

Energy Efficiency & Microgeneration Strategy

Response by the Business Environment Partnership

June 2007

“Tackling climate change need not be a burden on business. The BEP has clearly demonstrated that energy efficiency, waste minimisation and improved environmental management can have clear financial benefits for small businesses in Scotland.”

Gregor Murray, Executive Director of the Business Environment Partnership.

Executive Summary

The Business Environment Partnership (BEP) is a public / private sector partnership that provides free support to small to medium sized businesses across eastern Scotland on the benefits of energy efficiency, waste minimisation, environmental management and the development of new products and services. The advice provided is practical, focused and targeted. The Partnership is grateful for the financial support it receives from the Scottish Executive, Scottish Enterprise, the European Regional Development Fund and from our wider sponsors and partners¹. BEP works closely with the Business Gateway and other business support services and we believe that integration into the existing business support mechanism is the key to our success.

Since 1998 BEP has worked with 1,480 companies to **realise more than £15.65 million** in cost savings through improved management of energy, raw materials, water and effluent. This work has also assisted companies to develop new market opportunities worth more than £43 million, has successfully demonstrated that tackling climate change need not be a burden for business and that real economic benefits can be attained through greater business efficiency and the development of new market opportunities.

In the last year alone, BEP have identified opportunities in 404 companies to reduce CO₂ emissions by **10,500 tonnes** of which more than **2,350 tonnes** have already been realised. Financially these energy savings have contributed to **£1.8 million** in potential savings. Whilst the contribution that an individual SME may make to reducing CO₂ emissions may be comparatively small, this work has shown that realised CO₂ savings could be more than **3.34 million Tonnes CO₂**. If similar cost savings were identified for every Scottish SME this would equate to approximately £3 billion in savings that would greatly contribute to business competitiveness. Greater awareness amongst businesses and financial incentives are required to achieve this.

Our written response to the Energy Efficiency and Microgeneration Strategy Consultation focuses on our experience as a frontline business support service. It describes the challenges that small to medium businesses face and makes recommendations for both policy and practical measures required to deliver significant CO₂ reductions in future.

¹ See appendix 1 for a comprehensive list of our current partners

Introduction

The Business Environment Partnership (BEP) was formed in 1997 to provide free support and advice to small to medium businesses. The practical support provided focuses on energy efficiency, waste minimisation and the development of new products and technologies. The BEP currently employs 14 full time business advisers, based in Dalkeith, Livingston and Aberdeen.

During 2006-07 the BEP has identified energy savings equivalent **18,863** tonnes of CO₂, which relate to **£2.8 million** of cost savings, **£579,700** have already been implemented. These are part of the **£4.7 million** in savings identified through BEP's wider work, including waste minimisation and environmental management². BEP's work has led to overall **implemented savings of more than £15.65 million** since 1998.

The BEP has a focus on the *implementation* of our recommendations and has a unique business support model which delivers tangible business and environmental benefits³. BEP is closely integrated into the Scottish Enterprise Network – through the Business Gateway - and the close links we have with mainstream business advisers are one of our key strengths.

Our **student placement programme** continues to deliver practical, cost effective support to businesses, in addition to the learning and experience gained by the students. The programme is helping to bring the environment into mainstream enterprise throughout Scotland. In the last 4 years, our students have identified more than £4 million in savings.



Rhona Brankin MSP and Robin Harper MSP presenting awards to last year's students

Several case studies which demonstrate the BEP's success are included in this response. They demonstrate the significant savings that small to medium sized business can make and that in this has improved the profitability of the businesses involved. Whilst the individual contributions in terms of CO₂ savings are small – the cumulative effect of a large number of businesses making savings is the key to tackling business emissions.

² See appendix 1 for further details

³ For more information, please visit www.thebep.org.uk

The business contribution to climate change

According to the Scottish Executive's consultation paper⁴, Scottish businesses emit approximately 9,000,000 tonnes of CO₂ equivalent per annum⁵. However, this excludes transport emissions which are related to business (including travel to work, road haulage and the movement of products around the country). Total transport emissions in Scotland are currently 10,000,000 tonnes of CO₂ equivalent per annum and a significant percentage can be attributed to business activity. A further 650,000 tonnes of CO₂ equivalent are emitted through waste management⁶ and it is assumed that the majority of these can be attributed to the disposal of commercial waste and products⁷.

Businesses in Scotland therefore make a significant contribution to climate change. A lot of this is due to inefficiency and waste and the opportunities to reduce this contribution are significant.

What's being done to tackle this problem ?

The Scottish Executive has made significant progress in recent years to start to tackle the problem, including support for the BEP, the Energy Saving Trust, the Carbon Trust and other initiatives. All of these initiatives have made a significant contribution to improving business efficiency but progress made in terms of CO₂ reductions is small compared to the size of the problem and there is still a long way to go to meet the reductions required to combat climate change. Many of the savings made in the business sector between 1990 and 2002 have been achieved through the closure of the Ravenscraig Steel Plant⁸, rather than improved efficiency amongst existing businesses. Many of the savings identified by business support organisations are *identified* not *implemented*. If significant reductions are to be achieved in future, urgent action is required now.

Business advice

We recognise the achievements that have been made to improve business efficiency through the work of the various support agencies⁹, but the provision of energy efficiency advice to businesses in Scotland could be better co-ordinated. There is currently a lack of awareness of the support available amongst businesses and those businesses who seek support are often confused by the services available and the criteria that apply. For example different support is provided depending upon the business sector, size of energy bill, geographic location, and whether the business is primarily interested in tackling energy or waste costs. The BEP seek to actively work in partnership with other providers of energy efficiency advice. During the last year BEP has referred more than 40 companies for specialist support from the Carbon Trust and Energy Savings Trust. This ensures that the client company receives the best support available to meet its needs.

Creating a "single entry point", for example Business Gateway, could help direct businesses to the source of appropriate support and should encourage the integration of environmental considerations into core business development strategy. The work of Scottish Enterprise to achieve this is recognised as a positive development and should be further encouraged.

⁴ Review of the Scottish Climate Change Programme, Scottish Executive 2004.

⁵ Including 'business' emissions and 'industrial process' emissions, NB it is not clear how these figures have been calculated

⁶ The calculation of this figure is not clearly defined in the Scottish Executives consultation paper

⁷ Domestic waste disposal includes the disposal of products and packaging produced by businesses

⁸ Review of the Scottish Climate Change Programme, Scottish Executive 2004.

⁹ e.g. BEP, the Energy Savings Trust, Carbon Trust

This should be coupled to an awareness raising campaign to educate businesses about the business benefits that can be realised through cost savings and new market development through improved energy efficiency.

Practical support is required to facilitate implementation of carbon dioxide reducing measures. Many SME managers recognise that improved energy efficiency can benefit their business but lack the time or financial resources to implement practical energy saving recommendations. Support is required to assist SMEs benefit from financial assistance available through Loan Action Scotland and Enhanced Capital Allowances.

A strategic review of business support for resource efficiency has been initiated by the Scottish Executive and the BEP would be pleased to participate in and contribute to this process. All of the existing support mechanisms have strengths and weaknesses. We would welcome the opportunity to share our experiences with public sector agencies and to collaborate on future delivery.

The challenges that small business face

The experience of our work with small businesses has suggested that many companies are concerned about significant increases in energy cost since 2004 and increased volatility in energy prices. Small businesses face specific challenges in relation to energy efficiency and microgeneration, which are the need for:

- time to look into these issues and to find information and advice;
- capital to invest in energy efficiency and microgeneration technologies;
- reliable and impartial information / expertise on measures to improve efficiency and microgeneration technologies;
- improved understanding of their impacts on climate change.

An increase in the support available and improved awareness amongst businesses are required to meet these challenges.

Achieving Behavioural Change in Businesses

Whilst cost savings can be realised through investment in energy efficiency technologies a significant proportion of savings can be achieved through behavioural change. To achieve lasting change in behaviour will require implementation of a sustained and diverse approach including training, posters, site based advice and the integration of energy management as part of the business planning process.

Buildings: Energy Performance Certificates

The BEP welcomes the extension of Energy Performance Certificates (EPC) to business premises. In our experience significant financial and environmental savings can be realised by improving building fabric and the efficiency of building heating and lighting systems. Whilst new developments should be encouraged by a variety of means to incorporate energy efficiency as standard (e.g. planning, regulatory and financial) it is recognised that these represent a small percentage of the total stock of buildings used for business purposes in Scotland. The provision of EPC is established practice in other European countries, for example Denmark. This information has been used to effectively model and plan heating requirements and has improved building energy efficiency.

Financial support mechanisms

Several financial support mechanisms are available for businesses to invest in energy efficiency, including the Enhanced Capital Allowance Scheme¹⁰ and Loan Action

¹⁰ See <http://www.eca.gov.uk/>

Scotland (LAS)¹¹ and the BEP actively promotes and supports both of these schemes. However, many companies have found these schemes, and the criteria which apply to them complicated which discourages applications. Due to relatively low awareness the number of applications to LAS has been low. However, additional funding made available from the Scottish Executive and European Structural Funds has enabled active promotion of the loan and the total loan fund has increased. As a consequence the number of loans has increased by 76% since 2004 and 57 companies have been referred to the loan scheme since December 2006. The BEP welcomes the additional resources made available to support LAS and the increase in maximum available loan to £100,000.

Financial support to assist SMEs invest in low carbon or microrenewable generation sources have been available from the Low Carbon Buildings Programme (LCBP)¹² and the Scottish Biomass Support Scheme (SBSS)¹³. The LCBP is welcomed as an example of finance that can be made available to support a wide range of micro-renewable technologies integrated with energy efficiency to reduce carbon emissions from buildings. However in the experience of BEP awareness amongst businesses of the LCBP was low. Anecdotal evidence from businesses who applied for the funding suggested that whilst the application process could be improved; with a lack of clarity regarding the amount of funding awarded and how this could be accessed once businesses had made a successful application. In addition, the LCBP is expected to complete in 2007 and as yet there is little or no indication of a successor to this scheme.

The SBSS was very welcome as funds to assist Scottish SMEs invest in biomass technologies and to develop the biomass fuel supply chain. This scheme was very well received by businesses and awareness was relatively high. As a result the number of applications made was high and ensured that the entire budget (£7.5million) was allocated during 2007. The BEP would welcome additional resources to this scheme to ensure that the biomass market can more fully establish throughout Scotland.

The BEP would recommend that further financial incentives are made available to assist SMEs invest in energy efficiency and microrenewables technologies. This could, and should take a variety of forms that could include:

- Interest free loans (e.g. a continuation of LAS)
- Grants (e.g. a revised comprehensive programme including SBSS and LCBP)
- Long term low interest loans to assist the development of shared “district” or “community” renewable energy products
- Tax allowances for low carbon buildings

To be of value to businesses it is recommended that financial incentives:

- Have a clear purpose
- Are available for a sustained period of time (e.g. LAS)
- Have a simple, accessible application process
- Are integrated to ensure a comprehensive package of financial support
- Meet the needs of business

The Climate Change Levy

The Climate Change Levy (CCL) was introduced by the UK Government in 2001, with the aim of encouraging businesses to use less energy. The CCL has raised significant funds to support the work of the Carbon Trust, Energy Savings Trust and others.

¹¹ See <http://www.energysavingtrust.org.uk/housingbuildings/funding/scottishbusiness/financialassistance/>

¹² <http://www.lowcarbonbuildings.org.uk/home/>

¹³ <http://www.scotland.gov.uk/Topics/Business-Industry/infrastructure/19185/BioSupport/BioSupportIntro>

However, it is hard to judge the effect that the CCL has actually had in reducing carbon emissions. Many businesses have 'negotiated agreements' which exclude them from paying 80% of the CCL. Many companies have a low awareness of the CCL, or the practical ways in which CCL may be reduced.

Transport

Road transport makes a very significant contribution to climate change in Scotland – and a significant percentage of road transport can be attributed to business. Initiatives are required which encourage:

- **local procurement** – reducing the distances that products travel;
- **more efficient vehicles**;
- **alternative fuels which are less carbon intensive**;
- **non road transport** (especially rail);
- less **air transport** of goods;
- employers to provide **alternatives to the private car**, including walking and cycling.

A strategic review is required of existing public sector policies on transport – with a focus on reducing the volume of goods transported by road and by air. We support the revision of *Smart Successful Scotland*¹⁴, which places an emphasis on connectivity for businesses, particularly if focus is maintained on digital / telecommunications connectivity. We also welcome the inclusion of a CO₂ indicator to monitor progress.

Significant funding for public transport, alternative transport modes and research into alternative fuels¹⁵ is required to give businesses realistic and cost effective alternatives to road transport. Tax incentives which promote more efficient vehicles are required – there is little incentive for businesses to change at present.

Technology and innovation

Scotland has a strong track record in technology innovation, particularly in the engineering sector. The BEP welcomes the development and implementation of the Green Jobs Strategy¹⁶ by the Scottish Executive and the opportunities identified for renewable energy in particular. However, significant investment in low carbon technologies is required if Scotland is to make a meaningful contribution towards tackling climate change in the future.

¹⁴ Scottish Executive 2004

¹⁵ e.g. biofuels, hydrogen fuel cells, LPG

¹⁶ <http://www.scotland.gov.uk/consultations/environment/tjisc-00.asp>

Conclusion

Reducing carbon emissions from Scottish businesses represents a significant challenge. However, investment in business advice and support can deliver the following benefits:

- ✓ significant cost savings for businesses;
- ✓ improved environmental awareness amongst companies;
- ✓ the creation of new 'green' jobs.

The BEP has already made a small but significant contribution towards tackling climate change. The BEP represents a long standing public / private partnership and clearly demonstrates the opportunity for the public sector to work in partnership with businesses in tackling climate change.

The BEP would suggest that this strategy could include targets for improving business energy efficiency and investment in microrenewable technologies. Targets that could be measured include:

- Realised energy savings (financial and kWh)
- Realised CO₂ savings
- Loan/Grant finance awarded to assist energy efficiency or microrenewables
- Number of businesses assisted

This information should be readily available from business support organisations and would provide an opportunity for businesses to make an active contribution to reducing Scotland's carbon dioxide emissions.

Appendix 1

**The Business Environment Partnership
Achievements 1998 - 2007**

Appendix 2

The Business Environment Partnership Selected Case Studies on Energy Efficiency

“The BEP raised awareness of government backed energy saving schemes such as Loan Action Scotland. As a result of this we benefited from a £15,000 interest free loan to replace boilers and heating systems with new efficient equipment”. Without the assistance of the BEP we would not have brought in this environmentally sound equipment”

Glen Watson, Links Veterinary Group

“Installing the energy saving measures has helped the business to realise an immediate and ongoing reduction in energy costs. By receiving funding from Loan Action Scotland we have managed to save thousands each year and have significantly reduced our CO₂ emissions.”

Tom Dalglish, Joint Managing Director of Harveys Ltd.

Harveys Ltd.

Harveys Ltd are located in Loanhead and specialise in the printing and manufacture of stationary including a range of products such as book covers, folders, information packs and packaging. The company has been assisted by the Business Environment Partnership to develop and implement cost saving recommendations to improve energy efficiency and waste. Harveys have made two successful applications to Loan Action Scotland to assist the installation of a new heating system and roller doors. The company intends to apply for LAS to support the purchase of a new variable speed drive air compressor and to refurbish the compressed air distribution network.

The company recently installed a new heating system in both the factory and the office areas. Installing suspended gas fired air heaters in the factory area has increased the efficiency of the factory heating, saving the company more than £4,300 per annum and reducing CO₂ emissions by 52 tonnes. The efficiency of the new heating system had the potential to be improved further. Installing fully automatic high speed roller doors reduced the period that the doors were open and hence reduced heat losses from the building. Installing high efficiency roller shutter doors has saved 15 tons CO₂ and £1,500 per annum.

Surveys of compressed air leakage and generation identified opportunities to reduce costs by installing a variable speed drive compressor and refurbishing the compressed air distribution network. The company is keen to apply for LAS to support these improvements. This will save about £2,800 per year and reduce CO₂ emissions by 17 tons per annum.

Harveys have successfully accessed two loans from Loan Action Scotland. This has assisted the company to implement energy efficiency measures that have reduced the company's annual energy bills by approximately £8,700 and reduced CO₂ emissions by 84 tonnes per annum. Through implementing these measures Harveys have made significant financial and environmental savings which will give them a competitive advantage.

Pentland Plants



Pentland Plants are a specialist plant nursery located near Penicuik, Midlothian, employing around 70 staff. They produce a wide variety of bedding plants for both commercial and domestic markets, producing over 40 million bedding plant plugs each year. They also grow specialist crops for the UK industry, including poinsettias for the Christmas season.

Most of the plants are grown in greenhouses where the temperature and humidity are controlled to ensure conditions are best for plant growth. The BEP has helped the company to identify opportunities to improve energy efficiency throughout the greenhouses. This led to a successful application to Loan Action Scotland to support the installation of thermal screens that reduced overnight heat loss from the greenhouses by about 37% and resulted in significant financial savings.

However, the main challenge faced by Pentland Plants is the cost of heating the 14,000 sq metres of greenhouses. Currently the business uses oil fired heating as

there is no gas connection available. The company approached the BEP for advice on alternative heating solutions, including the option to switch to a biomass fired system.

The Carbon Trust provided support for a detailed site feasibility study which concluded that Pentland Plants could save approximately £150,000 per annum, with a payback of just over 2 years. The company has seized the opportunity and has installed a 2MW biomass boiler from Denmark. The boiler will run on locally sourced wood chip and will generate 1,730 tonnes of CO₂ savings per annum.