and identified and briefed staff who will undertake the assessment, prepare action plans with the SMEs and assist with implementation.
2. Undertaking ISO 14000 awareness training and prepare action plans to allow the SMEs to introduce practices to become better placed to achieve accreditation and assist with the provision of implementation advice and support.
3. Assisting SMEs with the review and preparation of robust Sustainable Procurement Policies that will assist them to win more work through their bids.
4. Formulate informal partnerships with two contactors (Bovis and Cruden) to improve the environmental practices of their SME supply chains.

PMR FOR CLAIM 2

As with the economic recession and its hard impact on the construction sector, this project has had a challenging first year. The project partners have had to work hard to ensure that

all its aspects remain well-placed to support small and medium enterprises in the construction sector through the economic changes.

In terms of outputs, the project target is to give business improvement assistance to 197 construction small and medium enterprises in the region, to safeguard 300 jobs and support the creation of 300 new construction jobs. This will be very challenging in the changed economic conditions since the award and signing of the original contract. In the first year there have been 38 business assists completed, with 71 underway and a plan developed with partners to bring the number of business assists back on profile before the end of the second year.

There has been a strong engagement programme of events which, although they do not count as outputs, are influential to companies in helping them understand the challenges they face and the business improvement strategies they need to consider. These events have reached over 4500 delegates, and the CUBE Gallery has had over 7500 visitors since November when the project exhibition area opened, demonstrating a North West SME-designed low carbon house and showing low-energy lighting solutions for offices, houses and public realm. The project has a strong marketing component, with coverage in the Liverpool Post and the Manchester Evening News, as well as in construction trade journals, and at regional business conferences and exhibitions.

In terms of finance, the project started on time but had a slower than planned development phase. Because around 70% of the project's costs are derived from staff time, the ability to 'catch up' is necessarily restricted, although this has been achieved to some extent by the careful use of the casual appointments of assistants. The project financially was 73% below profile around November, and this has improved to being 41% below profile for the year.

For the project's second year, at the time of writing a number of key events have already taken place in the first quarter, including a seminar at the Bridgewater Hall with key speakers to 202 managers of 174 construction small and medium enterprises in the (Greater) Manchester area on how to access the key public sector framework contracts. This is leading to a groundswell of interest from companies in Bid Coaching assistance from the project partners, and a programme of Business Improvement Group workshops and one-to-one sessions for firm managers is in place. One such firm also featured in the North West Construction Awards 2010 as 'SME of the Year', and their improvement journey is being written up as a case study.

Project Board

The first meeting of the Project Board was held on 12 January 2010, and it considered wider issues of governance as well as performance and updated reports on the Project Plan.

Project Staffing

In order to start increasing the capacity of the project to deliver outputs and impacts, as well as running project processes efficiently, from November 2009 to February 2010 there have been five additional people brought into the project by external appointments and internal allocations: project accountant, project outputs manager, and three project assistants. The associated salary costs will be managed within the project's financial profile.

Activities, Marketing and Communications

A Marketing and Communications Strategy for the project was finalised on 15 January 2010. This includes a schedule of current and planned events.

Four sub-regional Best Practice Club events were held in the period January to March 2010, covering construction skills, CLA:IRE code of practice, energy efficient design, and a case study presentation on the Green Apple organisation.

Forward Work: Supply Chains	Number* of SMEs	
Mansell (example list of SMEs is in <i>right column</i>)	16 →	A & B Engineering (Mechanical Services)
Pochins	13	Carrino Flooring Ltd
Laing O'Rourke	13	Firesafe Installations Ltd
Manchester City Council	13	L C S Limited
Environment Agency NW	13	Lightburn Construction (Leigh) Ltd
Liverpool Housing Trust	13	M G Ceilings & Linings Ltd
Carillon	13	Oasis Air Conditioning Ltd
Wates	24	Q E D Scaffolding Ltd
Allenbuild	13	Blastglide Ltd T/A Royal Extrusions
Pennine Lancashire	13	Henry Smith (Constructional Eng) Ltd
Liverpool Chamber of Commerce	13	Plastercraft Projections Ltd
Willmott Dixon	13	Richmond Cladding Services Ltd
Other SMEs, self-referral etc	22	Broadway Civils Ltd
* Minimum predicted by the Supply Chain lead managers.		A Copeland Electrical Ltd
		Nationwide Joinery Contractors Ltd
		CMC Flooring Ltd

The table above indicates those supply chains where the project either has activity underway for SMEs or is in an advanced stage of planning. The table below sets out these plans for the coming six months. BIG 1 and BIG 2 (Business Improvement Groups) have both now completed.

Forward Schedule of Activity:

Title	Dates	No. of SMEs (Intermediate Assists)
BIG 3 (Business Improvement Group 3)	Workshop 1: 15.06.2010 Workshop 2: 13.07.2010 Workshop 3: 14.09.2010 Workshop 4: 28.09.2010	6
BIG 4	Workshop 1: 24.06.2010 Workshop 2: 10.07.2010 Workshop 3: TBC	6

	Workshop 4: TBC	
Bid Coaching and Meeting The Needs...	20.06.10, Workshop 1 – <i>Waste Management and Carbon Foot-printing</i> . Dates for workshops 2 and 3 to be confirmed.	15
Wilmott Dixon Supply Chain Programme, Lean Intervention on BSF Grange High School	TBC, due to start end of June 2010	6
BAM Nuttall Supply Chain Programme, Lean Intervention on Reddish Primary School	TBC, due to start July 2010	6
Liverpool Housing Trust Supply Chain Programme, Lean Intervention on 'Kitchen & Bathroom' roll out project.	TBC, due to start by end of 2010	2
Wates Supply Chain Programme	TBC, proposals under consideration.	TBC
Mansell Supply Chain Programme	TBC, proposals under consideration.	TBC

Impacts to date

Three SME consortia are being supported to deliver the Glover Report's recommendations on better SME engagement through transparency, simplicity and flexibility in accreditation. The project has secured the adoption by public sector clients of its carbon calculator for capital projects and supply chains.

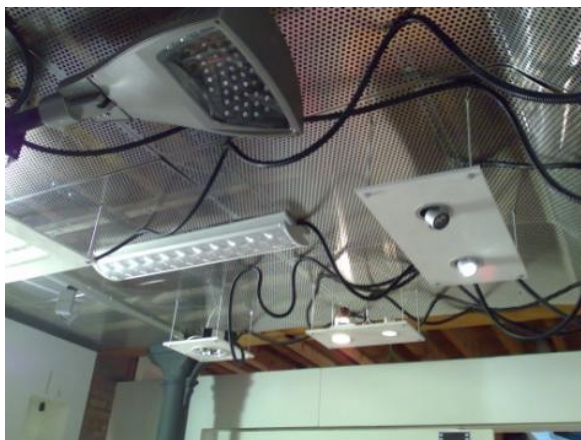
The project has demonstrated at CUBE a cut-through of a low-carbon building which since 10 November 2009 has had 7690 visitors, later with a low-energy lighting exhibition for commercial buildings and the public realm. Similar meetings and seminars have been held in Liverpool - at the Tea Factory and at the Chamber of Commerce - and exhibiting in Penrith is planned to lead to further SME work linked to Passivhaus and Grand Designs. Project-related seminars have attracted 4576 delegates in the year to 31 March 2010.

The project has supported BuilderScrap, a local SME resource brokerage, become embedded into the region's capital programmes including Building Schools for the Future, and now being adopted by main contractors. The Hub has added metrics for SME reduced waste and carbon, a model now being adopted in other regions and countries in the UK.

The images below show the project's exhibition trailer, the low-energy lighting and low-carbon construction expos in the CUBE space, and the logo block that is used across the project by all partners for publicity and marketing.



Above: Project Exhibition Trailer in use

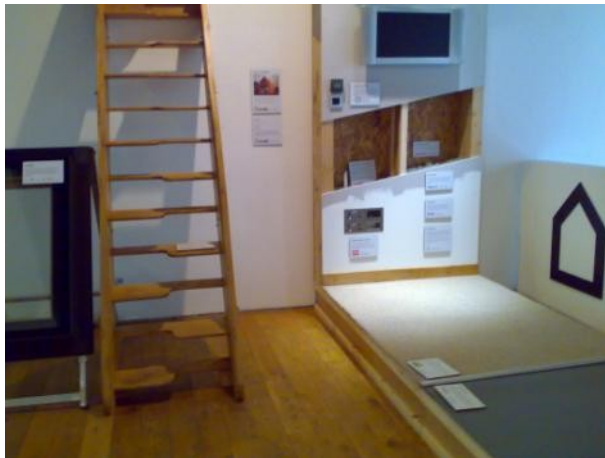


Low-Energy Lighting project expo within CUBE, four-month display for SMEs

CUBE ceiling display – low-energy lighting for homes, offices and public spaces, including a LED (light emitting diode) Street Light which uses only 84 watts.

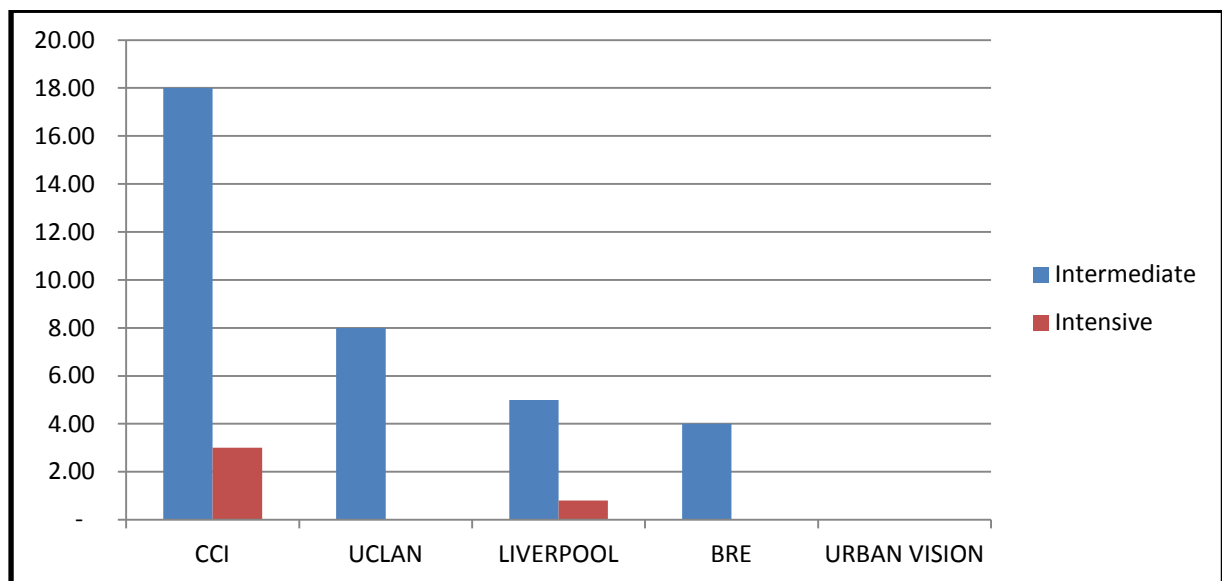


Logo Block used across the project



Low-carbon construction expo at CUBE

CUBE upper ground floor – a ‘slice of’ a low-carbon house showing many natural materials such as lino (vegetable not oil based), recycled paper for insulation, untreated carpet for allergies.



Outputs achieved to date, by type and by partner

Enhancement to the Carbon Calculator

We have also been working closely with a construction SME (BuilderScrap) to enhance their website to measure the carbon saved and waste diverted by reusing excess materials from one site to another, and from one SME to another and to community projects. These

figures will be reported through the Enworks toolkit alongside the other carbon impacts achieved by this project.

Project Exhibition Space

Within the overall CUBE Gallery on Portland Street, the Hub Exhibition space has been created to display leading-edge construction products, with the first set of products being associated with a sustainable timber housing range which also featured in the Grand Designs and the Interbuild exhibitions, and later a display of low-energy lighting, both pictured above.

The low-carbon construction display is now at the end of its installation period, and we are in discussions with a key products supplier, and hope to display their materials after they are displayed at another 3-day expo in late June 2010. Our project expos typically last 4 months.

EXHIBITS

Probably a display of four window frame cut-throughs, a mechanical ventilation unit (and maybe running to show how quiet it is), and a cut-through of a wall to show insulation and air-tightness standards.

SEMINARS with PANEL DISCUSSIONS (BRE, CCI, etc)

Maybe on the theme of "Passivhaus in a Day" with a running order of 90min - 2hr events plus an evening social to launch the exhibition area. Another title might be "Towards Retro15" alluding to 15 kWh / m² yr.

1. Passivhaus and Code for Sustainable Homes – can they live together?
2. Passivhaus and Retrofitting Homes – is it too much to ask?
3. Passivhaus and Social Housing – learning from best practice.
4. Passivhaus and Commercial Buildings – is the market ready for this?
5. Passivhaus – is the answer more about traditional skills and less about eco-gadgets?

The University of Central Lancashire

The Centre for Waste Management (CWM) and its advisory staff are based at the Preston campus of the University of Central Lancashire. The role of the advisors is to:

- promote the project to the eligible target companies, with particular emphasis on the local and regional priorities.
- interview the owners and/or Managing Directors of the companies,
- make assessments of the needs of the interviewed companies,
- devise programmes of support activities for the companies,
- perform agreed support tasks directly for the companies,

Internal Project Team meetings are being held monthly and feed into the monthly Partner meetings. The internal project team meetings include delivery staff and all staff matched into the project.

The main activity this quarter has been to initiate an awareness raising and recruitment campaign for SME participants on the project. A number of workshops and seminars were planned and much of the initial activity has taken place in relation to analysis of databases of eligible SMEs who have been assisted in previous projects. Those SMEs who require support related to waste management and carbon reduction have been prioritised for recruitment onto the NW-CKH. Potential beneficiary SMEs have been identified in accordance with the local and regional priorities using background knowledge and databases.

The University of Liverpool

The University of Liverpool's element within the project will involve technology transfer activities promoting knowledge transfer between Higher Education Institutions and Industry to develop innovative products, services and construction practice to reduce waste and carbon emissions, especially around cement and concrete products.

The project will assist local construction enterprises to adopt sustainable approaches in design and delivery; helping to embed principles of recycling, waste management and carbon reduction in all aspects of design, procurement, construction and demolition. This will be done through a series of workshops and demonstrators calling on the resources of the Higher Education partners including leading researchers in the fields of construction regeneration and sustainability and providing access to laboratories and testing facilities within each of the partner institutions.

Building Research Establishment

Business Engagement:

- In collaboration with CCI, BRE have contributed to the delivery of two sets of half day workshops to a number of regional based SMEs – BIG 1 and BIG 2 mentioned above.
- BRE have conducted a number of business engagement visits to SMEs and main contractor supply chains with a view to supporting them through the NWCKH. This includes presentation at large main contractor offices (Barratts, NG Bailey, Balfour Beatty, Manchester Airport) to explore the opportunity of engaging with their supply chains through a structured programme.

Urban Vision Ltd

Urban Vision are ready to progress the following activity with several Salford based SMEs, subject to being able to agree the contractual issues which are critical to our participation in this project.

1. Assessing the office environmental practices - UV have identified the SMEs and identified and briefed staff who will undertake the assessment, prepare action plans with the SMEs and assist with implementation.
2. Undertaking ISO 14000 awareness training and prepare action plans to allow the SMEs to introduce practices to become better placed to achieve accreditation and assist with the provision of implementation advice and support.

3. Assisting SMEs with the review and preparation of robust Sustainable Procurement Policies that will assist them to win more work through their bids.
4. Formulate informal partnerships with two contactors (Bovis and Cruden) to improve the environmental practices of their SME supply chains.

Work Packages

As part of the development of the project's systems, the work packages identified at the development stage for all activities have been grouped together with new, explicit work package numbers.

For the University of Salford, project outputs are derived from WP5 through to WP9; and then WP13 to WP16 produce outputs from the respective project partners.

KEY	
WP1	Project Initialisation
WP2	Project Leadership, Relationship Management with Funder
WP3	Project Reports to Funder monthly / quarterly
WP4	Project Infrastructure, Finances, Claims to Funder
WP5	Business Advice - Demonstration Projects
WP6	Business Advice - KPI Engine Implementation
WP7	Business Advice - Innovative Business Development
WP8	Business Advice - Procurement and Business Growth
WP9	Business Advice - Equality and Diversity in Construction
WP10	CUBE Space - Project Exhibition Area at Portland Street
WP11	Project Marketing and Communications
WP12	Project Exhibition Trailer
WP13	Project Partners - UCLAN
WP14	Project Partners - University of Liverpool
WP15	Project Partners - Urban Vision Partnership Ltd
WP16	Project Partners - Building Research Establishment (BRE)

PMR FOR CLAIM 3 & 4

Outputs Achieved, Underway and Planned for Business Assists to Construction SMEs

In the first year (Q2 2009 to Q1 2010) there were 38 SMEs assisted against a target of 67, and in the Claim 4 period (Q2 2010) a further 7 SMEs were assisted, with a further 71 SME assistances underway and 11 planned (total of 89), against a target of 67 for the second year. The 70 assistances currently underway are being delivered by partners as follows: CCI and BRE – 35; UCLAN – 28; Liverpool – 5; Urban Vision – 3.

Low-Energy Lighting

The Low-Energy Lighting exhibition at CUBE Space for Construction SMEs was launched on 23 March 2010 with an evening debate with speakers from a range of professional backgrounds. This exhibition has continued throughout the Claim 4 period, and includes an 84watt LED street light.

Low-Carbon Buildings

The first exhibition of low-carbon housing with Dwelle was run in the CUBE Space for Construction SMEs from 10 November 2009 to 28 June 2010, throughout the Claim 4 period, and has subsequently been replaced with a Passivhaus exhibition with the Green Build Store from 05 July 2010.

Photographs of the two exhibitions and of the exhibition trailer have been provided in previous Progress Monitoring Reports. Below are photographs of the events on 09 April (Construction SMEs and winning work in Manchester) and 27 May (Regional Award for Best Construction SME).

The Passivhaus voluntary standard

There is a growing interest in the construction sector, both from clients and from contractors, on the potential benefits in adopting in part or fully the voluntary, non-trademarked standard for ultra-low energy buildings developed in Germany in the 1990s and known as Passivhaus. BRE have been a key partner in bringing very current knowledge of Passivhaus developments from across the UK, including policy discussions within Government, to the attention of SMEs in the North West through workshops and seminars organised by this project.

While the Passivhaus standard was originally developed for new build, there is possibly an even stronger interest in its application to existing houses and flats – the refurbishment or retrofit agenda – which has potentially strong impacts on reducing the demand for energy, and therefore carbon emissions, as well as impacting on fuel poverty and hypothermia. In short, a Passivhaus-standard house will maintain a 16C internal temperature throughout the winter with no primary heating needed, just keeping in the heat produced from white goods, cooking and bathing. The focus is on build quality to improve insulation levels and to reduce draughts.

The next phase of the project is to explore with key partner organisations the possibilities of Green Buildings Retrofit type programmes, and especially in the current fiscal environment to highlight those models which have a strong return on investment financially within the public sector as well as a strongly positive carbon reduction impact. An example from another city where 2790 civic properties are being “green retrofitted” with a positive revenue ROI within three years is being studied closely.

Urban Vision Ltd

Urban Vision’s area of delivery focuses is around providing office environmental practices, including the implementation of ISO 14001 and sustainable procurement for SMEs in Salford. This is being carried out via a series of meetings and workshops using the expertise of a range of Urban Vision’s consultants. Urban Vision is in the process of:

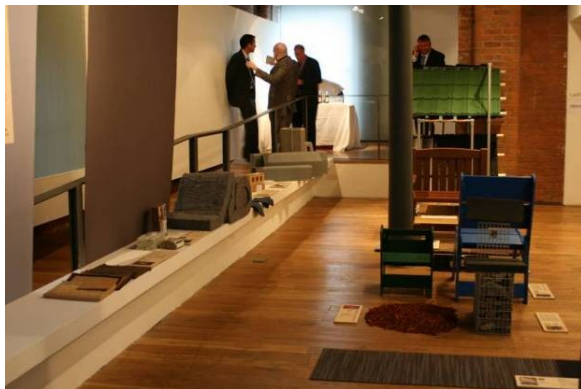
1. Identifying a number of Salford based SMEs to undertake a baseline Carbon Assessment visit, focusing on areas such as energy usage, waste management and green travel. Action plans will be produced identifying areas for improvement which Urban Vision will provide support.
2. Producing an ISO 14001 delivery program to allow SMEs to introduce environmental practices into the business to enable certification to ISO 14001. Urban Vision will assist with implementation, advice and support.
3. Providing assistance to Salford based SMEs with sustainable procurement, to ensure a more efficient use of resources and a cost reduction through energy savings. This will assist in meeting industry standards and increasing ability to compete at the highest level.
4. Carrying out workshops to highlight the impact businesses have on the environment, as well as the social and economic benefits that effective business management can provide.

Key project meetings etc in period:

1 April 2010	University of Salford, Project Steering Group Meeting
07 April	Partners Project Management Meeting
09 April	Construction SMEs in Manchester Event, Bridgewater Hall
16 April	University of Salford / CCI Outputs Meeting
21 April	University of Salford, Project Steering Group Meeting
21 April	Partners Project Management Meeting
30 April	University of Salford / CCI Outputs Meeting
04 May	Building Information Modelling and Construction SMEs, Liverpool
10 May	Partners Outputs Meeting, Preston
14 May	University of Salford, Project Steering Group Meeting
17 May	Project Processes Meeting with NWDA colleagues
19 May	Partners Project Management Meeting
20 May	Visit to Lancaster University with NWDA to view automated systems
21 May	Outputs and Beneficiary Details Meeting at NWDA
25 May	Joint with Envirolink NW on Low-Waste Products in CUBE Gallery (1 week)
26 May	Green Build Expo at Manchester Central, all partners in a cluster (2 days)
27 May	Regional Annual Construction Awards, with an SME Category, Southport
08 June	Project Board Meeting, all partners and NWDA
15 June	Visit by European Commission and NWDA colleagues to project at CCI base
16 June	Partners Project Management Meeting
17 June	Project Presentation to NW Business Link meeting held at CCI
24 June	Project Presentations (x2) at Envirenergy Conference , Old Trafford
28 June	NWCKH Exhibition on low carbon homes ends after 8 months.
29 June	Centre for Waste Management, UCLAN, Quick Wins for SMEs, Salford



9 April 2010 - Construction SMEs in Manchester Event, Bridgewater Hall



25 May 2010 - Joint Event with Envirolink NW on Low-Waste Products in CUBE Gallery



26 May 2010 - Green Build Expo at Manchester Central, all partners in one cluster



27 May 2010 - Regional Annual Construction Awards, with an SME Category, Southport

PMR FOR CLAIM 5

Outputs Achieved, Underway and Planned for Business Assists to Construction SMEs

In the previous PMR we reported 45 SMEs to date having been fully assisted by the project, with a further 70 underway. We are confident that since then a further 54 of the 70 SMEs have been fully assisted (total 99, target 150). These 54 assists will be formally claimed when the output records have been fully verified. A graph on page shows current details.

Carbon

This quarter saw a growing interest in the voluntary Passivhaus standard for ultra-low energy new homes, along with its application to retrofit existing buildings and to constructing new non-domestic buildings. Within CCI this interest led to the running of an exhibition of Passivhaus products and techniques, along with two large seminars aimed at small firms looking to win business in new markets by applying new knowledge. A third large seminar was run in conjunction with the regional Sustainable Buildings project, all detailed below.

July to September 2010, The Passivhaus Exhibition at CUBE



Triple glazed window units with high insulation within frame; cross-section showing wall insulation and air-tightness tapes and grommets



MVHR (mechanical ventilation with heat recovery) unit operational to show quietness in use

12 July 2010, Passivhaus Event at CUBE (in conjunction with the NWDA Sustainable Building Awareness Raising project)

PassivHaus standard typically includes:

very good levels of insulation with minimal thermal bridges

well thought-out utilisation of solar and internal gains

excellent level of air-tightness

good indoor air quality, provided by a whole house mechanical ventilation system with highly efficient heat recovery

By specifying these features the design heat load is limited to the load that can be transported by the minimum required ventilation air. Therefore a Passivhaus home does not need a traditional heating system or active cooling to be comfortable to live in - the small heating demand can be typically met using a compact services unit which integrates heating, hot water and ventilation in one unit.

29 July 2010, Code for Sustainable Homes and Passivhaus - what are the benefits of each approach?

The speakers were Gavin Hodgson, European Passivhaus Project Manager, Building Research Establishment (BRE); and Chris Herring, Chair, Passivhaus Trust and Director, Green Building Store. The discussion covered:

- the Code for Sustainable Homes as the national standard for the sustainable design and construction of new homes. The Code measures the sustainability of a new home against nine categories of sustainable design, uses a one to six star rating system, and sets minimum standards for energy and water use at each award level, and
- Passivhaus is a rigorous, voluntary standard for energy efficiency in buildings. It results in ultra-low energy buildings that require little energy for space heating or cooling. However, although some Passivhaus buildings are costing less than £75 a year in heating bills, sometimes they still miss out on gaining the higher levels awarded for the Code for Sustainable Homes.

This debate explored the role in which Passivhaus can play in achieving sustainability targets, including the Code for Sustainable Homes and the Zero Carbon aspiration.

14 September 2010, Passivhaus Presentation at CUBE

The speakers were Bill Butcher and Chris Herring, Directors, Green Building Store, and the event outlined the design detailing used at the Denby Dale Passivhaus to get cavity wall construction to perform to Passivhaus standards. There was also a preview of sections of the Denby Dale Passivhaus technical film and the short *Future Passiv* documentary on Passivhaus design.

As well as the Passivhaus programme for small firms, the project has also engaged with:

- the Association of Greater Manchester Authorities (AGMA) Low Carbon Economy programme and its focus on the built environment through the AGMA “Setting the Retrofit Standard” meetings, and
- the Step Clever organisation covering Sefton and North Liverpool, especially giving a presentation on 24 September 2010 to its member SMEs on the support available when bidding for work, including bidding to the new framework in the area to be run by Sefton Council along with Capita Symonds.

Waste

The Centre for Waste Management (CWM) at UCLAN has recruited two advisors on fixed term contracts until the end March 2012. Another advisor post will be advertised in the near future. The internal project team meetings are continuing, currently with more focus on the delivery of the project. To date CWM has engaged with 107 companies and has completed 23 intermediate assists. CWM also has a number of companies who have yet to complete the second visit with to follow up action plans, these will be carried out before the end of the next quarter.

The main CWM activity from June to September 2010 has been focussed on delivery of two conferences and exhibitions.

- On 15th July 2010 we held a *Sustainable Buildings Conference and Exhibition* at which we had 28 exhibitors and 60 delegates. Speakers from BRE, Liverpool University, the Environment Agency and Envirolink gave presentations as well as from this project, and two product companies gave presentations on their innovative products that help the industry to reduce carbon.
- On 22nd September 2010 we held a *How Low Can You Go?* conference which provided delegates with the perspectives of large public and private sector organisations regarding the Government set targets relating to carbon emissions. This was attended by 63 delegates, and 18 exhibitors demonstrated their low carbon technologies. Speakers from Lancashire County Council, UCLan Facilities Management, Lancashire Constabulary Estates Department, Cundall, Envirolink, DWF LLP and Capita Symonds gave presentations.

In addition to this CWM has been working with a number of SMEs to develop an action plan relating to carbon and waste reduction. CWM has also been working in particular with a

number of waste companies that deal with construction waste in order that they can work with their clients to divert more waste from landfill.

Process

The project has undergone a variation in its Single Programme funding, reduced by 24% as a result of wider expenditure reductions introduced by the new government. This has led to a reprofiling exercise which has involved all partners, and provided an opportunity to project partners to reprofile their match funding and ERDF related expenditure if wanted.

PMR FOR CLAIM 6

General

For our outputs achieved, underway and planned as business assists to Construction SMEs, in previous quarterly reports we have identified 45 SMEs having been fully assisted by the project, with more underway. We currently have records for a further 94 SMEs having been fully assisted (139 completed to date, target is 150) and a further 34 underway and 4 being planned (total including pipeline of 177). The 94 and 34 assists will be formally claimed when the output records have been fully verified by the University of Salford's monitoring team, including for State Aid revised guidance.

Output delivery during Q4 2010 saw the completion of the main contractor SME Supply Chain programmes (Mansell, Cruden, ISG, Fawley Construction), business improvement groups number 3 completing and group number 5 starting, and a number of one-to-one SME interventions, taking the total of completed business assists to 139.

It is in this period also that we have begun to focus and assess the data sets coming through in order to establish and forecast the project's early *impact* in terms of reducing carbon emissions and diverting and reducing waste which would otherwise be sent to landfill. To aid this process, and to offer commercial value to the beneficiary SMEs, we have introduced a certificate of commitment and achievement for those companies whom have provided the project with the relevant carbon and waste data. This feeds into two project milestone reports on measuring impacts, due to NWDA on 31 January 2011.

Below is a more detailed statement of the position of the construction sector within the current recession. The project has managed to mitigate this strong impact on construction SMEs by improving their competitiveness through lean processes and through meeting the aspirations of clients (and thereby winning contracts) where clients are increasingly buying from companies which can deliver VFM (value for money) as expressed through Life Cycle Costing - the whole-life costs of buildings.

The project is also closely linked through CCI into the Association of Greater Manchester Authorities (AGMA) structures and plans to support growth through a Low Carbon Economy (LCE), and in particular its national focus on Retrofitting the Built Environment. CCI is a core member of the design group for programming the retrofitting of social housing, with over 20 different types of dwelling types and with over 70 social landlords in the AGMA area.

CCI is similarly involved with Liverpool City Region plans for developing further as a Low Carbon Economy, with CCI working through the Liverpool Chamber of Commerce's work on Housing and Energy Technology. Through these strategic economic linkages there is a mechanism to influence the development of Low Carbon Economy activities through the Regional Growth Fund's objectives.

Urban Vision Partnership Ltd

Urban Vision is assisting Capita's StepClever programme in setting up a cluster group of SMEs from various disciplines to form a virtual "main contractor". They will then act as mentors for other companies but also deliver works on larger projects, e.g. Sefton social housing refurbishment using sustainable principles. Individual SME assistance remains focused on the creation and implementation of management systems in accordance with the ISO 14001 environmental standard with an ISO workshop event is also being prepared for the New Year. Urban Vision is also continuing to work closely with Bovis to guide SMEs onto their supply chain and other frameworks with an SME event planned for February 2011.

Events

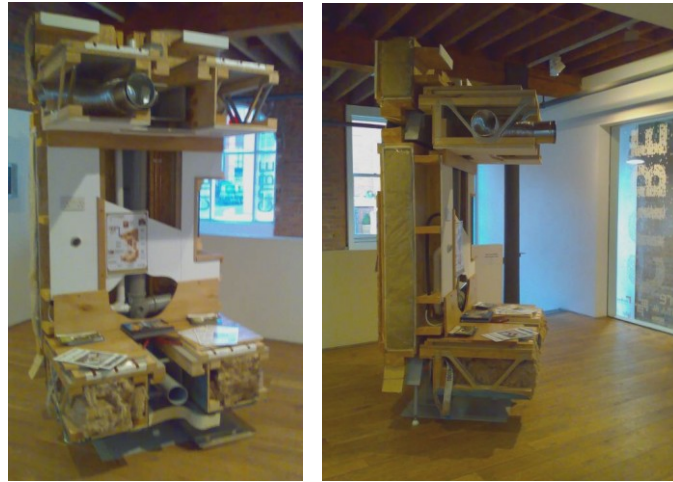
We have provided event management services for two events that were organised on behalf of the NW Construction Knowledge Hub at CUBE:

'Construction, Refurbishment and Demolition Waste Awareness' (13 October 2010) and 'Visit a Grand Design at the Centre for Construction Innovation – Adaptahaus' (9 November 2010).

The awareness raising event above encouraged delegates to better manage their carbon and waste impacts. The Grand Design event attracted individuals and developers who were interested in a different, more sustainable design and build approach - the Designer/MD of Adaptahaus left the event with 20+ genuine sales enquiries for a number of housing developments about the UK which he is currently pursuing.

The project was proud to exhibit the Adaptahaus prototype offsite housing solution (expected to achieve Code for Sustainable Homes Level 4 or 5), in coordination with its feature presentation on the Channel 4 *Grand Designs* programme broadcast on 27 October 2010. The exhibition included a cut through demonstration model within CUBE's reception area couple with a 'meet the inventor' evening in CUBE's seminar suite (9 November 2010).

The trade interest in the voluntary Passivhaus standard for ultra-low energy new homes continues to grow, along with interest in its application to retrofit existing buildings and to constructing new non-domestic buildings. The exhibition this quarter at CUBE Space of the Adaptahaus method has been pioneered by the engineering company of the same name based in Workington, Cumbria.



Above: pictures of the Adaptahaus exhibition at CUBE Space, with a cut-through which shows the prefabrication details



Above: picture of a live sample of a green roof with drainage for CCI visitors to inspect.

From the SME's publicity, "The unique approach to Adaptahaus results in its total flexibility in the arrangement of the room layouts; no internal walls are structural. During the life time of the house it can be reconfigured to suit changing family circumstances. With Adaptahaus we aim to raise the mandatory standards for modern housing in a direct response to the Egan Report "Rethinking Construction", which concluded **TO PROMOTE GREATER CONSTRUCTION INDUSTRY EFFICIENCY BY BETTER DESIGN AND MODERN METHODS OF CONSTRUCTION**. This engineering alternative to [traditional] house construction allows for efficient, quality controlled, pre-fabrication and cleaner, quicker build."

Equality and Diversity in Construction SMEs

The project is embarking on the production of an Occasional Series of Equality and Diversity Reports in Construction for SMEs. An early example from this series is a report on Knowledge Transfer concerning Construction SMEs and Overcoming the Barriers to Women in the Construction Industry. The idea is to use these reports so that knowledge can be transferred to such SMEs to aid and deepen their understanding of the impacts of any lack

of diversity in their workforce; to aid their future KPI scores in the procurement of sustainable contract work; and as a result gain further work and grow as a business.

Performance Measurement

Being able to measure a business's performance is important because it enables its management to understand the areas of business strength and weakness and respond accordingly. We find that most of the NWCKH SME beneficiaries measure very few aspects of their performance. Some just measure client satisfaction on an annual basis; others undertake some environmental measures when it is required of them for, say, BREEAM or Code for Sustainable Homes. Our Business Improvement Programme Performance Measurement Workshops help raise SMEs' awareness of the importance of measuring across a range of social, environmental and economic indicators at the end of every project in order to drive continuous improvement within the company, support integrated working with their clients and sub-contractors and help them win more work.

We offer further support by giving beneficiaries a free 12-month licence for our benchmarking tool, the KPI Engine, which enables them to collect, record and report data in a methodical and consistent fashion and compare themselves to the rest of the UK construction industry. We have recently started running a BIG Benchmarking Club. This offers continued support (accessing experts from within CCI and from SME peer groups) in helping establish and maintain a company performance measurement system.

We have set up a new benchmark club for all the Business Improvement Group SMEs within the KPI Engine giving them all free annual licences, logins, passwords and user manuals. 58 SMEs have been invited to attend a free training session for the KPI Engine. We organised a site visit to the Innovation Park at BRE at Watford for benchmark club members of the Bid Coaching Group of SMEs, which consisted of a presentation followed by a tour of the Innovation Park.

Centre for Waste Management (CWM) at the University of Central Lancashire (UCLAN)

Between October and December 2010 the CWM at UCLAN have been developing workshops based on subjects identified by the Industry Steering Group, these will be ready for delivery from February 2011. They cover areas such as using KPI data from Site Waste Management Plans for Business Resource Efficiency Improvements both the contractor on site but also from the client and designers perspective. Environmental Management Systems and Environmental Awareness are also areas where support has been requested. From March 2010 we will have a range of workshops available covering low carbon technologies; these will provide information on the suitability of each technology in different situations and also enable the delegate to work out the payback for the investment on the technology of choice.

We ran a workshop with Architects, architectural students and the construction sector on helping architects to understand site issues regarding design and waste with the intention of providing students with more on site experience, in order that they can use this knowledge when they are in practice.

We have begun an intensive business assist with Wrightbuild Ltd who wish to implement an EMS and also wish to run a series of toolbox talks around waste, environmental awareness and working with the supply chain.

Business Improvement Groups (BIGs)

BIG #3 – CCI has completed running BIG number (#) 3 on 14 October 2010 with the fourth and final workshop. This SME workshop addressed performance measurement issues and engaged in particular and confidential business issues. CCI has also gathered feedback on BIG #3.

BIG #4 actually completed earlier on 21 July 2010, sooner than BIG #3 simply because the tailored nature of each group is run around the needs and availability of the SME business leaders involved.

BIG #5 – CCI has established BIG #5 by sending requests for expressions of interest; gathered required data; checked eligibility; set up programme of meetings; and inviting selected SMEs to commit to the programme. The first workshop was held on 15 December 2010 and participants addressed bid coaching issues and engaged in action learning around individual business issues.

All BIGs – CCI has set up an on-line *LinkedIn* Business Improvement Group forum and invited all BIG members to join. Participant SMEs in BIGs #1 to #4 have provided data for CCI's KPI Engine, and CCI has issued certificates of commitment and issued KPI Engine licences.

Construction Best Practice Clubs

The Construction Best Practice Clubs have continued to provide support to SMEs by hosting various events over the last few months.

There have been events around the North West with topics such as *Measuring your Corporate Carbon Footprint* and *Implications of the Construction Act*. We have also created the chance to see bigger schemes completed at the site visits to Media City, Liverpool John Moores University's Tom Reilly Building and to the Accrington Academy. All five county Clubs are continuing with their plans for 2011 with events targeted at SMEs such as the Cumbria Club's *Going Nuclear* event in February.

NW Construction Hub Framework

The North West Construction Hub, led by Manchester City Council, is currently procuring an Engineering and Professional Services (EPS) Framework for use by public bodies across the North West region. With 78 lots across 10 disciplines including Architectural Design, Regeneration, and Engineering this will be one of the largest and most sophisticated frameworks of this type.

The EPS Framework has been specially designed to make it more accessible to SMEs, who traditionally struggle to gain access to this level of work due to their size and lack of capacity and experience with the processes and policies required by law for public sector procurement to ensure fair treatment. Running alongside the procurement process, CCI is carrying out a confidential evaluation of the 277 organisations who have applied for the

framework, examining their issues in progressing through the procurement process, and highlighting the key trends. The process is currently at pre-qualification questionnaire stage where capability and capacity are tested and has highlighted some interesting factors.

In particular, although the framework design worked in that a fairly even split of SMEs and large companies that have applied, there appears to be issues in many SMEs' ability as follows:

1. The ability to show the basic capacity requirements of the pre-qualification questionnaire such as health and safety, financial viability, and approach to quality;
2. The distinct lack of sophistication in the organisations approach to sustainability initiatives; and
3. The distinct variance between the SMEs and the larger companies within this part of the construction industry (consultants and professional services) in respect of their framework experience and capability.

The evaluation of these trends will continue throughout the procurement process to result in a detailed report into these key issues and trends, along with recommendations developed specifically for SMEs to improve their capabilities in bidding for work and therefore becoming more sustainable. We will therefore be designing and developing a series of workshops to assist the companies in working through these improvements. Elements of this evaluation which are relevant to SMEs will be fed into this project's future programme.

Case study

We have researched and are producing a case study of one of the Group – Jacob Construction. Jacob Eco Energy is the first business in the Manchester & Salford cities to be approved for the Microgeneration Certification Scheme. The company are planning to employ 10 to 20 more staff in the year 2011.

Jacob Construction managers attended a series of BIG – Business Improvement Group – workshops at CCI in 2010 and also attended the project visit to the Innovation Park at BRE in Watford.

Building Research Establishment (BRE)

BRE have developed an events programme to assist with carbon reduction strategies and have begun to deliver these based on rising to a planned pace of two events per calendar month. The events advertised to date through the extensive CCI mailing list have been successful in attracting 70 to 100 registrations per event.

The event themes are:

- Carbon Reduction through application of PassivHaus,
- Code for Sustainable Homes and Building Fabric,
- Resource Efficiency and Life Cycle Analysis,
- CLIP (Construction Lean Implementation Programme) with Carbon Footprint Certification, and
- CALIBRE (waste reduction through evaluation of KPI targeted to reduce waste).

A new theme on *Buildings Retrofit and Refurbishment* is under development and targeted to improve the thermal efficiency of existing housing stock to provide carbon and energy reduction measures.

The BRE project team have established the current events timetable which is populated up to April 2011, and the BRE team will be meeting within the next few weeks to set events up to December 2011.

BRE is planning to assist several SME companies from January 2011 onwards with process improvements to a steel frame housing system to reduce carbon emissions during manufacture, as well as an aerobic waste company and solar thermal company.

The University of Liverpool

The sustainable precast concrete products designed by the University of Liverpool during the years preceding this project are currently being trialled for full scale commercial production by Marshalls. The University has proved that such products could contain proportions of construction and demolition waste without the need for increasing the expensive cement content which also considerably increases the carbon footprint of the products. We have sourced materials from two North West aggregate recycling SMEs, both of whom have recently spent around £2M on new washing plant, enabling them to increase the re-usability of their recycled product. The final trial mixes have been designed containing various amounts of recycled materials, which are scheduled for testing in Marshall's laboratories in early February 2011. We have identified sites in Lancashire, through Lancashire County Council and Global Renewables, which are suitable and willing to test the new products.

This work has also led us to investigate new applications for the 'waste' clay produced by the recycling plants using particles under 63 microns, which are washed from the aggregates and compacted into 'clay cakes'. Around 400 tonnes of material are produced between all the plants each day. This is currently stockpiled for landfill, but could be used for landfill lining or capping due to its extremely low permeability. We are assisting the companies with knowledge to fulfil the End of Waste requirements of the Environment Agency and hope to find a strong market for these SMEs and new products.

The University of Liverpool have continued their investigations into the behaviour of sustainable concrete products. This quarter particular attention has been given to the *size effect* which changes the stress distribution through fibre reinforced concrete structures. An existing fictitious crack model has been assessed to determine its suitability for use on complex structures with unknown failure paths, such as the *sustainable ultra high performance fibre reinforced concrete flags* (pavoids) being designed by ourselves and industrial partners. The complexities of the material suggest that a new material model may have to be produced in order to effectively use finite element methods to assist in the design of complex high strength geometries that can uphold the design requirements while minimising the use of material and simplifying the production process. This knowledge is essential to the construction SMEs we are closely working with if they are to produce new and sustainable products which are durability assured to industry standards, in order to

replace those existing construction products which have a high volume of cement and quarried materials.

One-to-One and Tailored Support

Examples of some One-to-One and similar support from CCI to construction SMEs include:

- with John McCall Architects regarding one-to-one bid support, delivered by a senior project member;
- with Jamieson Construction Ltd to discuss potential activity for the company from NWCKH. The meeting concluded with an agreement for a senior project member to visit the company for a half day bid coaching session;
- with CDP Ltd – a general bid coaching meeting that allowed the company to bid for the EPS Framework for the NW Construction Hub and set up a carbon calculation for the company. The company is currently awaiting the outcome of the tender for the framework; and
- a Bid Coaching workshop for Liverpool Housing Trust and ConstructionSkills in Liverpool. This was attended by a number of Merseyside-based SMEs.

Economic context for construction

The following graph of economic activity in the UK construction industry shows the depth of the impact, being the worst recession for the construction sector since the 1930s.



Source: Construction Output 1997-2010, The Times, 19 August 2010

For 2011, the BBC has reported the Federation of Master Builders (FMB) statement that the FMB expects 2011 to be the fourth year of recession within the construction sector, and further that the Construction Products Association is not expecting growth to return until 2013. However the UK head of building and construction at KPMG has added that although "this is a market that is in deep, deep trouble" however, growth would return to the industry from the waste sector, the government's Green Deal and from the underlying demand for social housing.

Source: BBC News, 20 Jan 2011 <http://www.bbc.co.uk/news/business-12239233>

Project Meetings

These have been held as follows:

Project Partners Project Management Meetings – 20 October 2010, 17 November 2010, and 15 December 2010. Project Board Meeting – 9 December 2010, and NW Europe Interreg Conference, Manchester, delegates workshop at CUBE – 6 December 2010.

State Aid (support to firms from public funds)

Recent guidance has been received which requires us to make a change to our paperwork, so that our records will need to show the value of the State Aid *de minimis* amount provided to beneficiary SMEs in both euros and pounds Sterling at the appropriate exchange rate in force at the point the aid was offered to the SME. This will change our Declaration Form provided to the beneficiary SMEs. If an SME is reporting back to us the amount of any other State Aid provided to them by other organisations, they will need to record the amounts in both euros and pounds, and we'll help them with this as far as possible. This is an updated requirement from the A16 auditors and follows guidance from the European Commission.

Internal Processes

A fairly substantial amount of project time in Q4 2010 has been spent on addressing issues around the claims process for ERDF and the consequent cash-flow difficulties for the lead body and for project partners. This has entailed additional work within the claims production process, building on the 'legacy claims' where possible and bringing in additional finance people and others to ensure that the process enhancements are effective.

PMR FOR CLAIM 7 & 8

University of Salford, CCI – During January to March CCI focused on delivering a series of business improvement workshops to Merseyside-based SMEs at 'Milk & Sugar' in Liverpool. The series involve 12 companies and covered Lean Construction, Carbon Footprinting, Performance Measurement and Bid Coaching. In this period CCI have also delivered to Birse Civils and Balfour Beatty supply chains involving 20+ SMEs around the topic of Sustainable Procurement in response to the recent introduction of the Sustainable Procurement standard BS 8903.

BRE – has a programme of events for 2011 with 459 attendees to date, with a long lead time to finalising a business assist, feedback form to see what new, different work might be wanted.

Urban Vision – has work underway and the targets will be met, with joint work such as with UCLAN on waste, plus work in Sefton with StepClever's reach to construction SMEs in North Liverpool. Working with SMEs on Sustainable Procurement Policies, jointly with Enworks. 10 SMEs are due to receive bespoke support, and possibly a resulting toolkit which could be circulated.

University of Central Lancashire (UCLAN) – has established a network of seminars and bespoke support, guided by a Steering Group which includes SMEs as well as public bodies such as the Environment Agency, and is working with the Federation of Master Builders on waste. Activities include a carbon and waste audit as well as supply chain engagement. There are plans for some additional work in Merseyside for up to 40 SMEs.

Support to First Trace Heating Direct with marketing assistance and in product development could lead to 1.7 Mt carbon savings where their products stops condensing boilers under-performing in cold weather, which may be applied via British Gas to 30,000 units. A video is due to be placed on the British Gas website.

University of Liverpool – On sustainable construction products which replace items responsible for high carbon emissions, the concrete flags manufactured from local recycled demolition waste have undergone factory trials. The manufacturer's QA tests showed that the flags out-performed their standard flags manufactured from quarried material. Further tests need to be completed to investigate water absorption, which is currently slightly higher than BS, but it is assumed that they will pass freeze-thaw tests thereby complying with the standard. Investigations into commercialising recycled container glass and investigating applications for the 'clay' produced by construction and demolition waste washing plants with local SMEs are continuing.

Work has progressed simultaneously on investigating properties of fibre reinforced concrete (FRC) access floor panels and geo-polymer cements. A Fictitious Crack Model (FCM) has been modelled to calculate the stress distribution at peak load for a beam of FRC. This will eventually enable accurate modelling of FRC products in finite element models in order to efficiently optimise product designs, giving greater performance with minimal material.

Experimental work investigating the variability of PFA (Pulverised Fuel Ash, and Furnace Bottom Ash) and its effect on the mechanical properties of geo-polymeric cement mix combinations has progressed rapidly due to a number of visiting research assistants enabling a large amount of work to be carried out for the project with no additional costs.

PMR FOR CLAIM 9

“We've had some fantastic comments back about the show from exhibitors, more in fact than we could have hoped for, and the feedback from visitors has been equally encouraging, with 98% saying that the technical knowledge of stand personnel was excellent.”

“In total we just cracked the 4,000 mark over the 2 days with final visitor figures standing at 4,002, a 50% growth on last year.”

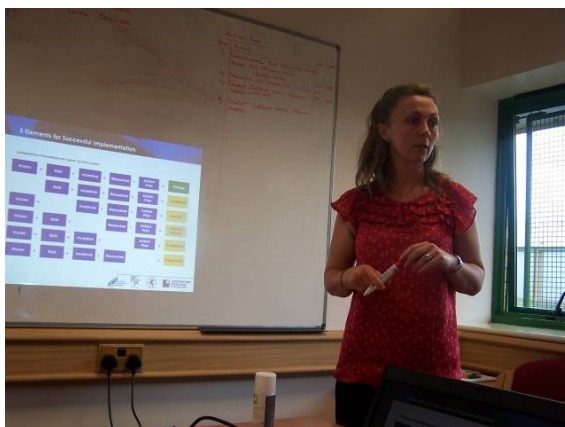
GreenBuild Expo organisers 8th July 2011



NWCKH stand at GreenBuild Expo, Manchester Central, 29-30 June 2011 (exterior of trailer)



NWCKH stand at GreenBuild Expo, Manchester Central, 29-30 June 2011 (interior of trailer)



SME workshop (DJ Donegan, 12 May 2011 for first session)



*NW Regional Construction Awards 2011 - SME of the Year (26 May 2011, Chester)
Jackson, Jackson & Sons Ltd, Rochdale (NWCKH beneficiary company)
Winners (centre) with Paul Unger and Lucy Meacock.*

Outputs

The project is pleased to report that it has assisted 153 SMEs to date, of which 15% are based in Merseyside, exceeding its lifetime target of 150 SMEs. Work continues with construction SMEs to secure more jobs created and safeguarded, and further applications of low carbon technologies.

CCI, University of Salford has extensive work packages underway with construction supply chains in the North West (Wates, Willmott Dixon, Carillion, Mansell, etc) and a programme of “BIGs” (Business Improvement Groups) for SMEs in these main contractor supply chains, focused on the efficiency agenda. The BIGs are small groups of SMEs (roughly 6 – 8 members, one from each SME) who meet four times at regular (e.g. monthly) intervals. Each meeting consists of:

- Action learning – to identify, discuss and address individual business-specific issues;
- Seminars – the programme includes Bidding, Performance Measurement, Carbon Accounting, Waste Management and Lean Thinking and Practice.

This work is also feeding in to Constructing Excellence nationally, now meeting with BIS, DCLG and the Cabinet Office, including, for example, a paper on BIM (Building Information

Modelling) for the public sector, likely to become near-mandatory within new contracts in the next five years.

FREE Business Improvement Groups for SME in the NW

Building a Better Future with the NW Construction Knowledge Hub
"Less carbon, less waste more jobs"

- Are you committed to the pursuit of best practice and willing to make suitable improvements to your business?
- Are there issues that you feel you could resolve through discussion with your peers?
- Do you want to know more about how you could deliver a better service to your clients and win more work?



Join a Business Improvement Group

CCI are offering you the opportunity to join one of its small Business Improvement Groups (BIG), which are designed to support you in addressing those questions. To be eligible, you must be a senior representative of a small and medium sized enterprise (SME) operating in the built environment sector, e.g. construction or design.

The BIG will comprise a maximum of six members and will meet four times, at regular, monthly intervals. Each meeting will consist of a one-hour seminar on a topic of general interest and three hours of facilitated action learning around the specific issues/opportunities that the members are struggling to resolve/exploit. The programme of seminars will cover **Bid Coaching, Carbon Accounting and Waste Management, Lean Thinking and Practice, and Performance Measurement.**

How Much Does It Cost

BIG membership is **free of charge to SME in the North West**. SME are defined as having fewer than 250 employees, an annual turnover less than €30m and/or balance sheet funds less than €43m. They must also be independent of large enterprises; not owned more than 25% by a non-SME.

How to Join

In the first instance we would like all interested parties to provide an Expression of Interest, including a short paragraph explaining how you think a BIG will benefit your business, the key issues/opportunities that you would wish to discuss, and the potential for improvements in your business (including making successful bids, increasing turnover, creating/safeguarding jobs, reducing carbon emissions and reducing waste). Your Expression of Interest should be sent to: alex.wharton@ccinw.com. For more information please contact Alex by e-mail or phone him on 0161 295 6295. We require **expressions of interest by Friday 22nd October.**

About the Northwest Construction Knowledge Hub

The Northwest Construction Knowledge Hub is a three-year project, funded by the European Regional Development Fund (ERDF) and the Northwest Regional Development Agency (NWRDA), to help small and medium-sized enterprises (SME) in the Northwest's built environment sector grow their business and improve their resource efficiency. The project is being delivered by Centre for Construction Innovation in conjunction with Building Research Establishment, University of Central Lancashire, University of Liverpool and Urban Vision.



BRE has been running a programme of events with 459 attendees to date. For example, not previously reported is that as part of the North West Construction Knowledge Hub (NWCKH), BRE delivered a construction, refurbishment and demolition waste event at CUBE in Manchester on 23 March. The event focused on raising awareness of industry requirements relating to the management and handling of waste, duty of care and environmental permitting, and requirements for BREEAM and the Code for Sustainable Homes. It also looked at Government sustainability targets and how the built environment responds to these, including responsible sourcing standards and materials sustainability.

On 20 April 2011, as part of the North West Construction Knowledge Hub (NWCKH), BRE is delivering a construction lean improvement and measurement assessment awareness event in Manchester. The first part of this event focused on the benefits of integrating lean into a small business with a focus on the Construction Lean Improvement Programme (CLIP) that has been used with numerous construction companies and projects to improve performance. The second half of the event looked at how data can be collected and used to assess current performance, and then to establish benchmarks for measuring future performance. The event covered business tools to measure construction processes and their environmental impacts, to provide SME contractors and manufacturers with a quantitative assessment of performance to enable such firms to make targeted improvements to their processes both onsite and offsite.

Urban Vision has work underway and the targets will be met, with joint work such as with UCLAN on waste, plus work in Sefton with StepClever's reach to construction SMEs in North Liverpool. Working with SMEs on Sustainable Procurement Policies, jointly with Enworks. Up to 10 SMEs are due to receive bespoke support, and a resulting toolkit may be circulated. Services offered by Urban Vision to project SMEs include:

- Baseline Carbon Assessment using Carbon Calculator
- System development in accordance with ISO 14001 and ISO 9001
- Environmental process improvements
- Sustainable procurement, and
- Green travel plans.

UCLAN has established a network of seminars and bespoke support, guided by a Steering Group which includes SMEs as well as public bodies such as the Environment Agency, and is working with the Federation of Master Builders on waste. Activities include a carbon and waste audit as well as supply chain engagement. There are plans for some additional work in Merseyside for up to 40 SMEs.

Support from UCLAN to the SME *First Trace Heating Direct* with marketing assistance and in product development could lead to up to 1.7 Mt carbon savings where their products stops condensing boilers under-performing in cold weather, which may be applied via British Gas to 30,000 units.

For events, a workshop format that UCLAN follow for SME assists includes an initial questionnaire on waste and energy, which is used as a baseline with an electronic workbook, followed by waste and carbon audits to show impact. Workshop attendance is maximised by engaging with SMEs through Tier 1 Contractor supply chains and Client presentations. The coverage includes waste, environmental awareness, ecology, biodiversity, as well as carbon. In terms of delegates from SMEs at these events, the mornings are for MDs and CEOs, and the afternoons are for project managers.

A *Construction Waste Awareness* workshop was held in Sefton with 11 SMEs on 29 June 2011.

Liverpool continues its ground-breaking work on 'green' cement and concrete, noting that worldwide concrete is responsible for more carbon emissions than is aviation.

On **cement**, geopolymers are synthetic aluminosilicates that are produced by mixing aluminosilicate pozzolans with alkaline activators. The result is a hard and strong cementitious material that can be used as a replacement for Portland Cement (OPC) in concretes, mortars and grouts. This research into geopolymers is closely linked with Sustainable Construction Products by using 100% recycled and waste-stream materials, including Pulverised Fuel Ash from coal-fired power stations and alkaline activators that are considered waste from the chemical, manufacture, or processing industries. GGBS (*ground granulated blast slag*) from furnaces is not classed as a waste product because it now has a number of uses according to the Environment Agency. However, GGBS does appear to be 'rusting in stockpiles' rather than being all reused in the UK, which can cause problems later on.

On **concrete**, the aggregate component of conventional concretes comprises a mix of quarried stone and sand in different size fractions. These aggregates comprise the bulk of the concrete mix. The University of Liverpool has conducted considerable research into the feasibility of using recycled construction materials as a substitute for quarried aggregates, and the effect of using such recycled fractions on the concrete's physical properties. Aggregate derived from recycled concrete can replace up to 60% of the coarse fraction and up to 30% of the fine fraction, whereas masonry-derived aggregate can only replace a maximum of 20% of either fraction. One of the current lines of research is into the incorporation of recycled glass as an aggregate substitute in concretes. Specifically, they are working with industrial partners in using green and mixed colour glass cullet as a substitute for silica sand in Ultra High Performance Fibre Reinforced Concrete (UHPFRC). Recent work using a glass material recycled from TV monitor screens showed that this material could be used to replace all the silica sand in UHPFRC without having a great effect on the strength of the concrete.

The University of Liverpool has asked whether it may be possible to name *Flowcrete* as a private sector delivery partner and match funder, and this will depend on whether there was to be another change control procedure with NWDA and EPE within which this change could be made.

General

The project was a prominent exhibitor and seminar provider at GreenBuild on 29 and 30 June 2011 at Manchester Central (previously GMex), where the trailer was on-site (resulting in lower space hire costs) and used for presentations and displays, along with external tables and literature. CCI and partners' delivery staff were present both days, and a number of SME contacts were made as well as promoting the key messages of the project to delegates. The event organisers have said after the event that more people visited GreenBuild in the first half-day in 2011 than visited in total for the event in 2010.

Due to Single Programme changes which had been requested by NWDA there is a need for the project to achieve an earlier financial close for SP funding (31 December 2011) than for ERDF funding (31 March 2012), due to NWDA closing on 31 March 2012. This will allow for

the project to achieve an SP practical closure while NWDA is still operational. Funding amounts remain unaffected, but the timings change and a revised financial table will be applied to the funding contract. Work started in Q2 2011 to undertake these changes.

Wider context

On 31 May 2011 the *Government Construction Strategy* was launched by the Cabinet Office, and a few weeks later on 22 June 2011 BIS published its responses to the report by the *Low Carbon Construction Innovation Growth Team* as detailed in the box below, and thirdly on 19 July 2011 the Government announced an expected £22bn in Government construction projects over the next three years, to be confirmed in the autumn.

22 June 2011



Business Minister Mark Prisk today outlines how Government and the construction industry will work together to decarbonise the built environment by 2050.

The Government is taking action on the following areas:

- **The need for a new level of cooperation between Government and industry.** We will establish a new Government and industry board to ensure that this action plan is implemented.
- **The need for a transparent plan of the incentives and interventions we will use.** Today's action plan sets out key steps which Government will take in the next six months – including the publication of an updated Carbon Plan. The Plan for Growth published in March provided greater certainty around the definition of “zero carbon” for new homes. Since then we have also extended the Green Deal to include non-domestic properties and announced plans to use fiscal incentives for renewable heat systems.
- **The need to reform public procurement.** From Autumn 2011 the Government will publish quarterly a two-year forward programme of infrastructure projects to give more certainty to the sector to invest in low carbon. The Prime Minister has also confirmed his commitment to the Better Public Building Awards which will have a new focus on low carbon to promote best practice. In May Cabinet Office published the Government's new Construction strategy including the requirement for 3D Building Information Modelling to be used on Government projects by 2016 to improve the way we manage the carbon emissions from our new and existing building stock.
- **The need to make the most of export opportunities.** The construction industry, through its work on zero carbon new homes, on retrofitting and on major projects like the Olympics is demonstrating itself to be truly world class. Through a programme of over 40 activities lead by UK Trade and Investment we will ensure we make the most of overseas markets.

On 13 June 2011 CCI hosted in Manchester a 'Northern presentation' of the Government Construction Strategy by the Cabinet Office along with regional speakers, and on 7 June 2011 at Haydock CCI co-presented with Hill Dickinson a business-to-business event on *The Future of Construction*.

PMR FOR CLAIM 10

In this PMR the focus of the report is a detailed analysis of the 220 SMEs who have engaged with the project to date. As an appendix we have included a Case Study of one of the beneficiary SMEs, and we plan to include all the case studies we are producing on the ccinw.com website as part of the legacy of learning materials.

Project focus on construction SMEs in areas of high deprivation

The analysis of the SME data in Table 1 below shows that 61% of the Construction SMEs that have engaged with the project are based in areas which have a higher level of deprivation than the NW regional average, based on the Government's Index of Multiple Deprivation 2010. In the region's two largest conurbations the rates are even higher: Liverpool LEP 86%, and Greater Manchester LEP 74%.

Table 1: SMEs assisted by the NWCKH project analysed by their IMD regional rank

Local Economic Partnership (LEP) area	Number and % of SMEs	Number and % of Jobs	Average IMD rank for SMEs in LEP area	Number of SMEs below (more deprived than) the regional median IMD rank of 12668	% of SMEs in LEP area assisted which are below (more deprived than) the IMD median
Cheshire & Warrington	37 (17%)	782 (9%)	19105	7	19%
Cumbria	3 (1%)	40 (1%)	23999	0	0%
Greater Manchester	84 (38%)	3918 (45%)	10453	62	74%
Lancashire	46 (21%)	2353 (27%)	14862	23	50%
Liverpool	49 (22%)	1641 (19%)	7775	42	86%
Totals	219	8734	-	134	61%

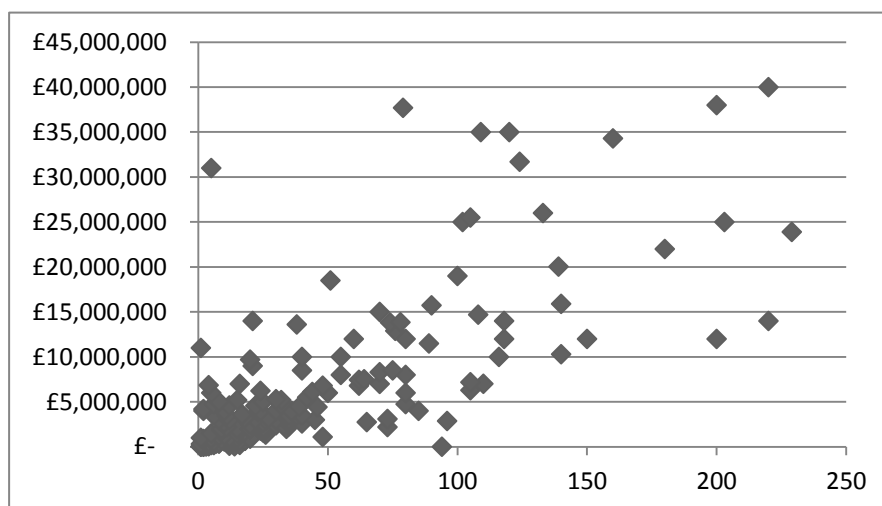


Figure 1: All construction SMEs engaging with the NWCKH project (n=220), showing turnover value and number of employees

Figure 1 above shows the 'spread' of SMEs that have engaged with the NWCKH project in terms of the number of employees and the level of company turnover. As can be seen, there is a strong cluster of Construction SMEs which are micro or small size, with proportionately fewer that are medium sized.

Exploring the data further for micro construction firms (1-9 staff), Figure 2 below shows, for all micro-size construction SMEs engaging with the NWCKH project (n=64), their Index of Multiple Deprivation 2010 Lower Super Output Area ranking (32468=least deprived, 3=most deprived) and number of employees (1 to 9). From this dataset, 45 (70.3%) SMEs are based in areas ranked below the *mean* regional point of 16234, and 40 (62.5%) SMEs are based in areas below the *median* regional point of 12668. There is a linear goodness of fit correlation value $R^2=0.1293$.

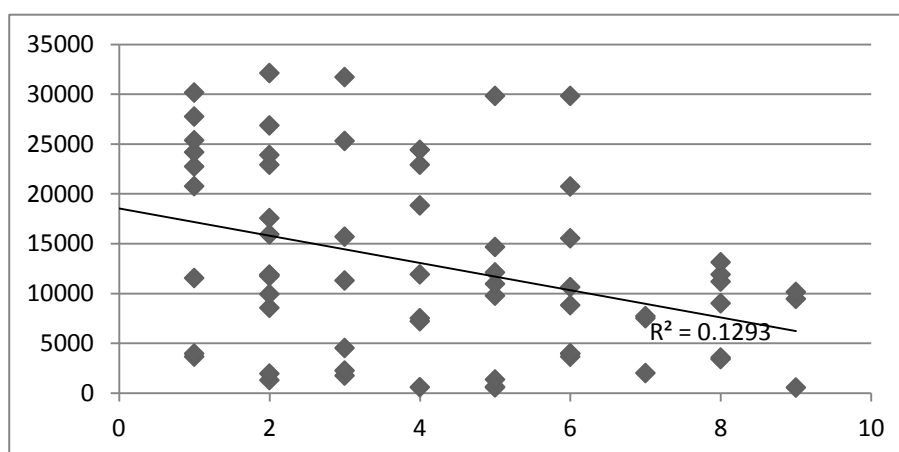


Figure 2: All micro-size construction SMEs engaging with the NWCKH project (n=64), showing employee number and Index of Multiple Deprivation 2010 Lower Super Output Area score.

From this analysis of micro firms assisted and their locality, the NWCKH project has disproportionately assisted micro firms in the more disadvantaged localities with England's

North West. This has been achieved at least in part by a focussed marketing and engagement strategy which builds on pre-existing relationships in areas such as North Liverpool, North Manchester, Pennine Lancashire, Barrow and Blackpool, and mindful of including the ‘pockets’ of deprivation across all of the region.

A suggested finding is that the focus for SME firms in areas of multiple deprivation rises significantly for firms with 7 or more employees, in part probably because many of the smaller firms and sole traders are qualified professionals located in fairly prosperous areas. Future projects may find it useful to add further criteria in the selection of which firms to best engage with when the number of employees is below 5 or 6.

Carbon Emissions Reductions by Assisted Construction SMEs

To date within the project many of the SMEs assisted have started to measure their carbon emissions using the carbon calculator spreadsheet made available to them, and 14 SMEs so far have completed both an initial baseline calculation and a 12-month follow on calculation, and this data is summarised in Table 2, showing an average saving of CO₂ emissions of 4.5% and a total of 78 tonnes CO₂ saved but with caution at this stage in seeking a trend because it is based on a currently small sample size.

Table 2: Construction SMEs assisted by the NWCKH project, annual changes in their Carbon Footprints (n=14)

	Baseline Carbon Footprint (tCO ₂)	Follow-up Carbon Footprint (tCO ₂)	Reduction in Carbon Footprint	% Reduction in Carbon Footprint
	13.9	5.0	8.9	64.0%
	14.9	8.4	6.5	43.6%
	238.3	195.2	43.1	18.1%
	47.7	39.9	7.8	16.4%
	90.7	82.0	8.7	9.6%
	43.6	40.0	3.6	8.3%
	74.2	68.4	5.8	7.8%
	41.3	38.4	2.9	7.0%
	16.1	15.0	1.1	6.8%
	74.2	69.3	4.9	6.6%
	25.2	24.2	1.0	4.0%
	451.8	447.7	4.1	0.9%
	548.9	548.9	0.0	0.0%
	37.0	57.4	-20.4	-55.1%
Averages	122.7	117.1	5.6	4.5%
Totals	1717.8	1639.8	78.0	4.5%

The data in Table 2 also shows there are significant variations in the changes between different SMEs performances. Additional data towards the end of the project period will be required before a strong trend can be identified, and case studies are expected to draw out further lessons not yet evident in the data. For example, a firm may be growing significantly in size on the basis of winning work by controlling its previous emissions, where a *per capita* analysis of the emissions data might still show a fall once adjusted for such business changes.

Applications of Low Carbon Technologies, Action Plan

The project is beginning to see the impact of its business assistances to Construction SMEs in terms of their applications of Low Carbon Technologies (LCTs) and these are being recorded as claimed outputs by the project. To date 3 LCTs have been claimed with a further 5 in compilation for Claim 11 and the remaining 17 in development for Claim 12.

Taking a cautious approach to LCT, the project has identified each instance of an LCT by an SME as just one output, even for example when the instance results in 30,000 planned installations of a new LCT designed (by First Trace Direct Heating Ltd) to improve the energy and carbon performance of condensing gas boilers when operated in near-freezing ambient temperatures. Other examples of LCTs include SMEs installing heat pumps, vehicle tracking and route optimisation, and premises lighting operated by occupancy sensors.

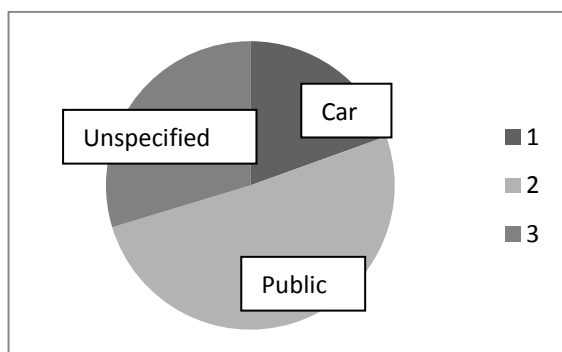
PMR FOR CLAIM 11

Audits

The project is heading towards its completion, with work concentrated on finalising any outstanding assistance actions with beneficiary SMEs, along with preparing for and then responding to an ERDF Article 16 Audit visit which started in November 2011, plus notice of an ERDF Article 13 Audit visit to commence in the following quarter.

Green Travel by project staff was 50% to 70% using public transport, analysis shows

Achieving significantly lower-than-average carbon emissions by the ERDF project staff is one of the aims of the NWOP strategy for sustainable growth, and is reflected in the Funding Agreement. The employees from all partners working in this project have performed well with below-average carbon emissions in this regard.



car	19.49%	£ 1940.31
public	50.82%	£ 5059.01
unspecified	29.68%	£ 2954.52
	Total	£ 9953.84

car	27.72%	£ 1940.31
public	72.28%	£ 5059.01
	Total	£ 6999.32

The table and graph were calculated by examining the 249 financial transaction lines which relate to project staff travel in Claims 1 to 10, and used the transactional descriptive text to determine public, private or unspecified mode of travel. The analysis was done by value (£s) and taxis were classed as public transport. A sample check to receipts showed that some of the unspecified mode was only by public transport, and some were a mixture such as car + parking + train. Commuting is excluded.

As a comparison, 40% of journeys surveyed in Bristol in 2004 were by car, and 59% including car passengers. Source: Socialdata/Sustrans 2004.

PMR FOR CLAIM 12

As part of the recent ERDF Article 13 Audit Visit in spring 2012, there was a recommendation that the project team produce GVA data for every project beneficiary SME. This note summarises the work undertaken to implement that recommendation. The rationale for this recommendation was that the output type 'Improving Your Resource Efficiency' requires a measure of GVA before-and-after the assistance, as specified in the ERDF Manual. Therefore the project team undertook to gather as much GVA data as possible within the resources available, at a time when the project had already ended.

By examining accounts data held at Companies House and via FAME it was possible for the remaining members of the project team to gather GVA data on around 25 SMEs because their accounts were sufficiently detailed. This data was added to that of 14 SMEs already held. The UK definition of a small firm used by HMRC is for companies with fewer than 50 staff and small firms are allowed to file abbreviated accounts only. **Abbreviated accounts** are essentially just a balance sheet, which includes the annual profit or loss amount, but not the breakdown of that total amount that would be shown if there was a full profit and loss account to accompany the balance sheet.

There are different methods for calculating GVA, and the method of working from company accounts is inconsistent with those for UK regional accounts and national accounts, as detailed by ONS. The method adopted for ERDF is remuneration + profits + depreciation. Regional and national accounts can be based on GVA(I) or GVA(P) – the income and the production methods respectively.

Details: www.ons.gov.uk/ons/guide-method/development-programmes/all-sopp-programme/regional-gva--production-approach-/development-of-a-regional-measure-of-real-gross-value-added-using-a-production-approach.pdf

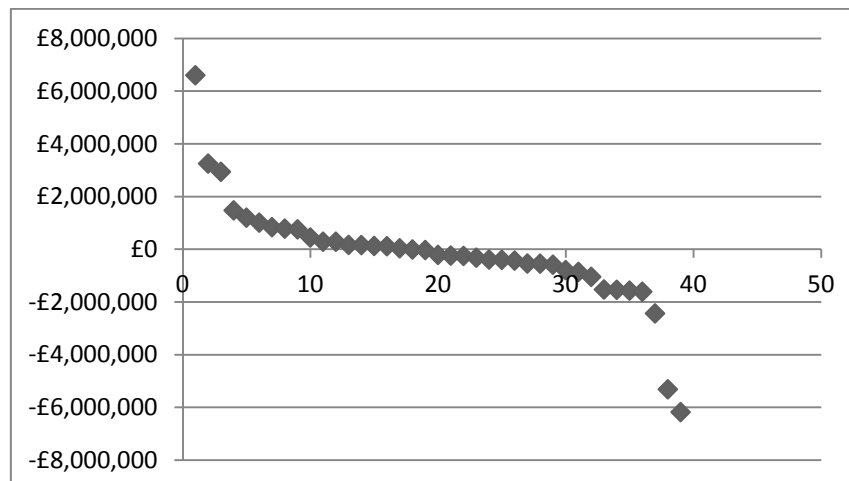
In terms of **proxies for GVA**, company turnover had been used previously by the project as a proxy for company GVA, though the use of proxy data is less favoured now. Previously, regional development agencies were allowed to use employment growth as reported by their projects as a proxy for regional GVA improvements.

In the course of this work the project team were in contact with two ONS staff colleagues in June 2012 who have previously published reports on methods of calculating GVA, to explore

whether there were any new methods or proxies which would provide a solution to overcome the barriers being faced. Unfortunately no new remedy was available.

Findings

Of the 167 SMEs assisted, baseline and out-turn GVA has been able to be measured for 39 SMEs, with an average decline in GVA of £159,222 and with extremes of one growth of £6.6m and one decline of £6.17m, as shown in this diagram of SMEs in rank order.



Given the economic deterioration during the lifetime of this project (April 2009 – March 2012) and the high impact of the recession in the construction sector, these figures are reasonable in the circumstances.

APPENDIX B: PROJECT FILES

The following filing structure is one that matches the current schedule used for a progress and verification visit (PAV Visit, Article 13 Audit).

Project Management, General

1. Funding Agreement as signed
2. Changes to the Project, as signed
3. Planned and Actual Progress
4. Organisational and Project Structure
5. Contingency Plans
6. Risk Management
7. Insurances, Equality Policies, Health & Safety
8. Agreements with Delivery Partners, as signed
9. Procurement of Contractors, as signed
10. Governance Roles, Records of Meetings
11. Data Protection and Privacy

Finances

12. Financial Procedures as followed
13. Accounting Software, Cost Centres
14. Retrieval of Original Invoices, Receipts
15. Accounting Records, Budget Approval
16. Scheme of Delegation
17. Value Added Tax
18. Claims Compilations - Claim 1 onwards
19. Apportionment - Methods and Data Sheets
20. Matching Funding Details
21. Capital Costs, Valuations, Depreciation

22. Salaries, Staff Structure, Job Descriptions

23. Timesheets
24. Prior Agreement on Overheads Method, as signed

State Aid

25. Details of System, as used
26. Copies of Letters, Notices, Agreements

Project Procurement

27. Details of All Procurement Exercises
28. Any Single Tender Action Contracts
29. Any Preferred Supplier Contracts
30. All Formal Tenders
31. Any Contract Extensions

Publicity

32. Publicity - Examples by the Project
33. Publicity - Examples by Third Parties

Other Matters

34. Defrayal by the Grant Recipient
35. Defrayal by Named Delivery Partners
36. Document Retention Arrangements
37. Project Assets and Useful Economic Life
38. Project Final Audit, if applicable
39. Records for Cross-Cutting Themes
40. Records of Outputs.

Source: European Regional Development Fund: An Independent Guide (2012) CCI, University of Salford. ISBN 978-1-907842-29-0

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