

Presenting the successes of the BESPOKE project; Introducing the D2EE project

SUMMARY

- 1.1 This report summarises the achievements of the BESPOKE project; a three year energy efficiency project part-funded by the European Regional Development Fund which ended in December 2015.
- 1.2 The report also outlines a new collaborative project between Derby City Council, Derbyshire County Council and the University of Derby called Derby and Derbyshire Energy Efficiency (D2EE) which will be part-funded by the European Regional Development Fund. The project has a budget of £4.6 million and will build on the success of the BESPOKE project by providing a comprehensive low-carbon support and energy efficiency grants programme for small and medium sized businesses (SMEs) across Derby and Derbyshire.

RECOMMENDATION

- 2.1 To acknowledge the achievements made during the BESPOKE project and understand how the project has contributed to the Council's Climate Change Strategy lowering energy costs and carbon emissions of SMEs in the city and in supporting further investment in the city through the D2EE project bid.
- 2.2 Once funding for D2EE has been confirmed, to support the D2EE project by promoting it to businesses and partners across Derby and Derbyshire, to maximise exposure and business engagement.

REASONS FOR RECOMMENDATION

- 3.1 BESPOKE has established an excellent evidence base to show how working with businesses on energy efficiency can achieve excellent carbon, cost and energy savings. This can be celebrated as a success for the Council and also provides important data for future projects.
- 3.2 The BESPOKE project's profile within the city continued to improve with time; in part due to publicised opportunities. One such example was the competition for a limited number of grants of up to £10,000. The competition was highlighted by local media outlets which improved interest and raised the profile of the project. Word of mouth between local businesses, case studies in local media and Council events have also

helped raise awareness of both the scheme and the benefits of undertaking energy efficiency improvements. Raising awareness of energy efficiency is particularly important to SMEs who often do not link growth to energy costs. In a 2012 paper from the British Chambers of Commerce¹, only half of members thought energy costs had a negative effect on business growth; 38% believed that energy costs were not linked to business growth. Businesses need to be made aware of what the D2EE project is offering and how it can benefit them, as soon as possible.

- 3.3 The D2EE project must achieve targets for businesses engaged, number of grants awarded, number of new products brought to market etc. The partnership needs to engage as many businesses as possible to meet targets, and also to, maximise positive publicity of the project.

SUPPORTING INFORMATION

- 4.1 The Climate Change Team ran the BESPOKE project from October 2012 to December 2015. Part-funded by the European Regional Development Fund, the project's primary aim was to reduce energy costs for Derby businesses through a mixture of practical advice and grants which were generally up to £5,000 to make improvements to the efficiency of their equipment and buildings.

- 4.2 The BESPOKE Project has:

- generated £49,057 of annual energy savings for 32 grant recipients;
- saved 270 tonnes of carbon across Derby City, that is 1.2 kgCO₂e per £1 spent on energy efficiency;
- awarded £148,000 in energy efficiency grants;
- leveraged £72,000 of private investment;
- given two days of free energy efficiency advice and technical expertise to 11 organisations;
- engaged over 130 SMEs.

- 4.3 The success of the BESPOKE project formed the foundation of a new bid. The project is called Derby and Derbyshire Energy Efficiency (D2EE), and is a three year business energy efficiency scheme; part-funded by the European Regional Development Fund. D2EE is a comprehensive low-carbon support and energy efficiency grants programme for SMEs across Derby and Derbyshire.

¹ British Chambers of Commerce (2012) 'The Energy Market: Business requires certainty'.

4.4 The Climate Change team identified the opportunity to apply for the first round of 2014-2020 ERDF funding under the PA4 Low Carbon call. The funder was looking for large scale, ambitious partnership projects with a budget of at least £1 million (half of all project costs must be funded by the project partners themselves). The team then took the project idea to others, recruiting the University of Derby and Derbyshire County Council as project partners. From this point the team led on shaping the bid and building strong relationships with the partnership to move forward and submit a successful expression of interest for the new project. The Council will provide £187,000 match for the project, but is able to reap all the benefits of this large £4.6 million project for SMEs in Derby City.

4.5 The project will enable businesses to:

- improve their competitiveness by reducing their energy costs;
- attract new customers through networking events and activities;
- improve their own green credentials enabling them to access low-carbon supply chains.

D2EE will reduce the carbon emissions of business activities, products and processes by providing energy efficiency audits and grants (up to £15,000), access to state-of-the-art equipment and cutting edge technical expertise to foster improvement and innovation.

4.6 **Contributions to Derby City Council's Climate Change Strategy**

The BESPOKE project has successfully contributed to four of the six key priority themes set out in Derby City's Climate Change Strategy, making a significant contribution to citywide carbon savings (totalling 288tCO₂) and to the provision of information, advice, learning and best practice around energy efficiency within businesses. It has also increased local demand for low-carbon products and services; an important factor in the development of Derby's low-carbon economy.

- **Theme one** – *“a thriving sustainable economy: businesses are able to take advantage of technology, goods and services which enable them to use resources more efficiently while creating growth through innovation in low carbon markets”.*

BESPOKE contribution: supporting local low-carbon supply chains through grants and energy audit recommendations; supporting SMEs to access guidance and resources to improve energy efficiency and business resilience, particularly through energy audits and additional technical expertise; Provision of events for SMEs, including workshops and Q&A sessions; Advertising opportunities, such as part funded apprenticeships, to the BESPOKE network, creating opportunities for learning within an energy conscious or low carbon organisation.

- **Theme four** – *“a secure local and renewable energy supply: Derby is able to reduce its reliance on energy from fossil fuels through a locally generated, diverse, efficient and more secure energy supply”.*

BESPOKE contribution: grants supported installation of renewable energy systems, such as a biomass burner which burns waste wood from the SME’s business activities; energy audits and technical expertise has also assessed other renewable installations, such as solar photovoltaic panels, for several businesses.

- **Theme five** – *“being prepared for a changing environment: Derby is able to plan, measure and respond proactively to the effects of climate change and to implications of resource scarcity”.*

BESPOKE contribution: case studies/success stories from SMEs regarding their energy efficiency improvements; provision of information events, but difficult to attain good level of attendance from SMEs.

- **Theme six** – *“an active community: local people and businesses are able to access skills and learning opportunities that promote positive action, collaboration and changes in behaviour”.*

BESPOKE contribution: development of BESPOKE brand with a core message of the positive effect of energy, carbon and cost savings on SMEs, to help engage businesses; provision of free information and advice, including energy audits to assess potential for energy saving measures and to encourage behaviour change.

4.7 **Average Energy and cost savings**

The average grant recipient made an estimated annual energy saving of 13,656 kWh and an annual energy cost saving of £1,533 (cost saving from actual project data). Those investing in efficiency measures focusing on electricity made a higher overall saving of 17,135 kWh whereas those investing in gas efficiency measures saved an average of 10,177 kWh. The current and projected cost savings from investments in electric energy efficiency are particularly notable and significant as most businesses engaged in BESPOKE have opted for a grant to reduce their electricity, rather than gas, consumption. With an increasing reliance upon electricity, this is a trend which is likely to continue.

4.8 **Wards engaged**

The project achieved a good geographical spread of engagement across the city. The largest number of businesses were engaged in the wards of Arboretum, Darley, Alvaston, Abbey and Sinfen, however there was a spread of engagement across the city. Of the businesses engaged, most SME enrolments came from Arboretum, Darley and Alvaston so a higher proportion of grants were awarded in these areas. Other grants were also awarded in a range of other wards including Sinfen and Normanton.

4.9 **Maintaining the momentum and upscaling the BESPOKE project**

The Climate Change Team wanted to build upon the success and momentum of the BESPOKE project through a new project, part-funded by the European Regional Development Fund 2014-2020. The data and experience gathered from the BESPOKE project has allowed the team to have key input into an application for a much larger, multi-partner, Derbyshire-wide project which offers a wider package of SME assistance and possesses a larger budget for energy efficiency grants (total grant budget £1,800,000).

4.10 **The new project**

BESPOKE allowed officers to create an evidence base for further energy efficiency work with SMEs, to be taken forward in the next round of ERDF for 2014-2020 projects. Derby City Council has partnered with the University of Derby and Derbyshire County Council on a £4.6 million bid under the first ERDF PA4 Low Carbon call. The Expression of Interest was one of only two projects in the D2N2 area to be called forward to full bid stage and the partnership is now awaiting confirmation of funding from the Department of Communities and Local Government (confirmation expected April-May 2016).

4.11 **The Council's role in the new project**

Although the Climate Change team will no longer exist in its current format, D2EE can be seen as the team's legacy project. Derby City Council will employ a team of five (one Project Manager and four Project Officers) and will manage the project activities assigned to both Councils. Project activities comprise: energy efficiency audits, providing an investment opportunities report to the business (including energy efficiency and renewable energy generation where appropriate); provision of 200 energy efficiency grants of up to £15,000 which must be matched (% match varies from 35-65% according to grant amount) by the business; energy efficiency advice and signposting, and referring to other project services.

4.12 Specifically, SMEs in the D2 area will be able to access:

1. A Low Carbon Business Grants Scheme

SMEs will be able to apply for a capital grant to part-fund energy and carbon saving measures. This will lever private sector funding and significant cost and greenhouse gas emission savings. In advance of any grant application, SMEs will have a site visit and energy audit with a Project Officer. Following this they will receive an audit report with recommendations for improving energy efficiency and reducing energy costs and carbon emissions. This can be used to inform a grant

application and also to formulate an investment or business plan for energy efficiency within the premises.

2. A Low Carbon Capability Building Programme

SMEs will be able to access a programme of activities to develop business capacity around low carbon. A variety of topics will be covered (determined by business need) including Supply Chain Accreditation/Environmental Management Plans and standards to access new markets, to aid in the development of a 'Business Case for Low Carbon'.

3. Low Carbon Consultancy and Technical Support (for product and process development)

SMEs will be able to access bespoke technical support in low carbon production, process and project design and new product development. SMEs will have access to the University of Derby's cutting edge technology facilities and expertise. The project will bring at least three new Low Carbon products to market.

4.13 D2EE Outputs

The below outputs are the minimum number of SMEs which will receive assistance through the project (and also the minimum amount of carbon saving the project will deliver).

Number of enterprises receiving support (sum of grants & non-financial support)	375
Number of enterprises receiving non-financial support (energy audits, capability building, consultancy)	175
Number of enterprises receiving grants for energy efficiency improvements	200
Estimated Greenhouse gas reduction (tonnes of CO ₂ e)	570
Number of enterprises co-operating with Research Institutions	3
Number of enterprises supported to introduce new to the firm products to market	3

OTHER OPTIONS CONSIDERED

5.1 Not applicable

IMPLICATIONS

Financial and Value for Money

1.1 None directly arising from this report.

Legal

2.1 None directly arising from this report.

Personnel

3.1 None directly arising from this report.

IT

4.1 None directly arising from this report.

Equalities Impact

5.1 None directly arising from this report.

Health and Safety

6.1 None directly arising from this report.

Environmental Sustainability

7.1 None directly arising from this report.

Property and Asset Management

8.1 None directly arising from this report.

Risk Management

9.1 None directly arising from this report.

Corporate objectives and priorities for change

- 10.1 The work undertaken through BESPOKE has reduced carbon emissions in the city along with improving the profitability of local businesses, which aligns with the Council's Derby 2030 vision.

This report has been approved by the following officers:

Legal officer Financial officer Human Resources officer Estates/Property officer Service Director(s) Other(s)	
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BESPOKE Case Studies

6.1 The UK is still emerging from a deep recession; many areas are experiencing low growth rates. As such, reducing costs for businesses is still critical at the present time to ensure they remain competitive. BESPOKE grants have been used to install a wide range of energy efficient technology ranging from sensor controlled LED lights to heat pumps, roller shutter doors, air compressors, gas fired boilers and destratification fans. One small business installed a biomass boiler (wood burner) which generates heat using the company's waste wood. Some examples of the measures installed, and their impact on the business, are featured below.

Health Care Products Ltd's sensor controlled LED light panels in part of their factory made such a difference to lighting levels and energy costs that they later upgraded all the lighting within their premises to LEDs. Estimated annual savings: 27 tCO₂e and £7,034.

Barron McCann Ltd installed a large heat pump system to cool and heat one of their warehouses, as part of a bigger scheme. Estimated annual savings: 11 tCO₂e and £2,440.

Baldwin & Moore Ltd received a grant of £4,032 towards the purchase and installation of a hand-fed wood burner. This wood burner has the added benefit of using the business' waste wood as fuel. The wood burner replaces the need for kerosene and electric heating, and also provides extra heat for paint drying. In addition to reducing waste, the burner will save £2,365 and 59 tonnes of carbon per year.

Mercian Cycles received a grant of £4,820 for a new efficient air compressor, which saved around four tonnes of carbon and £803 in the year after installation. They have also recruited an additional member of staff and the business has grown by 9%. Jane Mosley, Director, said "the noise level of the new compressor is much lower than the two old compressors which has had a positive impact on the working environment." The company is also pleased with the compressor's "better efficiency for shotblasting and spraying systems, so better productivity."

Aquaclean Industrial received a grant of £4,128.64 to install 9 LED strip and hi-bay lights and an insulated roller shutter door. These measures saved £628 and two tonnes of carbon per year. Overall business growth during the year following installation was 7.2%. The company also chose to follow up on further BESPOKE energy audit recommendations to clean their skylights (reducing the need for lighting due to more natural light entering the building), and replace a propane gas heater with an electric radiant heater.

Motor Plus Derby received a grant of £5,000 to upgrade 162 T12 fluorescent tube lights to 160 more efficient T5 lights, saving 26 tonnes of carbon per year. As a result of the intervention there has been a 29.23% cost saving on energy bills (totalling £3,340), which the company attributes to the new lighting. This considerable saving has led the company to take a greater interest in energy efficiency; they plan to

further explore energy saving options for their premises over the next year. They have also employed two new full time members of staff and had a 116.4% profit increase. Tim Lemon, Sales Director, said “our staff have found the lighting improved with more light units allowing for a better distribution of light throughout the whole building, thus enhancing their working conditions. We can have our premises illuminated for longer without the concern of excessive costs related to conventional lighting”.

BESPOKE Lessons Learnt

The BESPOKE project has helped SMEs to better understand the process of assessing and monitoring the energy costs and efficiency of their premises, processes and company behaviours.

In turn, the project has provided some valuable lessons for the team, in terms of how to help future projects run more smoothly, how to maximise productivity and impact and key areas that require further work in the future to address gaps or market failures.

Better project operation

- **Allow for a long lead in time**

Allow for a long lead in time for ERDF projects (as well as for the application process), as commencement delays of six months are not uncommon – this will affect the overall budget, spend profile, outputs and results.

- **Use in-house and/or local expertise**

In-house and/or local expertise is preferable for maximum accessibility and flexibility. Carefully consider priorities when carrying out procurement exercises as they will need to be EU compliant, and ensure there is a roll-on option in contracts to accommodate project delays, profile changes and extensions.

- **Understand the eligibility rules**

Understand the eligibility rules for revenue and capital assistance early on in the application and focus on a particular audience to which you can apply the criteria consistently, easily and successfully. Whilst national guidance on eligibility of recipients and spend is available, it is important to note that much of it depends on interpretation by the project managers. Ultimately the application of eligibility rules is judged by auditors, and therefore each project must take its own view on the risks they are prepared to take in interpreting the guidance. Doing this at the outset will avoid long deliberations and delays when deciding whether an applicant is eligible, creating a more efficient programme and better service provision.

- **Obtain a data baseline first**

Making assessments of any type of performance, not just energy efficiency, requires obtaining a baseline before any grant application – it can be difficult to obtain data afterwards, regardless of whether it is a grant condition.

- **Clearly set out methods and calculations**
Ensure that all calculations and methods are set out clearly, preferably in an Excel sheet following standard approaches and industry recognised values, so that colleagues can easily check them at a later date. A uniform template for different technologies/types of calculation is useful.
- **Allow a long cycle-time for assessments and applications**
Allow a long cycle-time for assessments and applications including obtaining quotes for works. This is where the longest delays occurred, as the cycle-time far outweighed the task time.
- **DCLG should allow recalculating of targets when projects are delayed**
Where delays are experienced, particularly at the start of the project or waiting for a decision on a Project Change Request, project teams should be given the opportunity to revise targets due to a loss of implementation time. Despite the BESPOKE team's best efforts, due to a loss of six months' operation time at the end of the project, (waiting for PCR decision and the outcome of PCR decision cutting a quarter off planned project duration,) and a delay of several months at the start of the project, it was not possible to achieve all of the results targets (although the final achievements of the project came very close to the targets).

Maximising engagement and outputs

- **Understand reasons for engagement**
Engagement of all organisations depends upon a range of factors, some of which are universal, some of which are tailored to the sector or size. For example, identifying the correct person to contact for initial engagement depends on not just the position they hold, but also on their personal interest and experience of energy efficiency improvements, and the relationship they hold with those in influencing or decision-making positions if they are not in one themselves.
- **Conduct greater post-installation follow-up**
Several SMEs have continued to implement energy efficiency measures after receiving a BESPOKE grant. This could have been facilitated, or a larger number of companies could have done the same, by taking them forward to secondary improvements with a post-installation report or audit. As the project developed the project consultant was used to provide a suite of options and the relative costs and benefits of each intervention so that SMEs could make further improvements on their own. A more formal plan (invest to save model or low-carbon business plan) and follow-up could include options for building upon the measures installed, using the savings generated and other sources

of funding (loan/grant), and progressing to environmental management where appropriate.

- **Vary grant amounts and intervention rates**

Increase the grant ceiling and reduce the intervention rate to allow larger grants with the potential for differential rates for micro, small and medium enterprises. This could potentially be combined with loans to bridge capital grants without depleting grant funds or exceeding De Minimis levels.

- **Install smart meters**

Real-time energy monitoring that is web-accessible and comes with analytical software would allow the grantee and project team to access SME energy data and quantify the impacts of any interventions. With this information it may have been possible to run competitions between SMEs to see who can save the most energy, with awards and publicity for winners.

- **Access SMEs through large company supply chains**

Engaging with large organisations in the city to actively promote the project to their supply chain is something we will examine for future projects. We need to understand how SMEs would react to this; whether it would encourage engagement.

- **Monitor best engagement methods**

BESPOKE's marketing plans did not accommodate a formal review of how businesses engaged with the programme. Any successor will ask SMEs where they heard about the project on first contact and regularly review this to feed back into communications strategies.

- **Publicise additional benefits of energy efficiency**

To promote additional interest from SMEs, it may have been wise to accentuate other benefits of energy efficiency improvements, besides cost and carbon savings. Increased awareness of energy efficiency and its wider impacts within SMEs doesn't just reduce costs but can have wider benefits such as better compliance with health and safety (noise, visibility), a more comfortable working environment (heat, cooling, visibility, noise), increased productivity, and a better impression for clients/customers (visibility, reputation, supply chain requirements).

- **Area based approach**

An area based approach may be useful, particularly in industrial or business parks, where bulk buying of several SMEs together would offer discounts and a more efficient deployment of staff resources can be made.

- **Early case studies**

Create and market early 'ambassador case studies' from businesses that have made good savings/quick wins to boost interest from other SMEs.

Future Work

BESPOKE has highlighted several future opportunities.

- **Install energy monitors**

Installing energy monitors as part of the grant could have ensured receipt of good, regular data to monitor energy consumption both for the project team and the organisation. This data could also have been used to run competitions between businesses, possibly with awards.

- **Savings from efficient processes and procurement**

Examining carbon and cost savings associated with more efficient processes and procurement (including supply chains).

- **Carbon footprinting for SMEs**

Calculating the full carbon footprint of SMEs engaged in the process from their direct (scope 1) and energy indirect (scope 2) emissions. This would be an additional hook for SMEs, obtaining a free carbon footprint calculation for the year before and after their energy efficiency improvements, which can be used in their annual reports and communications, or even progress towards accreditation.

- **Financing for renewables**

There was some interest in renewable energy generation, however better financing options were necessary due to issues around State Aid from grants and financial mechanisms such as Feed In Tariffs. This is where a recyclable loan fund with competitive interest rates from another party would have been useful in encouraging uptake.

- **Local green goods and services directory**

The project has created a demand for local 'green' goods and services. However there is a gap for recommended suppliers; most SMEs had problems obtaining three suitable quotes for works. As such there is a need for some kind of local listing for reliable, good quality low carbon goods and services. Originally the project team and thought that some of this could have come through the Green Deal's business element, but this never really took off and is no longer available.