Strategic Evaluation of SE Efficiency Support (including the Scottish Manufacturing Advisory Service)

Final Report for Scottish Enterprise

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Executive Summary

This Executive Summary presents an overview of the evaluation report and relays the key messages and findings.

Background

The key objective of the study was to evaluate the performance of Scottish Enterprise (SE) Business Efficiency (BE) support to companies over the period 2007/08 to 2009/10.

SE's BE support comprises a range of products delivered to Direct Relationships Managed (DRM) companies and those identified as growth pipeline, and the support provided to manufacturing companies by the Scottish Manufacturing Advisory Service (SMAS).

In total, there are seven support products within the BE portfolio:

- Lean Management Thinking;
- Business Improvement Workshops (Level 1)
- Business Improvement Expert Support (Level 2)
- Business Improvement Project (Level 3);
- Sustainable Development Specialist Engagement;
- Business Improvement Manufacturing Review (SMAS Level 2 support); and
- Business Improvement Manufacturing Improvement Project (SMAS Level 4 support).

The total expenditure on the efficiency programme over the period 2007/08 to 2009/10 was £13.2m, most of which was spent on the BE (non-SMAS) strand of support (£8.1m or 62%). Expenditure on SMAS was £5.06m (38%). The BE element was fully funded by SE whilst the SMAS element was partly funded via ERDF (£501,400, 10%) and company income (£807,400, 16%).

Strategic Fit and Rationale

BE support is strongly aligned with the priorities of economic development policy in Scotland, including: the Government Economic Strategy (2007 and 2011); SE strategies and plans

(Operating Plan 2005/08, Business Plan 2010/13; and the Low Carbon Economic Strategy for Scotland (2010).

In particular, the support is focussed on helping businesses to achieve greater efficiency, thereby improving productivity and competitiveness – key goals of national economic development policy. The strong policy emphasis on low carbon is also reflected in the BE products that target greater resource efficiency, although for SMAS the key goal is to improve competitiveness and companies tend to prioritise cost efficiencies. These kinds of developments do not always lead to reductions in carbon outputs, as discussed below.

The evaluation also found evidence to support the notion that BE support is addressing market failures relating to imperfect information in which companies lack the necessary information to be able to make informed judgements about the likely returns from investing in efficiency improvements. These information failures are then manifest in the reporting of organisational barriers to efficiency improvements such as staff knowledge and skills and finance. The finding that 71% of the companies in the evaluation sample reported that SE support had helped address barriers to efficiency improvement suggests that the support is appropriately targeted.

Conclusion: *there is a valid rationale for BE support based both on the strong degree of fit with policy goals and the appropriate targeting of support at known constraints and market failures affecting company investment in efficiency improvement.*

However, feedback also suggests market failures continue to persist. In particular, there are persistent information failures within the SME community, and an ongoing need to support investment in efficiency improvement.

Project Performance

Project performance was assessed based on monitoring data and feedback from beneficiary companies and stakeholders, and identifies the following achievements:

Project activities

Of the 1,207 companies supported 777 accessed BE products, and 676 accessed SMAS support, with 20% (246) accessing both kinds of support. The conversion rate of SMAS level 2 reviews into Level 4 projects is around 20%, and there has been an increase in level 2 reviews over the evaluation time period. This would be expected to lead to an increase in the number of Level 4 projects, and therefore to an increase in economic impacts.

Market demand and penetration

SMAS is focussed on manufacturing companies of which there are just over 9,000 in Scotland. According to project monitoring data, the service has engaged 1,207 companies, a penetration rate of around 13%.

However, SMAS has been increasingly focussed on high growth potential businesses – an appropriate strategy that will lead to greater economic impacts as more client businesses progress to initiate projects. BE products are targeted at account managed businesses – again those with higher growth potential.

With this focus on higher growth businesses, the true market for SMAS and BE support will be smaller than the 9,000 manufacturing companies in Scotland. On this basis, SMAS is achieving good penetration, although the evaluation identified potential to extend the reach of the service into sectors such as energy and across supply chains.

Conclusion: *BE support (at least SMAS) has achieved reasonable penetration in the manufacturing sector and has been appropriately focused on high growth companies. There is further potential to extend its reach.*

Linkages to other provision

BE products are part of the portfolio of support available to DRM companies. As such, they are well integrated with the wider DRM offering. SMAS was originally more of a stand alone team but has since moved within SE and is now part of the Company Growth Directorate. This has been beneficial in bringing SMAS closer to the account management process and closer to account management teams.

However, there are areas for possible improvement here. In particular, the connection between SMAS and innovation support could be stronger to facilitate progress from efficiency improvement to new product and process development, something that has been a feature of MAS support elsewhere.

It is also worth noting that while integration with SE has brought benefits, not least in allowing SMAS to more accurately target growth companies, there is value in the external SMAS brand, and this should not be lost in any future integration plans.

More generally, SMAS is a national service and its linkages to both HIE and Business Gateway are critical to it delivering against this remit. There have been issues with insufficient numbers of practitioners in the HIE region and variable levels of awareness

among HIE account managers. Action has already been taken to address this, and should be continued.

Business Gateway is an essential route to non-DRM companies, but feedback suggests that awareness and connections are variable. Further work is needed to continue to forge these connections and raise awareness and understanding of SMAS services among advisers.

Conclusion: *linkages between BE and SMAS services and other sources of support are improving, and have benefitted from the closer integration of SMAS with SE's account management services. There is potential for further improvement.*

Management and delivery

The evaluation found the management and delivery of SMAS to be efficient and effective. In particular, there was consistently positive feedback on the quality and expertise of SMAS practitioners from companies and stakeholders alike.

Conclusion: *SMAS is well managed and the knowledge and expertise of the practitioners is highly valued. Attracting and retaining the necessary expertise are ongoing challenges.*

SMAS has developed an effective and comprehensive monitoring system for tracking activities and the effect on companies. We found this dataset to be clear and well managed.

Monitoring data for the BE products are more problematic. The only data available was on the number of companies that had been supported, and any outputs or impacts from this support are captured through the wider monitoring of progress by account managed companies towards agreed growth targets. However, within this wider monitoring system it is not possible to extract the outputs or impacts attributable to one form of support as compared to another. As a result, SE is not in a position, on management information alone, to make informed judgements about the relative effectiveness of different kinds of support provided through the account management process.

In the primary research undertaken for this evaluation, the data were also not sufficiently clear (nor the responses sufficiently numerous) to allow these kinds of comparisons at an individual BE product level. Many of the companies were unable to recall the specifics of BE support that they had received, or were confusing this with other SE products. The evaluation process was therefore unable to address the shortcomings of the monitoring system.

There is, therefore, a need to review the way in which monitoring data are collected for specific products, including, but probably not limited to BE products, in order to assess the relative effectiveness of different kinds of support.

Conclusion: *The monitoring data for BE products (outwith SMAS) are extremely limited constraining proper analysis of effectiveness. Addressing this should now be considered.*

Finally, benchmarking analysis with comparable support initiatives elsewhere (including MAS in England) identified the benefits of longer term interventions, something that was also highlighted in the current evaluation. This suggests a need for balance in the deployment of resources and a renewed emphasis on longer term projects. Events are helpful for recruiting new companies to the service and for promoting the benefits of the support, but do not typically deliver tangible impacts.

Beneficiary Feedback

The majority of the 79 firms surveyed were positive regarding the BE support and SMAS, with a high level of overall satisfaction amongst beneficiaries (85% very satisfied/ satisfied).

In particular, there was praise for the knowledge and expertise of SMAS advisors and most identified positive benefits of the support, including:

- business improvements (57% achieved with 33% in progress)
- improved skills for managers and staff (56% and 30%; 48% and 30%);
- identification of new products/ processes (52% and 15%); and
- introduction of new products/ processes (46% and 20%).

A wide range of business benefits were also reported - almost three quarters of *manufacturing companies* have improved on-time delivery, 70% have improved space utilisation and 61% have increased capital invested.

In terms of *all companies*, large proportions reported benefits, most commonly new skills and people productivity improvements (80% and 75% respectively) and cost savings (72% accounting for at least £6.1m in savings). Over 60% also reported that they had benefitted from improved culture and better staff engagement as a result of support from the programme.

In addition, beneficiaries reported a number of quantifiable economic impacts including creating/safeguarding jobs, turnover and profit, considered further below.

Finally, based on their experience beneficiaries were asked to report the key strengths, weaknesses and areas of improvement for the Project:

Strengths

The main strengths of the support around business efficiency were described as:

- excellent expertise/knowledge and experience and individuals with a relevant business background;
- the support was excellent and described as organised/timely/good communication/clear/concise/flexible/tailored/innovative;
- the independent review allowed ideas to be generated/tested and provided an external perspective of issues that need to be addressed; and
- advisor understood the business and had the ability to apply theory practically.

Weaknesses

Fewer weaknesses were cited, with the main ones described as:

- advisor did not have the correct transferrable skills/did not have an in depth understanding of the sector/was stretched for resources;
- there was no/little follow up or ongoing support after completion of the project; and
- there was limited funding available.

Economic Impacts

A bespoke Economic Impact Assessment (EIA) was undertaken based on responses from the 79 beneficiary businesses interviewed. They key impacts are reported as:

Net additional impacts to date, 2011/12 (Yr 4)[1]:

- overall Programme:
    - PYE jobs – 3,295

[1] Please note, due to the different grossing up factors for each of the different elements of the Programme (SMAS and then BE products), summing up of the individual elements provides impacts that are greater than the results presented at the overall Programme level.

- cumulative Present Value (PV) GVA of £81m, an impact ratio of 1: 6.3 ;

Achieved and potential net additional impacts by 2017/18 (Yr 10):

- overall Programme:
  - PYE jobs – 7,804
  - cumulative Present Value PV GVA of £174m, an impact ratio (relative to total SE spend) of 1: 13.5;

In terms of additionality, there was mainly time additionality i.e. impacts/activity, although likely to occur in the absence of the Programme, happened sooner as a result of the intervention.

The Programme (BE, including SMAS) is predicted to generate cumulative discounted GVA of £174m over the ten year time horizon. Based on discounted costs of £12.9m this generates a net additional GVA ratio of:

- £6.3:1 by Yr 4 (to date); and
- £13.5:1 by Yr 10 (to date and predicted impacts combined).

Carbon impacts

Due to data limitations, it was not possible to provide a definitive view of the carbon impacts attributable to the BE products (including SMAS). However, our review of SE's approach to assessing carbon impacts was broadly positive, although there is potential for some improvement primarily by collecting actual carbon savings data from a sample of supported companies.

More generally, there are some tensions between the objectives of improving productivity and competitiveness and realising carbon savings. This goes beyond the scope of the current study, but does highlight an issue for SMAS and BE support in terms of the extent to which carbon reduction objectives may (at times) compete with the drive to achieve greater company growth.

Recommendations

Based on a review of all the available evidence, we have presented a range of recommendations for future delivery.

1. Review and improve the monitoring process for BE products to provide greater detail on the effectiveness of this support.

2. Continue to expand the reach of SMAS support into the energy and renewable energy sectors. This could be expanded as the Renewable supply chain develops bringing new opportunities for efficiency.

3. Continue to shift emphasis from lean to innovation and supply chain development work. (Building on the supply chain programme commenced in 2012).

4. Prioritise longer term intervention work with companies with demonstrable potential for growth in line with Company Growth policy.

5. Establish stronger links between SMAS support and other provision, particularly innovation support and sustainable development, as well as other provision as it comes on stream (such as the High Value Manufacturing Catapult centre).

6. Continue to develop the links and relationships between SMAS and the Business Gateway.

7. Continue to develop and nurture the relationships between SMAS practitioners and HIE account managers. This should build on the appointment in 2012 of business development resource located within the HIE area

8. Continue to develop the integration of SMAS and the account management process such that the service continues to target higher growth companies, and support can be effectively co-ordinated.

9. Consider the ways in which use of third party expertise can help address mismatched areas of practitioner knowledge and company need (such as Six Sigma projects).

10. Continue to invest in appropriate CPD for SMAS practitioners to ensure that their knowledge keeps abreast of changing market conditions.

11. Review arrangements regarding terms and conditions for SMAS practitioners to try to address issues with retention and attraction of suitable expertise

12. Introduce a more structured approach to the collection and recording of carbon impact data by extending the use of the EP Workbook beyond the current sample of support

products and requiring staff to input data, even if this means recording a zero impact in those cases where support is simply not focussed on achieving carbon reductions.

1. Introduction

This report outlines the findings of the strategic evaluation of Scottish Enterprise's (SE) support for business efficiency (BE) over the period 2007 to 2010. This includes specific consideration of the Scottish Manufacturing Advisory Service (SMAS).

1.1 Evaluation Objectives and Method

1.1.1 Study Objectives

The purpose of the study was to evaluate the performance of SE's BE support over the period 2007 to 2010. More specifically, the evaluation brief identified 12 key components:

- review of rationale for intervention;
- assessment of fit with the policy environment and contribution to objectives;
- assessment of the market size for business efficiency;
- identification of learning from other similar provision;
- assessment of linkages and dependencies with other efficiency products and with wider SE support;
- assessment of wider efficiency benefits;
- review of carbon impacts;
- assessment of project impacts including Economic Impact Assessment;
- assessment of usage and quality;
- assessment of management and delivery arrangements;
- assessment of project learning; and
- assessment of value for money.

1.1.2 Study Method

The study was conducted in five mains stages:

- **Stage 1: Inception**, comprising a meeting with the SE team to clarify the study objectives and process and arrange access to all relevant documentation, data and contacts;
- **Stage 2: Initial interviews and desk review**, involving first round interviews with key personnel involved in BE support (including SMAS) and a review of approval papers and monitoring information to provide a first level assessment of the rationale for the services. At the end of this stage, a presentation of interim findings was made to the SE evaluation team and representatives of the study Steering Group;
- **Stage 3: Consultation programme**, in which interviews were conducted with representatives of key stakeholder organisations in Scotland and at UK level to inform a strategic assessment of the Programme and benchmarking with MAS services elsewhere in the UK;
- **Stage 4: Beneficiary survey**, involving a telephone survey of companies that had received SMAS and/or BE support to gather feedback on their reasons for seeking support, their experience of the services provided and any benefits and impacts; and
- **Stage 5: Analysis and reporting**, comprising detailed analysis of all of the findings of the previous stages, including an economic impact assessment conducted using the method outlined in SE Guidance, and production of draft and final study reports.

1.1.3 Evaluation Challenges

Before presenting the study findings, it is important to highlight a number of issues that affected the evaluation process.

Due to a parallel evaluation underway into the overall Account Management process within SE there was a restriction on contacting companies who may be involved in the other study. While there is an understandable need to co-ordinate survey work across different evaluations to minimise the burden on companies, in this case the sample of Direct Relationship Managed (DRM) [2] companies available for this evaluation was reduced.

[2] DRM companies are those that are 'account managed' by SE – Direct Relationship Managed companies

BE products are generally only available to DRM companies, and these growth companies are also likely to provide a significant proportion of the more in-depth SMAS interventions. As a result the limited representation of Account Managed companies in the sample runs the risk that this study under-reports impacts, especially from SMAS interventions.

The evaluation set out to examine the impacts of support over the period 2007 – 2010. What this meant in practice, particularly within non-DRM[3] companies in the sample, was that many of the people involved in the support, if received early within this time period, had since moved on and the collective company memory was not sufficient to recall effectively the impacts of specific support. This had two effects on the study process:

- we experienced a much higher than expected level of refusals to participate in the survey; and
- even among those that did participate, many were unable to provide detailed feedback on the support received and its impacts on company performance.

There is always a balance to be struck on this issue. On one hand there is real value in allowing sufficient elapsed time between support and evaluation to allow impacts to be observed. However, too long and the details of the effects of support may be lost from company memory.

The nature of the companies supported by SMAS and, to some extent, BE products, is such that many of the people that were needed for interview are not office-based but are on the shop floor. As a result, we had a high level of missed appointments as well as difficulty in scheduling interview times. This also impacted on the overall response rate.

In addition, DRM companies within the sample typically received a range of different support through their account manager, and sometimes struggled to disaggregate the effects of specific interventions. This was particularly marked for those receiving BE support, but not SMAS, as the BE products are not branded in the same way was as SMAS and therefore do not have the same degree of recognition.

We raise these issues in the spirit of learning from experience, and would stress that despite these caveats, **we remain confident in the overall evaluation findings**.

[3] An NRM company is one that is not actively relationship managed by SE.

1.2 Product Descriptions

SE's BE support comprises seven products. A summary of each is provided below.

Table 1.1: SE Business Efficiency Support Products

Products	Description	Eligibility
Business Efficiency Products		
Lean Management Thinking (LMT)	LMT consists of five modules delivered to the customer company teams and two lean financial modules delivered to financial managers. Up to two days support is provided by approved Lean practitioners, facilitating access to LEAN audits, identifying potential LEAN projects, identifying the need for further tailored support and producing an action plan detailing next steps.	Primarily targeted at DRM and Growth Pipeline companies. Manufacturing companies should, in the first instance, be referred to SMAS.
Business Improvement Workshops (Level 1)	Free workshops where delegates can talk through different issues that may impact on their business or lead to further developments. They are focussed on achieving productivity gains, sustainability and business opportunities relating to a low carbon economy. They take the form of presentations, case studies, group working, networking and one-to-one surgeries, followed by action plan development. Topics include ICT, waste reduction, diversification and business process re-engineering.	All businesses and all industries.
Business Improvement Expert Support (Level 2)	This includes up to two hours diagnostic surgery with a specialist in business improvement to explore and review options, then if appropriate up to two days of 'hands-on' time from an expert adviser in business improvement. The adviser supplies their own expertise and experience of business improvement tools and techniques and supplies the customer with an Action Plan which details the business improvement issues considered, the options, possible solutions and benefits to be realised. The focus is on identifying inefficiencies in a business and ensuring that solutions	Any existing business with a business improvement related idea/project and looking for external support to realise cost savings. Improvement projects where two days of an adviser's time is likely to deliver significant and proportional benefits and cost savings or CO2 reduction for the client within 12 months.

	are implemented, achieving cost savings/CO2 reduction or other business benefits.	
Business Improvement Project Support (Level 3)	A one-to-one intervention, offering financial support to companies undertaking feasibility studies and business case preparation, prior to investment in a business improvement (efficiency/productivity gains) project in order to reduce risk of failure. Energy Generation/Co-Generation, Energy Efficiency, Waste Reduction, Waste Recycling and Diversification projects are covered.	Aimed at DRM customers, but NRM companies are eligible if outputs are significant. It is designed for businesses that are undertaking productivity improvement (efficiency/productivity) projects, focused on improving business processes.
Sustainable Development Specialist Engagement	Provides the company with specific advice that encourages stimulation and exploitation of new ideas and activities that focuses on increased resource efficiency, productivity and growth. This may include supporting companies to create plans and take action in one or more areas including Energy, Waste, Business Efficiency, Renewables, Transport or Water.	All DRM, SE Growth Prospect and BG Growth Pipeline. Business Base companies can be offered this support subject to them presenting opportunities that are directly relevant to SE's Company Growth, Internationalisation Priority Measures and Key Sector Delivery Plans.
SMAS Products		
Business Improvement Manufacturing Review (SMAS Level 2 Support)	Involves a review of a company's manufacturing operations, carried out by a Practitioner from SMAS. The review identifies a desired 'future state' of the company's manufacturing operations, encapsulated in an action plan. Advice given is practical and hands-on.	One free review per year to all manufacturing companies throughout Scotland.
Business Improvement Manufacturing Improvement Project (SMAS Level 4 Support)	A Manufacturing Improvement Project (MIP) is an in-depth consultancy project carried out by a Practitioner from SMAS. The aim is to implement the 'future desired state' of the company's manufacturing operations outlined in the Level 2 Manufacturing Review. The project is signed off with the business and encapsulated in a project brief and action plan. At the end of the project, productivity benefits are signed off as a company case study. The MIP is typically ten days, over six months.	Available to all manufacturing companies throughout Scotland including DRM, NRM, Wider Company Engagement, SME and non-SME. The focus is predominantly on SMEs.

2. Strategic Rationale

This Chapter considers the strategic contribution of the BE support provided by SE, including reviewing the UK (Westminster) policy context and considering the rationale for the support.

2.1 Strategic Contribution

The Government Economic Strategy (GES)

SE's BE support is helping to achieve two of the six key strategic priorities set out in the (GES):

- C1: Supportive Business Environment; and
- C2: Transition to a Low Carbon Economy.

Indeed, in the case of the support provided by SE's BE products these two strategic priorities are inextricably linked.

The GES states that for businesses to grow and be successful there requires to be "*an ability to secure competitive advantage from utilising Scotland's natural and energy resources more efficiently*".

Part of the focus under a Supportive Business Environment and to which SE's business efficiency support can directly contribute is to:

- maintain the strategic focus of Scotland's Enterprise bodies by prioritising account management and advisory support toward the issues that drive growth, such as resource efficiency; and
- increase support through business support networks to help companies take advantage of the transition towards a low carbon economy, for instance in relation to energy usage, waste management and renewable energy.

As stated in the GES "*the transition of Scotland's industries and firms to low carbon products and services is both an economic and environmental imperative*". It goes on to highlight the importance of a low carbon economy being more resilient to unpredictable commodity prices.

The transition to a low carbon economy has been explicitly integrated into the GES and it has been made a clear Strategic Priority.

The BE support provided by SE offers a number of products which can help companies to make more efficient use of resources e.g. energy use, waste management, etc and aid that transition to a low carbon economy. Indeed, the BE support directly accords with the GES aim of increasing productivity by focusing on increasing resource efficiency – water, waste, energy and materials.

As the findings of this evaluation demonstrate, BE support is indeed helping companies to become more efficient and more competitive, making a direct contribution to the strategic aims of the GES. Further details are provided in **Chapter 5**.

Scottish Government's National Performance Framework

The Scottish Government is committed to an outcomes based approach and has set a range of targets. SE's BE support can help to contribute to a number of these targets including to:

- match the GDP growth rate of the small independent EU countries by 2017;
- rank in the top quartile for productivity against our key trading partners in the OECD by 2017; and
- reduce emissions by 80 percent by 2050.

SE's BE support will contribute to a number of these including:

- *reducing Scotland's carbon footprint*: by helping to reduce our waste and energy, and use other materials more sustainably; and
- *reducing waste generated*: by supporting resource efficiency and waste avoidance in business.

More generally, BE support is strongly focussed on improving productivity (particularly SMAS). Again, as the findings of the current evaluation will show (see **Chapter 5**), the support is helping to improve productivity and, as such, it makes a direct contribution to the targets of the National Performance Framework.

SE Business Plan 2011-14

SE recognises in their Business Plan that they have a "*clear role in championing the importance of the low carbon agenda. Initiatives like Scottish Manufacturing Advisory Service and our lean management programme help companies to reduce waste and improve resource efficiency*". Whilst this helps towards the low carbon agenda it also provides "*real business benefits and productivity gains*" for businesses that help to make them more competitive on a global basis.

A key focus for the SE Business Plan is in providing support to the key sectors. A wide range of businesses can benefit from improved resource efficiency. However, for a number of these key sectors manufacturing is an important aspect, including: Energy; Food and Drink; Aerospace, Defence and Marine; Chemical Sciences; and Textiles. Therefore, SMAS (and the wider BE portfolio) has a role to play in supporting these key industries through the manufacturing element of that sector.

A Low Carbon Economic Strategy for Scotland

As outlined in the Low Carbon Economic Strategy for Scotland "*opportunities exist for every business and industry to adapt to and exploit low carbon markets*" by "*saving money through efficiencies*". It is in this area that SE's BE products can provide support and help achieve one of the key objectives of the strategy:

- Objective 1: Sustainable and resource-efficient businesses. *"Helping all businesses in Scotland become more competitive by using resources more efficiently, proactively adapting to climate change impacts and generally adopting sustainable business practices"*.

The evidence from supported companies does indicate contribution to carbon reduction goals (see **Chapter 5**), and has certainly improved efficiency. BE support is therefore not only *aligned* with the Low Carbon Economic Strategy, but is making a *contribution* toward these objectives.

2.2 Rationale for Intervention

The rationale for intervention for business efficiency falls largely within the grounds of inefficiency in the market (more commonly known as market failure).

However, it should be noted that where positive environmental benefits can be realised through support there may be an environmental rationale that would support the case for intervention.

The invitation to tender identifies that the market failure is usually considered to be one of *imperfect information* and more specifically[4]:

- companies not having access to best practice information and advice (with what exists not seen as optimal and with an average price above the expected return to the business);
- companies (especially large companies) recognise the need for support but cannot attract group resources/investment;
- constraints in the capacity and capabilities of SMEs including:
    - lack of staff to undertake strategic thinking
    - focus on short term considerations
    - underestimation of the benefits of external advice; and
- support services are focused on larger firms limiting the ability of providers to meet the needs of SMEs – with SMEs lacking the in-house ability to take action.

The studies that identified these market failures were both undertaken in 2007 and more recent work by Oakdene Hollins (2011)[5] reviewing company barriers to engagement with business efficiency identified a number of further areas of challenge (see **Figure 2.1**, over).

[4] Information sourced from DTZ Consulting and Research (2007) *Evaluation of the Manufacturing Advisory Service* and O Herlihy & Co (2007) *Scottish Manufacturing Advisory Service Strategic and Operational Review*.
[5] http://www.defra.gov.uk/news/2011/03/11/research-shows-companies-can-save-money-by-helping-the-environment/

Figure 2.1: Key Barriers and Market Failures to Business Resource Efficiency (cf. Oakdene Hollins, 2011)

Financial barriers: more severe for SMEs than for larger companies due to:

- use of higher discount rates in their investment decisions because of a higher cost of credit and a lower company survival rate;
- more pronounced lack of access to capital for SMEs; and
- greater impact of "hidden" costs - management time, transaction costs, etc.
- this may lead to underinvestment in resource efficiency or trial resource efficiency technologies

Market failures:

- ***"externalities"*** - large companies may have greater ability to trial new technologies than SMEs, but SMEs can be more agile in developing and deploying them;
- ***"information"*** - large companies, often with a dedicated environmental manager, are better informed than SMEs, which are often informed solely by information acquired from the media or from within their own networks; and
- ***"split incentives"*** - as many as 90% of SMEs operate from rented offices meaning this failure is likely to be more acute for SMEs. However, SMEs do not have the problem of allocating budgets between departments.

Behaviour and motivation: the evidence for a greater burden on SMEs is more mixed:

- whilst management time can be more stretched at SMEs, they can make decisions more quickly requiring the support of fewer individuals. Unfortunately they tend to be less motivated by environmental issues unless the bottom line benefits are clear (due to prevalence of owner-management); and
- though they might have greater resources, larger organisations can be hindered by bureaucracy, and strategic decisions may be taken overseas limiting the options for UK subsidiaries. Resource efficiency is often the responsibility of an individual without sufficient power and influence to implement waste reduction or Lean manufacturing, which requires embedding a new culture into the mindset of the whole organisation. Such major changes in working practices require strong leadership involving senior management. By contrast, end-of-pipe waste management solutions tend to be easier to implement.

In our survey (reported in **Section 5.3**), we found evidence that *organisational* barriers were the most frequently identified constraint on businesses improving their efficiency, particularly relating to:

- staff skills and knowledge; and
- management time.

However, there was evidence of other barriers relating to:

- insufficient financial resources;
- costs of investment and, to a lesser extent;
- insufficient information.

While these findings confirm past evidence relating to financial and skills barriers (as above), they do not provide definitive confirmation of market failures. In fact, the financial barriers are a likely outcome of information failures insofar as companies lack the necessary information to make informed decisions about investment in business efficiency. The services provided by the BE products, including SMAS, directly address these issues, by providing companies with tailored information about the likely cost and benefits of investing in efficiency improvement (e.g. through the Manufacturing Reviews). The fact that almost 80% of the firms surveyed had identified actions, and the majority were taking them forward (or were in the process of doing so) suggests that the support has successfully been addressing the information failures (see **Figure 5.10**).

In addition, 71% reported that the support had helped address the barriers they identified - this is further evidence of effective targeting of support (see **Figure 5.7**).

2.3 Summary

There is a strong strategic fit, and more importantly, SE's business efficiency support is making a contribution to key strategies for Scotland – GES, National Performance Framework, SE Business Plan and A Low Carbon Economic Strategy for Scotland. In particular it is helping to make companies more resource efficient, in turn allowing them to become more competitive and at the same time helping make the move

towards a low carbon economy. In this respect the products offer a win-win scenario in terms of the economy and environment.

Evaluations of SMAS and MAS undertaken in 2007 identified a number of specific market failures, within the broader aspect of imperfect information, which the support was helping to address. Evidence from work undertaken in 2011 was also considered, and the evaluation found further evidence of financial and skills barriers to businesses undertaking business efficiency work. On balance, a market failure rationale based on information failures appears to be robust, even if the evidence is not absolutely unequivocal.

2.4 UK Policy Context and Evolution

This section aims to summarise the evolution of policy for UK and Scottish Government support of Business Resource Efficiency (BRE) improvement 2007-11, and draws from it some key points for SE.

Because of the complementary role of UK and Scottish Government in the field of economic development (due to the devolution of the responsibilities), it is important that we consider this relationship as well as wider international policy relationships, e.g. EU, OECD. However, this section will also highlight the issues arising from the fact that not all relevant policy is devolved, e.g. energy policy, since some UK national measures alter the context for Scottish business support.

Through our analysis we find that there is:

- an increasing focus on resource efficiency as an objective for both delivering commitments on climate change and objectives for economic resilience and growth;
- an increasing recognition that manufacturing and manufacturing supply chains have a major part to play in realising these objectives, in particular the very significant financial and CO2 benefits to be reaped from further promotion of lean manufacturing and exploitation of global markets for low carbon goods and services;
- a realisation that whilst there are all sorts of policy measures required to achieve change, that there is a clear case for focusing more on working closely with companies to change their behaviour, taking all aspects of their product, process, strategy and supply chain interactions into account; and

- a need and opportunity for international collaboration in design, delivery and management of SE's BRE support, particularly with the rest of the UK, due to the focusing of increasingly limited resources on fewer larger schemes, e.g. Catapult Centres and an increased emphasis on working through supply chains and private sector providers.

The Case for Providing BRE Support

The latest UK Government policy addressing resource efficiency objectives is presented in the 2011 publication: Enabling the Transition to a Green Economy, which states that:

"As we emerge from the largest depression since the Great Depression we need strong, sustainable and balanced growth that is more evenly shared across the country and between industries. This is the basis for the Government's Plan for Growth… A key element of this plan is continuing the transition to a green economy."

The Coalition Government's vision for the Green Economy addresses four key objectives which inform the action it plans to take to both mitigate the environmental impact and resource-related risks of economic activity (e.g. due to water and material shortages) and at the same time promote balanced growth by exploiting new opportunities through growth in manufacturing and business services, as summarised in **Table 2. 1**, over.

Table 2.1: Expected Benefits of Developing a Green Economy for the UK

Objective	Environmental Impact Mitigation	Growth Opportunity
Grow sustainably for the long term.	Reduce emissions and environmental impacts.	Grow low carbon and environmental goods and services sector.
Use natural resources more efficiently.	Decrease use of energy and materials (in homes, offices and businesses), as well as production of landfill waste.	Develop market opportunities from new products and processes.
Be more resilient.	Reduce reliance on fossil fuels.	Maintain supplies of energy and other natural resources, and provide solutions for floods and heat waves resulting from climate change.
Exploit comparative advantages.	Help key energy intensive sectors make the transition necessary to play their part in the future green economy, e.g. chemicals.	Take advantage of the expanding UK and global markets for greener goods and services.

Government recognises that, as indicated by the Oakdene Hollins report for Defra (2011), there are significant opportunities for business resource efficiency to not just (literally) help save the planet by averting catastrophic global warming, but also deliver immediate and direct reductions in operating costs, and help improve the international competitiveness of companies.

It is for these reasons that, since 2007, the 'green economy' or 'low carbon' agenda has increasingly been mainstreamed into policy, with key landmarks including:

- the 2008 Climate Change Act, which committed the UK to achieving an 80% reduction in emissions by 2050 (from a 1990 base) – 30% by 2020 (against which Scotland's 2008 Climate Change (Scotland) Bill placed a more exacting 42% reduction target);
- the 2009 Low Carbon Industrial Strategy (BIS/DECC), which complemented the 2008 Manufacturing Strategy[6], the 2009 UK Low Carbon Transition Plan, The UK Renewable Energy Strategy and The Carbon Reduction Strategy for

[6] Manufacturing: New Challenges, New Opportunities" (BERR/DIUS).

Transport by setting out a range of measures specifically addressing the 'green' business agenda; and

- the 2011 Plan for Growth, which established not just that it was essential to boost manufacturing and exports to rebalance the economy, but that to achieve this it was also important to build Low Carbon Supply Chains and generally 'green the economy'.

The guiding objectives across these have largely been environmental. The Coalition Government currently aims to achieve the following targets by 2020 (by comparison to 1990 levels):

- reduced greenhouse gas emissions by 34% (a target that is linked to the EU/international target to achieve a 20% reduction in levels of primary energy use, compared to projected levels)[7] whilst also avoiding 'leakage' (i.e. 'offshoring' of polluting activities);
- 15% of energy from renewable sources (compared to an EU/international target of 20%);
- cut CO2 emissions from new cars by 40%; and
- source 10% of UK transport energy from renewable sources.

The Renewable Road Map was published in 2011 to expand on how these targets are going to be achieved.

The Case for Focusing BRE Policies on Manufacturing

The Growth Agenda

Government's objectives for manufacturing, supply chains and exports are considered of particular relevance to BRE policy debate and must be noted. These are set out in the UK's overarching economic policy document - The Plan for Growth (HMT, March 2011) – but perhaps more clearly summarised in the preceding consultation, to (over the next ten years):

- grow manufacturing in the UK;

[7] Improvements in industrialised countries will be offset by growth in emissions in emerging economies, e.g. India and China will be responsible for half of the 30% growth in consumption of primary energy 2010-2035 (International Energy Agency – World Energy Outlook, 2011).

- make the UK Europe's leading exporter of high value goods and related services; and
- increase the proportion of the workforce seeking, and capable of, a career in manufacturing.

The Coalition Government's Manifesto and Growth Strategy both specifically recognise (following, for example, the line taken in previous reports and analysis by ERA Foundation[8]) that the UK balance of payments is suffering because of the balance of trade in manufacturing. For this reason, the UK Coalition Government is perhaps now more strongly committed to promote manufacturing growth than any other government for at least 20 years.

In order to realise the desired increases in high value added outputs and exports, the UK has placed a dual emphasis on:

- improving the general competitiveness of the sector; and
- exploiting our comparative advantages and emerging market opportunities, e.g. low carbon goods and related services.

To see how these returns could be maximised at lowest cost as a response to the recession, the previous Labour Government commissioned work to identify key sectors and supply chains which offered most potential for returns (*New Industry New Jobs*, 2008). This led to the concept of 'advanced manufacturing' being adopted which effectively pushed the idea (still supported in The Plan for Growth) that to survive and thrive, manufacturers generally need to increase their innovation intensity and the sophistication of their products.

In some cases it also recognises that key enabling technologies might have the potential to transform 'traditional' sectors. Hence policy has targeted a mix of sectors defined either or both by the market they mainly sell in, e.g. food and drink, or the technology they mainly use, e.g. industrial biotechnology.

Some sectors nevertheless offered greatest growth opportunity. These became a strategic target in their own right.

[8] The ERA Foundation aims to contribute to the economic vitality of the UK by supporting activities that will help bridge the gap between research and exploitation in the broad field of electrotechnology

Others have been included as a priority for policy intervention because of their wider economic significance: they cannot be allowed to fail because of their size/employment, their importance in supplying companies that can exploit the growth markets, or because without them the UK cannot realise a larger objective where the costs of failure is significant, e.g. environmental damage[9].

The Environmental Agenda

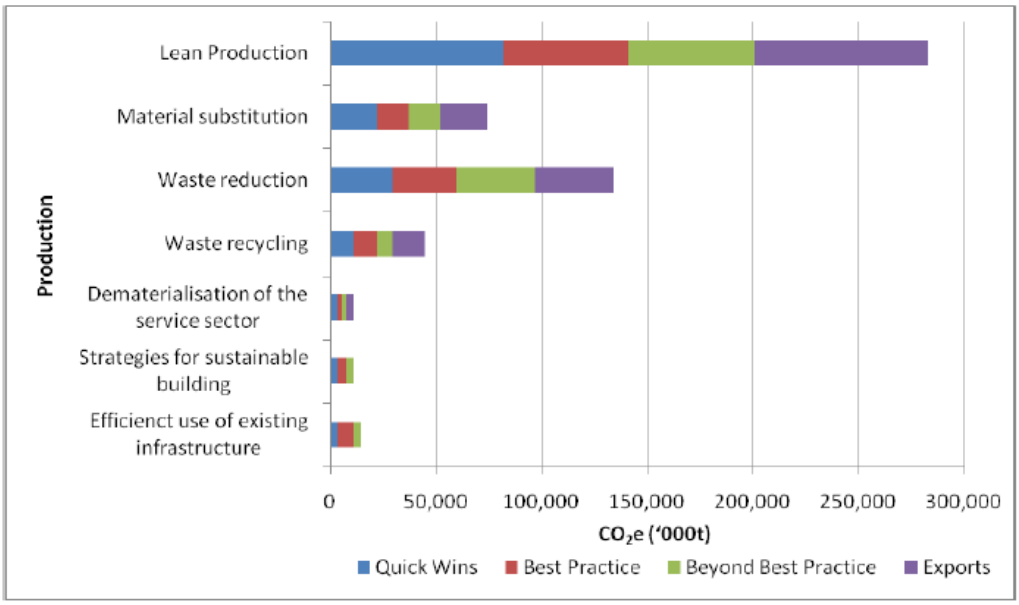
The brief for the current strategic evaluation asked for special attention to be paid to the review and analysis commissioned by Defra, in which Oakdene Hollins revisited a previous analysis (2007) of the potential for no and low cost improvements to business performance through resource efficiency.

Their analysis showed that whilst there is a large potential for no and low cost savings, much of this from construction and energy sectors will be hard to realise. Despite the fact that overall industrial energy consumption is believed to have bottomed out (with the demise of UK heavy industry), the main potential is in fact to be found in longer term **lean manufacturing improvements** where changes to the initial design of products and processes (including supply chains[10]) can make a more significant difference to the overall environmental footprint than changes to the end use of the product[11].

This is very effectively illustrated in **Figure 2.2**, on the next page. Lean manufacturing was previously not a policy focus for Defra, although programmes like BREW, WRAP and Envirowise in practice increasingly collaborated and overlapped with manufacturing productivity programmes like MAS as the Enterprise and Low Carbon policy agendas converged.

[9] The Plan for Growth cites, for example, the Stern Review warning that the long term costs of inaction are greater than the short term costs of transformation.
[10] As noted in The Plan for Growth
[11] Albeit, as previously noted, manufacturing 'servitisation' helps deliver massive resource efficiencies as the manufacturer takes responsibility for the whole lifecycle of production, disposal/remanufacturing, and efficiency of use of their product.

Figure 2.2 Cumulative GHG Emission Reduction, WRAP Report 2009



Source: Stockholm Environment Institute and the University of Durham for WRAP (2009), *Meeting the UK climate change challenge: The contribution of resource efficiency*

When looking at the key target industries in which these benefits could be realised, key sectors for the UK are also priorities for Scotland: notably Chemicals, Power Utilities, Construction and Wood and Paper.

Table 2.2: How and Where CO2 can be Reduced by 2020

Table 90: Carbon savings available for Quick Wins to 2020 by intervention (Kt CO_2)

Sector	Lean Prod.	Mat. Sub.	Waste Red.	Recy-cling	Demat.	Build-ings	Infra-struct.	Total
Agriculture, forestry & fishing	9	0	59	26	66	1	1	**161**
Mining & quarrying	56	0	14	6	2	7	6	**91**
Food, drink & tobacco	2	0	38	16	44	0	0	**100**
Textiles / wood / paper / publishing	289	34	47	13	4	13	5	**404**
Power & utilities	529	0	404	189	36	40	39	**1,237**
Chemicals / non-metallic minerals	834	356	187	68	5	47	73	**1,570**
Metal manufacturing	555	325	94	26	3	17	24	**1,043**
Machinery & equipment (other)	15	0	6	-5	5	2	1	**25**
Construction	447	0	0	0	0	31	31	**510**
Retail & wholesale	21	0	3	1	1	2	2	**29**
Hotels & catering	1	0	0	0	0	0	0	**1**
Public Sector	5	0	0	0	0	0	0	**6**
Transport & storage	166	0	30	11	12	13	15	**246**
Other Services	33	0	2	1	1	2	2	**41**
Total	**2,960**	**715**	**885**	**352**	**180**	**174**	**198**	**5,464**

Source: Oakdene Hollins (2011)

3. Activities, Outputs and Performance

This Chapter provides a description of the financial profile, project activities and wider efficiency outputs and benefits delivered by SE's efficiency support for business[12]. It also provides an analysis of the extent to which SMAS and BE are linking in with each other and with wider SE support.

3.1 Financial Profile

3.1.1 Business Efficiency and SMAS

The total expenditure on the efficiency programme over the period 2007/08 to 2009/10 was £13.2m, most of which was spent on the BE strand of support (£8.1m or 62%). A total of £5.06m (38%) was spent on the SMAS Programme. The BE element was fully funded by SE whilst the SMAS element was partly ERDF funded.

Table 3.1: Efficiency Programme Expenditure 2007/08 – 2009/1

	2007/08 (£)	2008/09 (£)	2009/10 (£)	Total (£)	%
SMAS	1,544,700	1,678,600	1,839,500	5,062,800	38%
Total BE	3,360,661	2,650,179	2,134,627	8,145,467	62%
Total SMAS and BE	**4,905,361**	**4,328,779**	**3,974,127**	**13,208,267**	**100%**

The following sections provide a more detailed outline of SMAS and BE funding and expenditure.

3.1.2 SMAS

The total expenditure on the SMAS Programme over the period 2007/08 to 2009/10 was £5.062m.

The SMAS Programme is funded through a combination of SE and ERDF monies (up until 2008/09). The service also charges a fee for services and generates revenue from supported companies.

[12] All data in tables below drawn from SMAS and BE performance and financial monitoring data supplied from teams at SE.

The majority of funding was provided by SE (£3.7m or 74%), with a small amount sourced from ERDF (£501,400 or 10%) and £807,400 (16%) from company income.

Table 3.2: SMAS Funding and Income 2007/08 – 2009/10

	2007/08 (£)	2008/09 (£)	2009/10 (£)	Total (£)
Scottish Enterprise	886,800	1,385,700	1,481,500	3,754,000
Company Income	223,800	225,600	358,000	807,400
ERDF	434,100	67,300	-	501,400
Total	**1,544,700**	**1,678,600**	**1,839,500**	**5,062,800**

Table 3.3 profiles actual SE expenditure against budget as set out in the SE approval paper. Expenditure was below target at £3.7m, 77% of the budgeted £4.8m.

Table 3.3: SMAS SE Budget and Expenditure 2007/08 – 2009/10

	Budget	Actual	%
2007/08	1,100,000	886,800	81%
2008/09	800,000	1,385,700	173%
2009/10	2,960,000	1,481,500	50%
Total	**4,860,000**	**3,754,000**	**77%**

Table 3.4 provides a more detailed analysis of expenditure. The majority was allocated to staff resources for the delivery of the project; there was a 10% budget for marketing and events and 7% for third-party projects/collaborations. A small proportion (£366,200 or 5%) was spent on CPD training for practitioners.

Table 3.4: SMAS Expenditure 2007/08 – 2009/10

	2007/08 (£)	2008/09 (£)	2009/10 (£)	Total	%
General Expenditure	12,900	16,400	30,300	59,600	1%
Marketing & Events	297,900	128,900	64,900	491,700	10%
Practitioner CPD	72,600	158,700	35,100	266,400	5%
3rd Party projects/collaborations	57,500	184,100	124,600	366,200	7%
External Expenditure Total	**440,900**	**488,100**	**254,900**	**1,183,900**	**23%**
Staff salaries & pensions	958,900	1,033,200	1,413,800	3,405,900	67%
Car	34,800	39,700	-	74,500	1%
ICT	25,600	27,400	39,800	92,800	2%
Travel	84,500	90,200	131,000	305,700	6%
Staffing costs sub-total	**1,103,800**	**1,190,500**	**1,584,600**	**3,878,900**	**77%**
Total Operating Expenditure	**1,544,700**	**1,678,600**	**1,839,500**	**5,062,800**	**100%**

SMAS Resource Inputs and Value for money

An increasing number of staff numbers were allocated to SMAS project delivery, from 17 in 2007/08 to 29 in 2009/10 (the timeframe covered by the evaluation). At the same time expenditure (and scale of activity) increased but at a slower rate, therefore expenditure per staff member fell from £90,864 to £63,431.

Table 3.5: Staff and Expenditure per Staff Member 2007/08 – 2009/10

	2007/08	2008/09	2009/10
Staff Headcount	17	19	29
Expenditure	£1,544,700	£1,678,600	£1,839,500
Expenditure per member of staff	£90,865	£88,347	£63,431

A total of 708 manufacturing reviews were completed between 2007/08 and 2009/10. In addition 311 improvement projects were started, from which 251 were completed (81%). The scale of activity increased over the delivery period, particularly in relation to the number of completed improvement projects which more than doubled, **Table 3.6.** This suggests that staff were focusing on delivering higher added value activities rather than just volume.

Table 3.6: Business Support Activities Delivered 2007/08 – 2009/10

	2007/08	2008/09	2009/10	Total
Manufacturing Reviews completed	220	228	260	**708**
Improvement Projects started	83	75	153	**311**
Improvement Projects completed	51	64	136	**251**

3.1.3 Business Efficiency

The spend profile for the BE strand by product is shown below in **Table 3.7**. The £8.1m was fully funded by SE, most of which was allocated to the Business Improvement support stand (£6.7m or 82%).

Table 3.7: BE Spend Profile 2007/08 – 2009/10

	2007/08 (£)	2008/09 (£)	2009/10 (£)	Total	%
Lean Management Thinking	310,225	172,256	152,472	634,953	8%
Business Efficiency - Support	10,116	0	144,100	154,216	2%
Business Improvement	2,814,335	2,350,174	1,554,926	6,719,435	82%
Business Efficiency Workshop	225,985	127,749	283,129	636,863	8%
Total	**3,360,661**	**2,650,179**	**2,134,627**	**8,145,467**	**100%**

3.2 SMAS Enquiries

A total of 2,519 enquiries were generated between 2007 and 2010, 1,207 (48%) of which were transferred into engagements. Whilst enquiries came from a wide range of sectors, they tended to be concentrated in food and drink (18%), digital media (10%) and energy (8%).

The data also suggests that events have been the most effective way by which to generate enquiries, with over 1,000 (40%) coming from these.

Account Managers are also a common means by which enquiries are generated, with 800 (almost a third) coming from this source suggesting that there are good links and cross referrals with the account management process.

In terms of geographical location**,** the majority of enquiries are generated from the central belt and in particular Glasgow (12%) as well as surrounding area of South Lanarkshire (9%), which is in line with the manufacturing businesses base in Scotland (Glasgow accounts for 10% and South Lanarkshire 8%). The Aberdeen/Aberdeenshire area generated 13% of enquiries, again exactly in line with the business base in Scotland. Edinburgh and West Lothian accounted for 15% of enquiries and were more represented than the business base as a whole in Scotland (8%).

A very small proportion was generated from the Highlands (4%) and Islands of Eileen Siar (Western Isles), the Orkneys and the Shetlands which generate less than 1% of enquiries each. However, this is only slightly less than the Highlands share of the manufacturing business base (6%).

3.3 Project Activities

Over the period 2007/08 to 2009/10 a total of 1,207 unique businesses accessed assistance, 777 of which accessed BE and 676 accessed SMAS assistance[13].

In terms of the SMAS assistance, the majority accessed a level two project review (634 or 53%) whilst 146 (12%) had a level four project intervention. Only 102 had completed both stages.

Table 3.8: Number of Companies Accessing Assistance by Product (unique numbers) 2007/08 - 2009/10

	Number	%
Total	**1,207**	
BE	777	64%
SMAS	676	56%
Level Two	634	53%
Level Four	146	12%
SMAS Level 2 and 4	102	8%

Table 3.9 shows that the 1,207 unique companies had accessed 1,815 different products, on average, 1.5 each. The scale of activity was highest in 2009/2010 when

[13] It should be noted that some companies accessed more than one type of support

791 unique companies accessed 1,028 products potentially reflecting higher SMAS staff resources. The scale of activity increased between 2007/08 and 2008/09.

Table 3.9: Number of Unique Company Engagements and Business Improvement Products Accessed 2007/08 – 2009/10

	Number of unique Companies	Number of Products accessed	Average per Company
2007/08*	400	451	1.13
2008/09*	293	336	1.15
2009/10*	791	1,028	1.30
Total	**1,207**	**1,815**	**1.50**

*Note: only refers to unique companies in that year

Table 3.10 demonstrates engagements by product over time. The number of SMAS level two project review engagements has increased from 170 to 373 as have the SMAS level four engagements from 63 in 2008/09 to 149 in 2009/10. It will take time for the project reviews to progress into level four projects and with the increase in reviews we are likely to see an increased number of projects in future years.

Table 3.10: Number of Company Engagements by Year 2007/08 – 2009/10

	2007/08		2008/09		2009/10	
	No	%	No	%	No	%
Total	400		293		791	
SMAS level two	170	43%	148	51%	373	47%
SMAS level four	-	0%	63	22%	149	19%
BE products (one)	213	53%	95	32%	320	40%
BE Products (more than one)	28	7%	7	2%	52	7%

Note: only refers to unique companies in that year

In each year, the majority of businesses tend to engage with only one BE product. For example in 2009/10, only 52 accessed more than one product whilst 320 accessed only one.

There were a total of 818 engagements with the 777 businesses that accessed business efficiency support, an average of 1.05 each, again highlighting that companies did not tend to engage with BE on multiple occasions (**Table 3.11**). Activity was most focussed on the Business Improvement strand with 443 engagements in this area (54% of the total). SD Specialist Engagement and Environmental Management were introduced in 2009/10, whilst the Business

Efficiency Workshop was discontinued in this year. The scale of business efficiency activity decreased in 2008/09 but increased in 2009/10.

Table 3.11: Business Efficiency Engagements by Type 2007/08-2009/10

	2007/08	2008/09	2009/10	2007/08-2009/10
Business Efficiency Programme	3	8	133	144
Business Efficiency Workshop	39	21		60
Lean Management Thinking	12	1	8	21
Business Improvement	222	82	139	443
SD Specialist Engagement	-	-	52	52
Environmental Management	-	-	98	98
Total Engagements	**276**	**112**	**430**	**818**

Note: only refers to unique companies in that year

3.4 Linkages and Dependencies – SMAS and BE

The data was analysed to identify linkages between companies accessing SMAS and BE support and this is shown in **Table 3.12**. There was limited crossover between the products. Most companies tended to access either SMAS or BE support only. Only 246 (20%) accessed both. This was to be expected given that SMAS tends to focus only on manufacturing companies, while the BE Support is generally accessed by service companies, meaning less scope for crossover.

Table 3.12: Product Crossover 2007/08 – 2009/10

	Number	%
Total Assisted Companies	**1,207**	
No of companies only accessing SMAS	430	36%
No of companies only accessing BE support	531	44%
No of Companies accessing SMAS and BE	246	20%

DRM companies have access to a wide range of support provision within the SE offering, some of which is likely to be complemented by SMAS and BE and offer greater potential for impact. A total of 530 companies (or 43% of the total supported companies) that have received BE or SMAS assistance are also DRM companies. A slightly larger number have accessed BE support (357 or 67%) than SMAS (311 or 59%), **Table 3.13**.

An analysis of level of crossover engagement between both programmes by the DRM companies (**Table 3.13**) shows a similar pattern to that outlined above in **Table 3.12**, in that there is limited crossover between those accessing SMAS and BE support. However, there has been a greater level of crossover in comparison to non-DRM companies with 139 (26%) accessing both BE and SMAS support in comparison to only 20% of non-DRM companies.

Table 3.13: DRM Companies Product Crossover 2007/08 – 2009/10

	Number	%
DRM companies	**530**	
Total number of DRM companies accessing BE	357	67%
Total number of DRM companies accessing SMAS	311	59%
Number **only** accessing SMAS support	173	33%
Number accessing **only** BE support	218	41%
Number of DRM companies accessing SMAS and BE support	139	26%

Table 3.14 shows the extent to which DRM companies are engaging with SMAS products. Of the 311 DRM companies that have accessed SMAS support, the majority (76%) have only been involved at the level two stage and have had a project review undertaken, but have not subsequently gone on to develop a project. Only 17% have been through both stages, with a further 7% having gone straight to level four in developing a project.

Table 3.14: DRM Companies Product Crossover with SMAS 2007/08 – 2009/10

	Number	%
Number of DRM Companies	**530**	
Number of DRM companies accessing SMAS	311	59%
Number of DRM companies accessing only SMAS level 2	237	76%
Number of DRM companies accessing only SMAS level 4	22	7%
Number of DRM companies accessing both level 2 and 4	52	17%

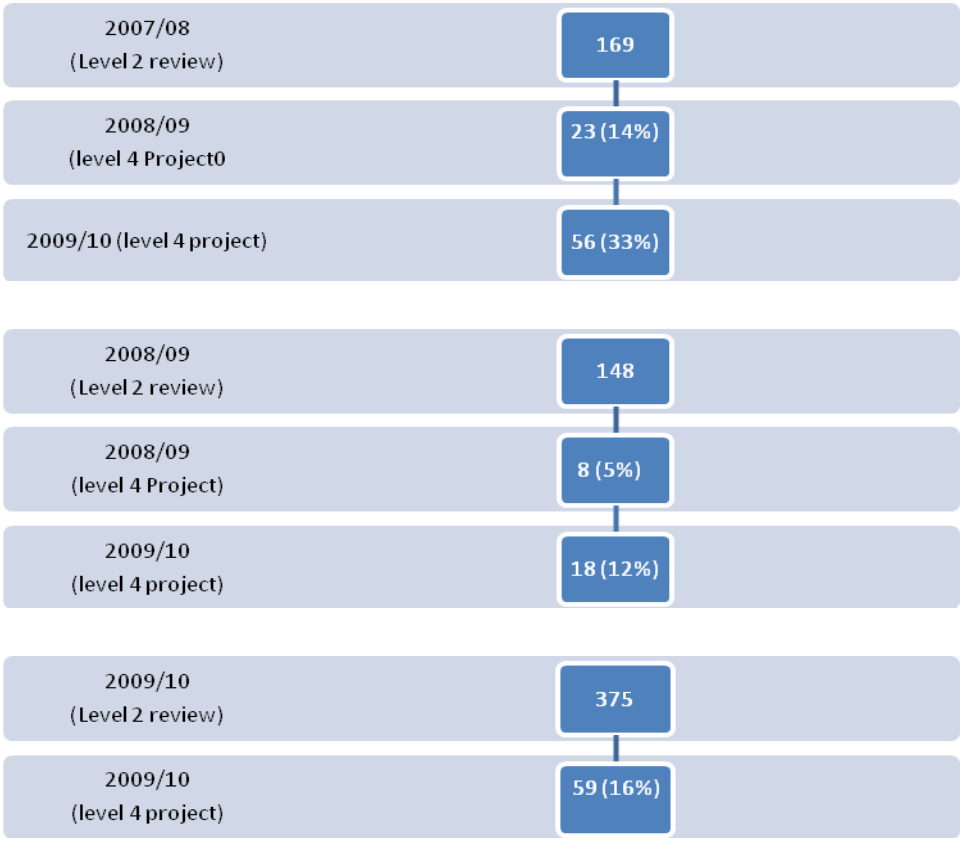
3.5 Multiple Support

An analysis of the extent to which SMAS level two acts as a pipeline to SMAS level four and of the extent to which BE acts as a referral route to SMAS or other BE activity was undertaken. This was explored by considering the flow of engagements over the period 2007/08 to 2009/10 from one strand of support to the other.

Overall, only a total of 107 out of 637 (17%) unique companies moved from undertaking a review (level two SMAS) to developing a project (level four SMAS) over the three year period.

Table 3.15 provides an analysis of those companies who had a level two review undertaken in each of the three years 2007/08 to 2009/10 and then subsequently went on to undertake a level 4 project in a future year.

Table 3.15: Number of Companies Moving from SMAS Level 2 to SMAS Level 4 2007/08 – 2009/10



Note: only refers to unique companies in that year

Numbers moving along the pipeline are low with no more than 16% moving to a level four project in the year following a level two review.

This tends to increase with time, with a greater number moving through the pipeline in the second year, for example one-third of those who undertook a level two review in 2007/08 moved on to a level four project in 2009/10.

Therefore we would expect to see greater numbers that have engaged at level two moving through the pipeline to level four in the future, particularly for those that engaged in 2008/09 and 2009/10.

Table 3.16 provides an analysis of the extent to which BE is acting as a link or route into SMAS support. It shows those companies who had BE support in each of the three years (2007/08 to 2009/10) and then those that have subsequently went on to engage in SMAS level two and level four assistance in a future year.

In general, SMAS supports manufacturing companies and BE support is more targeted at service companies. However, although not large numbers, there are some who engage with the overall business efficiency agenda through more general BE support mechanisms who may then go on to access SMAS support.

Table 3.16: Number of Companies Moving from BE to SMAS Level 2 and Level 4 2007/08 – 2009/10

		2007/08	2008/09		2009/10	
	Number	SMAS Level 2	SMAS Level 2	SMAS Level 4	SMAS Level 2	SMAS Level 4
BE in 2007/08	241	13	11	4	23	17
BE in 2008/09	102		9	5	11	12
BE in 2009/10	231				22	14

Note: only refers to unique companies in that year

As mentioned above, although numbers moving from BE to SMAS support tend to increase over time, small numbers have accessed several different elements of support:

- of the 241 supported by BE in 2007/08, only 11 (5%) accessed SMAS level two in 2008/09 and 23 (9%) in 2009/10, lower numbers accessed SMAS level four;
- of the 102 supported by BE in 2008/09, only 9 (8%) accessed SMAS level two in 2008/08 and 11 (10%) in 2009/10; and
- of the 231 supported by BE in 2009/10, only 22 (9%) accessed SMAS level two and 14 (6%) accessed SMAS level four.

These small numbers accessing both BE and SMAS support is unsurprising as the former is primary geared towards services whilst the latter towards manufacturing

business. This suggests that this targeting of services is largely being adhered to though there is also clearly flexibility as well.

3.6 SMAS Wider Efficiency Benefits

3.6.1 Efficiency Improvements (QCD Measures)

SE gathers benefit and impact data from companies in order to report against Quality Cost Delivery (QCD) measures that they have developed to demonstrate performance of the SMAS Programme. These measures changed over the lifetime of the project and performance against them is reported in two separate phases:

- phase one – 2007/09; and
- phase two – 2009/10.

The analysis of QCD performance and outcomes is summarised below.

Phase One

During phase one of the programme, between 2007 and 2009, the SMAS Programme successfully generated £17.6m in value of productivity improvements, an average impact of £153,760 per company that reported impact. In addition, it generated:

- an increase in turnover of £55.5m, an average of £1.9m per company that reported impact; and
- improvements in delivery performance[14] to the value of £14.3m (£152,264 per company).

The most commonly reported impacts by businesses were improvements in GVA productivity, delivery performance and value added per person improvements.[15]

A comparison of impacts and benefits delivered against what was planned or signed off with companies was made.

[14] Delivery performance is defined as Number of planned deliveries – (Number not on time + Number of incorrect qty deliveries) x 100%

[15] Value added per person is defined as (output value-input value)/number of employees

Performance was generally very strong with plans in relation to GVA Productivity Improvements, GVA Scrap/Defect Reductions and GVA Space Utilisation outperformed by large amounts (116%, 212% and 204% of targets achieved respectively).

Most of the other planned activity including GVA Delivery Performance, Increased Turnover, Increased Labour Cost (through increased work force) and Value Added per person was delivered only slightly behind planned with the exception of reductions in stock returns with only 50% of planned impacts being achieved.

Phase Two

An analysis of the total impacts and benefits generated by the SMAS Programme between 2009 and 2010 during phase two was also carried out. A much larger range of indicators and measures were introduced after phase one.

It identified that:

- the total value added benefits generated between 2009 and 2010 was reported as £20.6m, £111,125 per company and £84,021 over the entire population of 262 that provided data on impacts;
- the most commonly reported value add benefit was people productivity improvements which amounted to an average of £60,902 per company, followed by waste reduction (an average of £40,618 in value add per company);
- SMAS had successfully resulted in a total of 3,269 retained jobs (60 per company that would not have been there without SMAS support; and
- SMAS generated 2,952 enhanced jobs (188 per company).

Very small numbers reported benefits in terms of reduced time to market or Co2 reductions. At the time of the intervention this was not being actively measured by SE and so was perhaps less of a focus for monitoring data. This has changed since 2011, and so future reviews of this kind would expect to see greater levels of reporting.

The most commonly reported efficiency improvements were percentage Improvements in People Productivity with 135 reporting this (an average of 20% was reported per company), this was followed by percentage Improvements in Reworks, with 61 companies reporting an average of 29% improvement in this area.

Companies that reported an Improvement in On Time Delivery reported an average of 36% improvement.

As with phase one, a comparison of impacts and benefits delivered against what was planned or signed off with companies in phase two was made.

With regards to value add benefit measures, performance was generally very strong with targets in relation to space utilisation and gross value added outperformed by large amounts (126% and 212% respectively). Total predicted value-add is close to plan (97% achieved) and the remainder including VA - People Productivity Improvement, VA - Quality (Waste Reduction), VA - On Time Delivery, VA – Stock and VA - Overall Equipment Effectiveness were relatively close to the plan.

The SMAS Programme has been particularly successful in achieving plans in relation to capital invested, jobs retained and jobs enhanced (these plans were all overachieved by at least 5%). However, there has been less success against business growth, reduced time to market and Co2 plans (although only a very small number of companies reported on these).

With regards to efficiency improvements, performance was mixed with three targets outperformed including percentage improvement in people productivity (by 4%), percentage improvement on time delivery (by 8%) and improvement in Gross Value Add (12%).

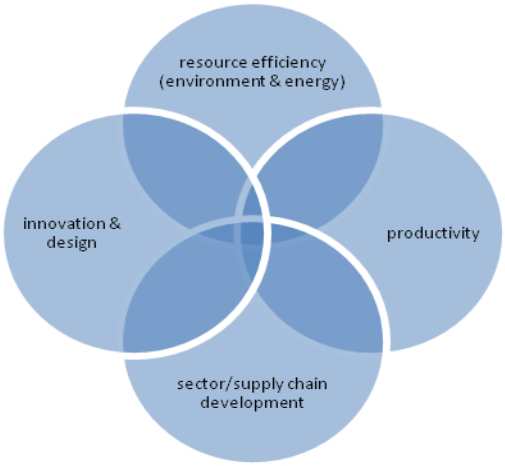
A total of four indicators were underachieved including percentage improvement in rejects, percentage improvements in overall equipment effectiveness, percentage improvement in reworks and percentage improvement in space utilization.

4. Benchmarking

As noted in **Chapter 2**, our policy review revealed the converging interest of manufacturing and resource efficiency policy fields in providing awareness and consultancy support to stimulate business productivity, new product and process

development, and supply chain performance improvements – all with an increasing focus on business survival, growth and exports in strategically-important sectors.

Figure 4.1: Converging Government Targets for Business Support to Achieve Economic and Environmental Objectives



We have therefore looked to benchmark the design, performance and management of similar schemes. Our desk research and stakeholder survey helped us establish that the following schemes could provide useful insight into the key aspects of scheme design, performance and management:

- The Manufacturing Advisory Service (MAS) in England;
- The USA's Manufacturing Extension Partnership (MEP); and
- SWRDA's Envision Project, (focused on both efficiency and growth agendas).

We also identified a recent US benchmarking study of manufacturing SME business support policies and programmes (commissioned by the USA's National Institute of Standards and Technology - NIST):

- "International Benchmarking of Countries' policies and programmes supporting SME manufacturers" – ITIF, 2011.

Furthermore, our search for alternative approaches to promote resource efficiency and manufacturing business performance improvement resulted in the identification of a 'one to watch' in the shape of a recently launched project supported by the Regional Growth Fund (RGF) for England:

- the Technology Strategy Board/Birmingham City Council's £125m *Advanced Manufacturing Supply Chain Initiative* (AMSCI).

This Chapter aims to draw out the key learning points for SE BE programmes from other countries. We then summarise the findings and draw some preliminary conclusions to integrate into the overall evaluation report analysis and recommendations.

4.1 MAS (England)

What Is It?

BIS has procured (by competitive tender) a single national supplier (a consortium made up of four principle partners fronted by Grant Thornton) to deliver the MAS in England. This will succeed the original MAS service contracted for delivery through nine regional centres by the Regional Development Agencies (from 2002-2011), which according to the MAS policy review in 2010-11 was seen as having inefficiencies - particularly in terms of management overheads/efficiency and service-offer consistency.

The new MAS service offer is summarised as follows, clearly including work that continues to overlap with resource efficiency agendas:

- 'MAS Strategy': Planning your business;
- 'MAS Innovates': Developing new ideas;
- 'MAS Efficiency': Improving your processes; and
- 'MAS Connects': Growing your supply chain.

What Can We Learn From It?

Consultants advising on MAS policy (DTZ & Cambridge Institute for Manufacturing, 2010) found that:

- there is a strong argument for MAS to strengthen its USP – the offer of hands-on, trusted, practical and on-site/direct support to manufacturing companies;
- manufacturers will need help to restructure;
- lean remains important;

- advisor knowledge and understanding of new issues needs to be strengthened, suggesting that a wider cadre of specialists needs to be engaged;
- manufacturers need help to take new products to market (strategy not just R&D);
- MAS needs to address big new agendas, including:
    - servitisation[16]
    - value chains
    - sustainability
    - strategic interventions aligned to sectors and technologies;
- MAS needs better management data and KPIs;
- MAS needs to partner better with other public support programmes and centres of excellence; and
- MAS should support all manufacturers, not just SMEs.

[16] i.e. manufacturing companies either adding services to or integrating services in their core products

Overall, we can say by consolidating national delivery arrangements, and increasing the flexibility and authority of MAS to lead delivery (spanning resource efficiency, innovation and supply chain development), it is able to not only better-exploit wider world-class expertise but is also predicted to realise a three-fold increase in the programme's ROI - from 6.2:1 to 25.3:1.[17]

In addition, it will remove the occasional perverse incentives for regions to compete across boundaries, and will allow greater transparency of reporting by establishing a common national reporting system.

The focusing of management efforts on positioning and best practice in a looser, but more relevant performance management framework, offer the potential for the MAS team to play the role of a more trusted partner to BIS and the clients, and the programme is currently ahead of profiled activity and impact levels. As new services take shape, they will need to connect with wider UK partners and programmes, including SMAS, to consistently deliver support across supply chains and exploit all the UK's leading centres of excellence – some of which are based in Scotland, e.g. the Renewable Energy Catapult Centre (Glasgow) and high value manufacturing (Advanced Forming Research Centre at Strathclyde University).

Key learning to be drawn from the MAS experience include:

- considering the wholesale change in the economic development landscape the fact that MAS has been sustained at a national level is a reflection of the value placed on the service;
- there is a move within the new MAS to take a broader view of competitiveness over and above lean, to include market approaches and business strategy; and
- practitioners are seen as a valuable resource for BIS in intelligence gathering because of the daily contact with businesses.

[17] N.B. It should be noted that some of the regional MAS delivery produced a much higher ROI than this overall national figure. The final MAS-NE evaluation, for example, gave a ROI of 27:1.

4.2 MEP (USA)

What Is It?

The inspiration for the original MAS programme in England (2002-2011), the MEP programme, continues to be an important point of reference for manufacturing support in the UK for comparison of strategy and delivery.

With around $110m/year Federal funding (which is meant to be matched in equal parts by State funding and fee income) it delivers its services through a network of 60 centres that employ 1,500 non-Federal staff and 2,200 third party delivery agents (2009).

Who is it for?

MEP is targeted primarily at manufacturing SMEs, which in the USA employ up to 500 people - twice the size of an SME in the EU – albeit the core target group is companies with 20-249 employees.

Whilst the service is, like SMAS, generally open to all kinds of manufacturers, it has been suggested that there could be benefit in targeting companies with the clear propensity for growth, and whilst MEP has found that extending its support for specific clients impacts negatively on its target for the number of clients impacted, this increases the sustainability of the impacts.

Noting the on-going issues for SMEs to use external advice to improve their productivity (information asymmetries), Federal and State funding is intended to cover the costs of marketing to 'hard to reach' SMEs.

Following a recent review, the MEP's "Next Generation Strategy" sets out five key areas for operation, all aimed to realising the overarching objective of **profitable growth**:

- technology acceleration;
- supplier development;
- sustainability;
- workforce; and
- continuous improvement.

What Can We Learn From It?

The MEP is the main source of support for SME manufacturers in the USA, albeit 14% of the clients have more than 250 employees.

The review of the MEP's business model in 2010 nevertheless identified a number of key learning points, which resulted in a change in strategy and a change in services. The key issues of concern were found, in a remarkable echo to the UK's 2010 MAS review findings, to be:

- MEP must reach additional clients – as it was not penetrating the manufacturing base sufficiently (at 10% of the 20-250 employee companies, with light touch engagement, and 2% for intensive support);
- manufacturers require a broader range of services: the original focus on the manufacturing process, quality and cost-reduction are not enough to help them compete. Firms also need to foster growth, innovation and sustainability; and
- the kinds of service NIST[18] consultants felt were now needed included as a complement to manufacturing process improvement were:
    - growth and innovation
    - leadership and management skills
    - export/international (working in global supply chains/export promotion)
    - green/sustainability.

Key learning points for SE might therefore be summarised as follows:

- the service is highly valued and has a strong reputation, and yet estimates it only reaches 9% of the manufacturing sector;
- manufacturing is seen as a core focus for economic recovery;
- central government funds being used for marketing to hard to reach companies, acknowledging the issue that that generating demand for services is a challenge;
- a move to focus on growth companies to increase potential for impact (even though this may reduce the overall volume of assisted companies); and

[18] National Institute of Standards and Technologies

- there is a wide spread of services that is moving beyond lean to incorporating strategy and new market approaches.

4.3 The "Envision" Project (South West England)

What Is It?

Envision was conceived to provide South West SMEs with advice and support to improve resource efficiency, increase productivity and competitiveness and reduce CO2 emissions. This included not only an agenda to improve environmental and energy performance, but also to stimulate growth through the development and sale by clients of new products and services.

The project over its five phases, since 2002, had investment from both European Union structural funds and South West RDA.

Envision was designed to achieve its impacts through raising awareness of the need for change, and supporting change processes as appropriate with coaching and mentoring.

78% of businesses receiving intensive support indicated that they agreed that Envision has helped them achieve either bottom line savings, identification of new market opportunities or staff cultural change. Between these three areas, businesses were much more likely to state that they agreed that Envision has helped them achieve bottom line savings or staff culture change (64% and 62% of businesses respectively) than identification of new market opportunities (26%). Only 7% of clients actually went on to develop new products or services.

Where the programme had effected a cultural change, it often had a transformational effect on both the attitude of management and employees within an organisation, often creating a culture of seeking continuous improvement. This has been most strongly associated with those organisations that sought help to implement an Environmental Management System.

A large number of the businesses taking action following support moved mainly on no or low cost action. When investment was needed to undertake more radical change they found.

What Can We Learn From It?

"Of those that appreciated the service, Envision appears to have been very beneficial, often opening their eyes to how they could operate more efficiently and acting as a catalyst for change within the organisation – producing a transformational effect. This is backed up by the numerous positive case studies developed by Envision. Businesses expressing satisfaction were often those that had sought support in implementing an Environmental Management System or had another pressing need to take action." (Evaluation report).

The final evaluation of Envision 2 Cornwall, conducted by Force Four, found that '*businesses will only seek support on environmental issues when there is an immediate business need to do so*'. The evaluators found that:

- there was not high demand for intensive support; this was a 'hard sell' for delivery partners, once enthusiastic businesses in the region had come forward;
- whilst most businesses undertook some action, barriers still remained in the take-up of more expensive actions, principally cost related; and
- businesses appeared to be more likely to take action when they were being driven by pressures other than a simple cost/benefit analysis, such as increasing pressures from supply chains.

Furthermore, evaluators identified the relative failure of the project to help SMEs to create new products/services. They gave two possible reasons for this:

- development of new products and services is a different skills-set to environmental auditing; and
- that the business planning phase over-estimated the potential for generating new market opportunities.

This suggests that a stronger sector skill set of the advisers or willingness to collaborate more widely might have been helpful in achieving benefits.

4.4 International Benchmarking of Countries Policies and Programmes Supporting SME Manufacturers (ITIF)

The lessons from this recent US study into manufacturing support are highly relevant to this evaluation, as they looked across eleven countries to see how the key agendas of manufacturing competitiveness (including resource efficiency) are addressed and to draw out lessons of best practice.

Perhaps more importantly for the purpose of this report, ITIF notes that the MEP programme's decision to move the emphasis of its support away from the Lean agenda towards innovation and growth is validated by the adoption of similar tactics in the other benchmark countries[19].

Given the recognition across the world's leading industrialised nations that their manufacturing businesses' survival depends on their ability to harness technology to move up the value chain, it seems inevitable that manufacturing advisory services are being expected to shift their focus to a more strategic, holistic, and innovation-focused offering.

[19] SE has also been taking this approach with SMAS / BE practitioners working alongside account managers

Figure 4.2: Comparison Across Countries in ITIF Study

Category	Service	United States	Australia	Canada	Germany	Japan	United Kingdom	Argentina	Austria	China	Korea	Spain
Technology Acceleration Programs and Practice	**Promote Technology Adoption** by SMEs	√	√	√	√	√	√	√	√	√	√	√
	Provide Audits of SMEs' Lean Mfg. & Innovation Processes & Skills	√	√	√		√	√					
	Business Advisers Work Hands-on with SMEs to **Improve Manufacturing & Process Techniques**	√	√			√	√	√				√
	Support Tech Transfer & Commercialization	√	√	√	√	√	√	√	√	√	√	√
	Promote Tech/Knowledge Diffusion from Universities	√	√	√	√	√	√	√	√	√	√	√
	Perform R&D in Direct Partnership with SMEs					√						√
	Provide **Access to Research Labs**/Prototyping Facilities	√				√		√			√	√
	Get SMEs into **Mfg./ Technology Consortiums**				√			√	√			
Technology Acceleration: Funding Mechanisms	Provide SMEs **Direct R&D Funding Grants**		√	√	√	√			√	√	√	
	Provide SMEs **Loans to Scale/Grow Businesses**					√			√	√	√	
	Use Innovation Vouchers			√	√				√			
	Fund Joint Pre-Competitive Research Programs				√							
Next Generation Manufacturing Technical Assistance	**Teach Innovation & New Product Development** Skills	√		√		√	√	√			√	√
	Provide **SMEs Export Assistance and Training**[3]	*	√	*	√	*	√	√	*	√	√	√
	Promote **Energy-Efficient Manufacturing** Skills	√	√	√	√	√	√					
	Provide **Assistance with Standards**	√		√				√			√	√
	Teach Role of Design in Manufacturing			√			√					
Connect SMEs	**Act as Broker** to Other SME Support Services	√	√	√		√	√					
	Host Best Practice Events	√	√	√		√	√					√

Table ES-2: Range of Services Provided by Manufacturing Support Programs[4]
*** Export Assistance Provided by Countries' Manufacturing Extension Service**

4.5 The "Advanced Manufacturing Supply Chain Initiative" (AMSCI)

With a focus on leading or emerging markets for solutions provided by Advanced Manufacturing, AMSCI provides a flexible framework for allocating £125m as grants or loans that would help address market failures to:

- create more competitive supply chains that anchor high value added work in England;
- attract new customers to existing supply chain companies;
- sustain or create new employment opportunities; and
- create better synergies and sustained collaborative relationships throughout supply chains that participate.

The fund is split in two parts.

The 'national' ("Stream 1") £100m fund requires:

- at least two partners in advanced manufacturing supply chains (one of which must be the 'prime', who must also be the project owner); and
- at least £2m of project funding requirement.

"Stream 2" is a smaller (£25m) fund for the consortium areas originally proposing the scheme (as a bid for Regional Growth Funding - RGF).

What Can We Learn From It?

As yet, there is nothing tangible to be learnt from the programme except for the welcome shown by BIS and TSB to exploration of new approaches and innovation in supply chain support, and the recognition that flexibility of support within state aid rules across different size and sector of supply chain companies might offer greater potential for long-term growth prospects (although it is worth noting that in this first round there were fewer applications submitted than had been anticipated).

Given that the scheme crosses the English/Scottish boundary (and beyond), as well as the focus on the environmental agenda, it is essential that the SE BE programmes engage with this programme as a complement to the role played by MAS in England.

4.6 Summary and Conclusions

From the benchmarking it is worth drawing some overall conclusions, many of which are already reflected in SE practice.

All the benchmark programmes appear to support the case for:

- continuing both awareness-raising and intensive support;
- expert but flexible provision;
- longer term change projects, with scope for repeats;
- more careful assessment of the best way to balance repeat business and market penetration;
- working with larger companies and leading centres of technical excellence;
- refocusing away from lean to innovation and supply chain development as part of a single, holistic service; and
- improved and aligned KPIs that capture the impacts on resource efficiency and of different elements of the programme/client service innovations.

The new MAS programme design appears to offer strong potential in terms of both environmental and economic impact and value for money, but not enough is known about how this works to draw firm conclusions.

The MEP programme provides excellent returns, and its sub-programmes provide well-documented intelligence about practice and impacts. It suggests that a greater role for SMAS might be played in supply chains not traditionally seen as manufacturing, e.g. new technology for 'greening' buildings, which is strategically important for Scotland in terms of its CO2 reduction strategy.

Envision, though closed, helped identify the benefits of providing environmental and energy information to businesses, but also the limits of asking generalists to impact on the needs of specific sectors. The suggests a role for stronger matrix management structures allowing specific sectoral expertise to be brought in as appropriate.

AMSCI, though not yet properly started, reminds us of the potential for a stronger market- and technology-led approach, as it promises to help bring expert and funding partners together in effective combinations (‘horses for courses’). However, there are questions about how additionality will be assured, and how this works with the strong case for building up and exploiting national institutions of innovation, such as Catapult Centres.

5. Beneficiary Feedback

5.1 Introduction

A telephone survey was constructed to review the services and products around the BE and SMAS services offered by SE. The survey was to capture the experience of the businesses involved to ensure the support was meeting the needs of businesses.

We received a sample of 454; of these we were reduced to a usable sample of 182 due to the following reasons:

- 29 were arranged then subsequently cancelled or beneficiary failed to show;
- 148 beneficiaries declined to take part or are no longer with the company; and
- there were a total of 95 e-mails bouncing back or wrong details.

The response rate from the useable sample was 43% and was 17% from the full sample.

A total of **79 business surveys were completed**, of which 66% received SMAS support and 34% received BE support.

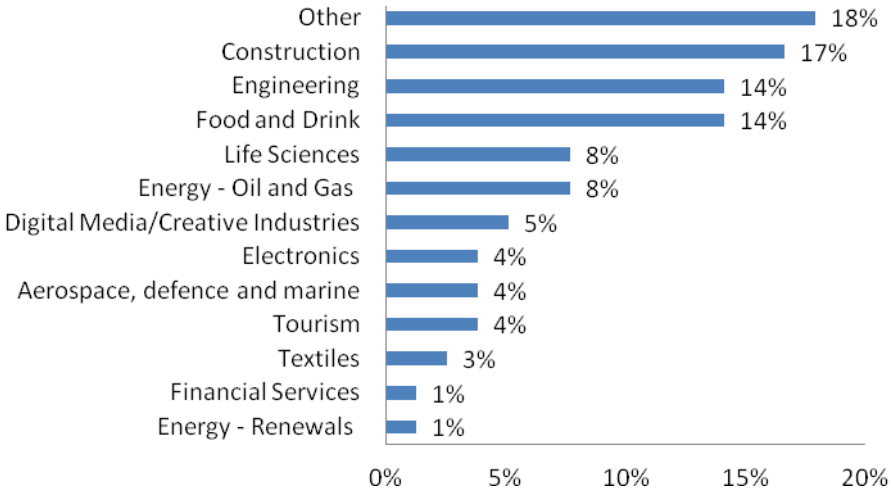
It should be noted that not all questions have been answered by all respondents as respondents were unable/unwilling to comment.

5.2 Background Information

Sector

A total of 17% of respondents operate within the construction sector, followed by engineering, and food and drink (both 14%), see **Figure 5.1**, over.

Figure 5.1:
Sector



n=79

Of the 18% that selected 'other', the most commonly cited response was business services, and manufacturing (both 4%). Other responses reported by individuals were charity organisation, utilities, wholesale, software, and sport and leisure.

Just over half of respondents classified their organisation as manufacturing (53%), 30% provided a service and 17% reported to operate in both manufacturing and services.

5.2.1 Pre Support

Employees

Respondents were asked to comment on the number of people currently employed (full time equivalent - FTE). Employees ranged from a low of two up to a high of 1,920 with an average number of employees being 134 and the median 35. **Table 5.1** details the results by banding.

Table 5.1: Employees

	Number	%
1-9 staff	18	23%
10 - 49 staff	29	38%
50-249 staff	21	27%

250+ staff	9	12%

N=77

Respondents were also asked to provide details about the company's length of trading within Scotland, **Table 5.2**. The majority of organisations had been trading for ten years or more (79%) with all respondents trading for over one year.

Table 5.2: Trading in Scotland

	Number	%
Less than 1 year	0	0%
1-3 years	2	3%
4-5 years	3	4%
5-10 years	11	15%
10 years plus	59	79%

N=75

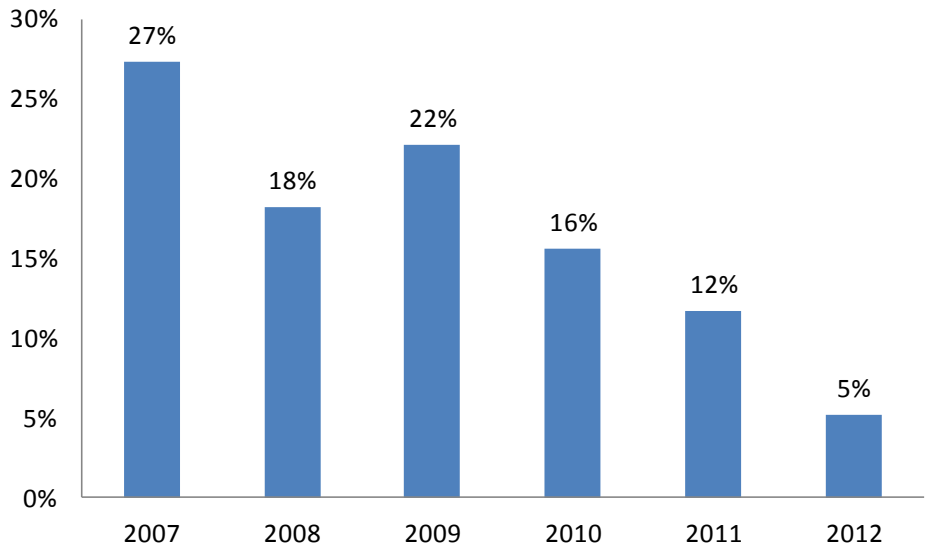
A total of 82% of respondents reported the establishment to be the organisation's headquarters. Of the 18% (14 responses) that reported the companies headquarters to be in a different location the responses were:

- North America (5);
- elsewhere in the UK (4);
- Europe (2);
- Asia (2); and
- elsewhere in Scotland (1).

Original Year of Engagement

Just over one quarter of respondents first became engaged with the BE/SMAS support in 2007 (27%), followed by 22% in 2009, **Figure 5.2**.

Figure 5.2: Original Year of Engagement



N=77

5.3 Rationale for Seeking Support

Beneficiaries most commonly sought support in order to identify areas for productivity improvement (35%), closely followed by 'gaining access to expertise/ advice/guidance' and 'gaining an outside view of their organisation' (both 31%). Businesses were less commonly seeking support for complying with legislation or for reducing Co2 emissions.

Table 5.3: Main Objectives

	Number	%
To identify areas for productivity improvements	27	35%
To gain access to expertise/advice/guidance	24	31%
To gain an outside view of my organisation	24	31%
To save costs	21	27%
To access support with implementing new techniques/processes	20	26%
To develop the skills of my workforce	16	21%
To get access to grants/funding	12	15%
To improve overall site/company competitiveness	9	12%
To improve supply chain/logistics processes	8	10%
Other	5	6%
To comply with legislation	1	1%
To reduce Co2 emissions	1	1%

N=78, multiple responses possible

Other responses were to change the factory layout (2), become more efficient (2) and referred from account manager (1).

Beneficiaries were mainly driven by a desire to improve the way their business is run (68%) with much lower proportions reacting to pressure from competitors or customers (30% and 17% respectively). Even less were responding to increased costs or government regulation (3% and 1% respectively). See **Table 5.4** below.

Table 5.4: Main Drivers

	Number	%
Improving the way the business is run	52	68%
Keeping up with or reacting to pressure from competitors	23	30%
Pressure from customers to improve the business	13	17%
Keeping up with the latest thinking / technological changes	12	16%
Pressure from corporate HQ to improve the business / internal policy	7	9%
Other	6	8%
Pressure from supply chain to improve the business	5	6%
Reducing environmental impact	3	4%
Increase in cost of inputs/raw materials	2	3%
New government regulations	1	1%
Was encouraged by advisor	1	1%

n=77, multiple responses possible

Other responses included:

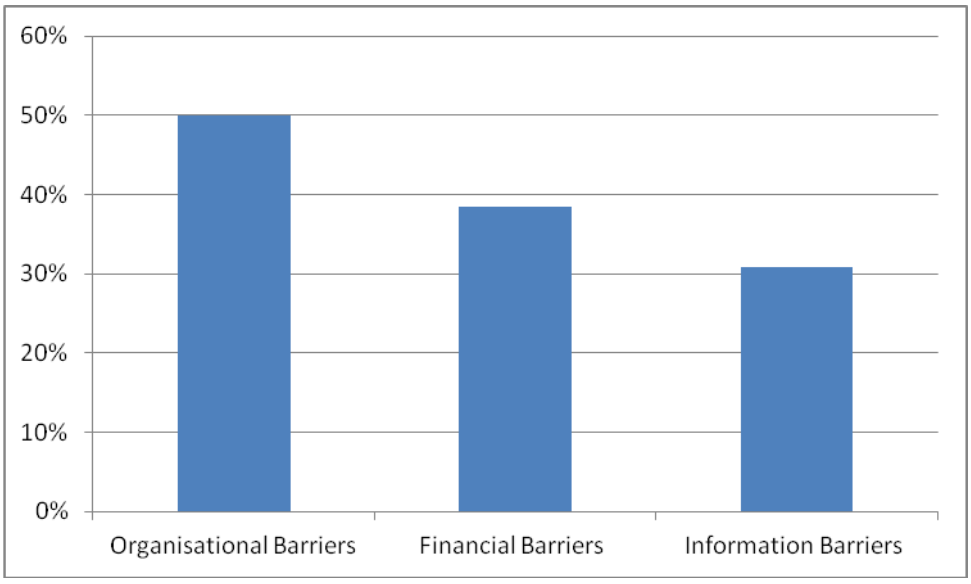
- to gain access to expertise/advice to improve performance (2);
- to react to the current economic climate (2); and
- to increase funding opportunities (2).

Barriers to Efficiency Activity

Respondents were asked what kinds of barriers they face as a business that was relevant to their decision to work with SE on business efficiency. Almost all (97%) faced at least one barrier - 17 (22%) faced only one barrier, 45 (57%) faced two and 15 (19%) faced three types of barriers.

Figure 5.3 details overall the financial, organisational and information barriers.

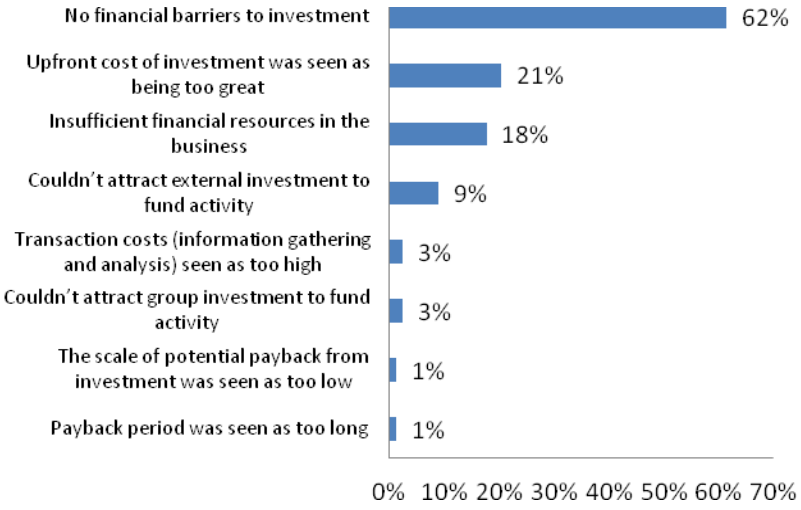
Figure 5.3: Barriers



N=78

Half of respondents reported organisational barriers to be the main factor for seeking support, followed by 39% reporting financial barriers, and just under one third reported information barriers. **Figures 5.4 to 5.6** details each barrier in more detail.

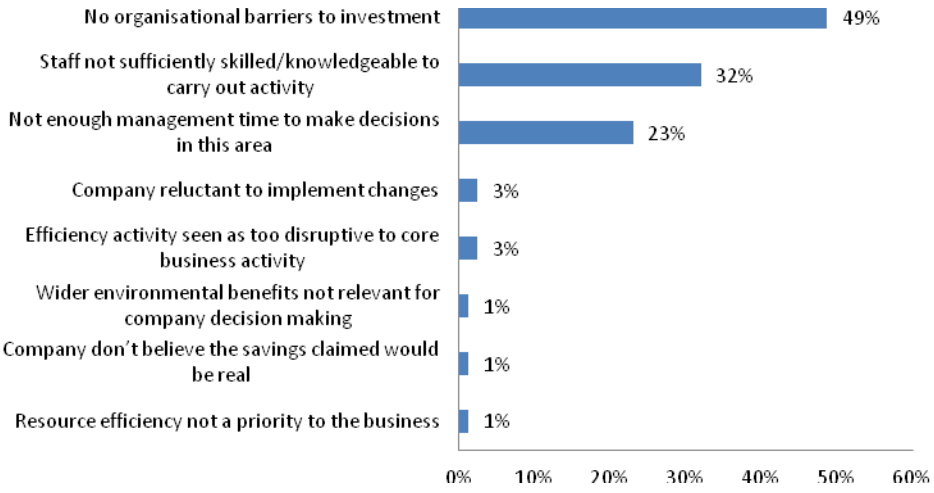
Figure 5.4: Financial Barriers



N=78

Upfront cost of investment was highlighted as the main financial barrier (21%) followed by insufficient financial resources in the business (18%).

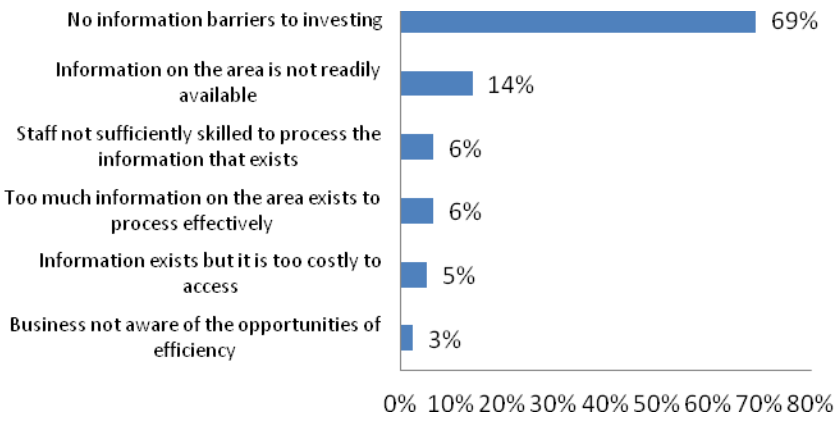
Figure 5.5: Organisational Barriers



n=78

Just under one third of respondents reported staff being insufficiently skilled/ knowledgeable to carry out the activity as being the main organisational barrier (32%).

Figure 5.6: Information Barriers



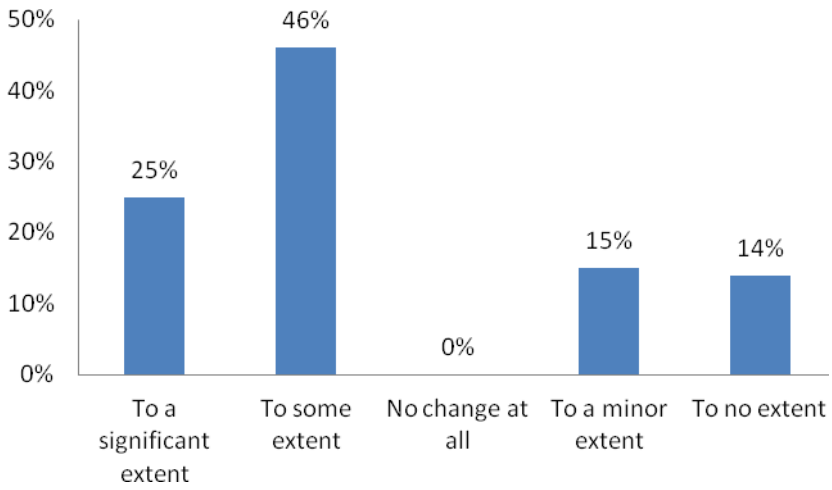
N=78

Information barriers were reported by fewer companies. However, 14% reported a lack of information on the areas of interest to the business as the main information barrier.

Almost all (97%) faced a barrier to undertaking BE improvements, before accessing SMAS support, these findings confirm past evidence relating to financial and skills barriers and market failure rationale (as outlined in section 2.2). The finding suggest that that large proportions were facing information and finance failures and lacked the necessary information to make informed decisions about investment in business efficiency and the necessary finance to invest.

In A total of 71% of respondents reported that BE support had addressed the barriers to a significant/some extent, **Figure 5.7**.

Figure 5.7: Extent Barriers Have Been Addressed



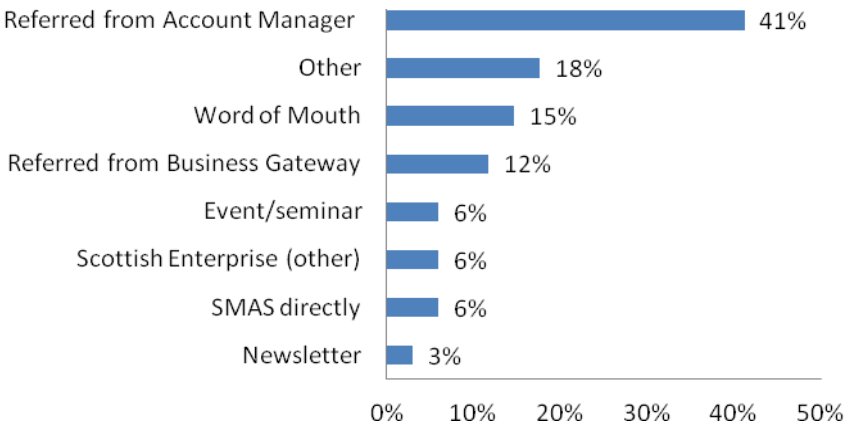
n=59

5.4 Support Received

Awareness of Support

Respondents were asked to comment on the way in which they first found about the BE/SMAS support, **Figure 5.8**.

Figure 5.8: Awareness of Support



N=68

A total of 41% of respondents were referred by an account manager, followed by those that selected 'other' (18%) and word of mouth (15%). **Table 5.5** details awareness split by DRM and non-DRM companies

Table 5.5: Awareness of Support by DRM/non DRM

	DRM	Non DRM
Referred from Account Manager	39%	23%[20]
Other	19%	20%
Word of Mouth	14%	6%
Referred from BG	11%	17%
Scottish Enterprise (other)	6%	17%
SMAS directly	6%	11%
Newsletter	3%	3%
Event/seminar	3%	0%
Website	0%	3%

DRM n=36, Non DRM n1=35

Just under half of respondents main reason for accessing support through SE was that they expected to receive good advice (49%), followed by reputation of the organisation (36%) and recommended by an SE advisor (27%).

Table 5.6: Reason for Accessing Support through SE

	Number	%
Expected to be good advice	38	49%
Reputation of organisation	28	36%
Recommended by SE advisor	21	27%
Potential for some funding to support implementation	18	23%
Other	12	16%
Thought advice/support might be free	12	16%
Expected advice would be more independent	12	16%

N=77, multiple responses possible

Of the twelve respondents that selected 'other' the most cited reason was:

- SE/SMAS was the only organisation offering support, free/subsidised support (3).

[20] This includes 8 companies that are not account managed but may have been previously

Other responses reported by individuals included ‘help avoid business failure’; ‘for networking opportunities’; and ‘had previous involvement with SE’.

Support Received

Respondents were asked what support they received. Two thirds of respondents reported receiving assistance and practical advice on techniques/process improvements (67%). This was followed by ideas and advice in relation to resource efficiency, productivity and growth (61%) and attending workshops and seminars (58%), **Table 5.7**.

Table 5.7: Total Support Received

	Number	%
Assistance and practical advice on techniques/process improvements	51	67%
Ideas and advice in relation to resource efficiency, productivity and growth	46	61%
Workshops and seminars	44	58%
Review of manufacturing process	43	57%
Guidance on energy efficiency and waste reduction	32	42%
Manufacturing improvement project	29	38%
Training on business efficiency approaches	29	38%
Best practice visit(s) to hosted companies	22	29%
Helpline and e-mail support	11	14%
Grant Assistance	6	8%

N=76, multiple responses therefore adds to more than 100%

Analysis of support received by DRM and non-DRM companies identified that there were no real differences between the most common aspects of support accessed.

Rating of Support DRM/Non DRM

Respondents were asked to rate the support on a scale of one to five, one being very poor up to five being very good. **Table 5.8** details respondents rating of four or five e.g. good/very good for DRM and non-DRM companies.

Table 5.8: Rating Of Support (Good/Very Good)

	DRM	Non DRM
Helpline and e-mail support	71%	100%
Workshops and seminars	84%	89%
Review of manufacturing process	96%	100%
Assistance and practical advice on techniques/process improvements	82%	82%
Manufacturing improvement project	94%	91%
Guidance on energy efficiency and waste reduction	74%	82%
Best practice visit(s) to hosted companies	87%	86%
Ideas and advice in relation to resource efficiency, productivity and growth	96%	88%
Training on business efficiency approaches	100%	83%
Other	50%	86%

N=41 (DRM), N1=36 (non-DRM), multiple responses possible

In general support was rated positively by both DRM and non-DRM respondents ranging from a low of 50% of respondents stating either good or very good for 'other' support (DRM), to a high of 100% of respondents stating either good or very good for training on business efficiency approaches (DRM); helpline and email support (non-DRM); and review of manufacturing process (non-DRM).

Respondents were asked to give reasons for their satisfaction ratings, a total of 50 respondents gave positive reasons - the most commonly cited were:

- SMAS gave practical and knowledgeable advice and support (14);
- overall support was very good, valuable and useful (14);
- staff were knowledgeable, had practical experience of the sector, gave impartial advice, were a trusted source of advice (11);
- received a detailed, thorough review (2); and
- delivered bottom line improvements/efficiently been put into practice (2).

Only a small number of negative responses were received (just seven respondents) and the issues raised by those who were less satisfied included:

- the support was not useful, relevant or extensive enough (2);

- the support was more geared towards mass manufacturing than process companies;
- was a little disappointed as the additional expense to go further and take forward suggestions was too high;
- advisor growth targets were unrealistic;
- the bureaucracy, time and resource involved in applying for support was too much; and
- the seminars were too generic.

Specialist Advisor

Almost all respondents were provided with a specialist advisor or consultant; 88% of DRM respondents and 81% of non-DRM, **Table 5.9**.

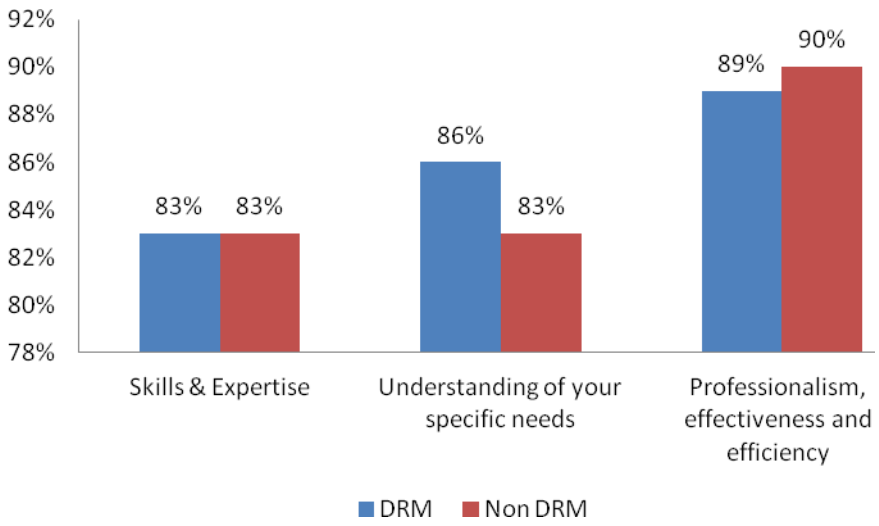
Table 5.9: Specialist Advisor – DRM/Non DRM

	DRM		Non DRM	
	Number	%	Number	%
Yes	36	88%	30	81%
No	4	10%	6	16%
Don't know	1	2%	1	3%
Total	41	100%	37	100%

Rating of Advisor

Respondents were asked to rate various aspects of the advisors on a scale of one to five, one being very poor up to five being very good. **Figure 5.9** details the responses with scores of four or five (good or very good).

Figure 5.9: DRM/Non-DRM Rating of Advisor as Good or Very Good



N= 66

Respondents overall were very positive about the specialist advisor with the majority of respondents rating the three aspects highly: skills and expertise; understanding of business needs; and professionalism, effectiveness and efficiency (all 83% or higher).

A total of 30 respondents provided positive comments regarding their advisor, including that the advisors were personable, proactive, knowledgeable about specific sectors, understood the company well, were proactive in approach, and provided invaluable advice.

A handful of respondents (5) provided negative comments which were: the advisor's skills were not transferrable/appropriate for the company (2); the advisor was looking for a new job therefore there was continuity problems and a downbeat attitude (1); the company's time was wasted (1); and the advisor did not understand the company, however it is very unique (1).

Respondents were asked what would have happened if they had not accessed support. Some 88% reported that activity would have taken longer/been to a smaller scale/or not happened at all if they had not received the support, **Table 5.10**.

Table 5.10: Outcome if Support was not Received

	Number	%
We would have done the activity anyway	6	10%
We would have done the activity at a later date	25	40%
We would have done the activity on a smaller scale	3	5%
We would have done the activity at a later date and on a smaller scale	15	24%
We would not have done the activity at all	15	24%

N=62

Respondents were asked to quantify their answers. Of those that reported it would have taken longer, this ranged from three months to two years. Respondents that reported that it would have been of a smaller scale were unable to quantify their response.

Of the 15 respondents that reported it would have taken longer AND been to a lesser scale reported that there would have been a delay of between four months to thirty months, and a reduced scale of between 20% and 75%.

Those who said they would have experienced the impacts anyway provided the following reasons:

- would have delivered the project themselves by looking at their issues internally and sending staff on training courses (3); and
- would have become involved in a third party collaboration in implementing changes.

Those who said they would not have undertaken the activity at all provided the following reasons:

- did not have the time, knowledge or resources to progress any project without support (5);
- the advisor was very knowledgeable, and the company would have carried on less informed and not taken the project forward (3);
- the project would have failed if support had not been accessed as the company did not have the necessary skills and expertise in house to make it happen successfully;

- the extra push from an external advisor made it happen;
- there was a lack of any other options for providing the expertise needed;
- the best practice visit to benchmark operations against a similar organisation was invaluable; and
- would have been less innovative and more risk averse in their approach.

5.5 Support Outcomes

The majority of businesses identified further actions to take as a direct result of SE support (79%).

Table 5.11 Identified/Undertaken Actions

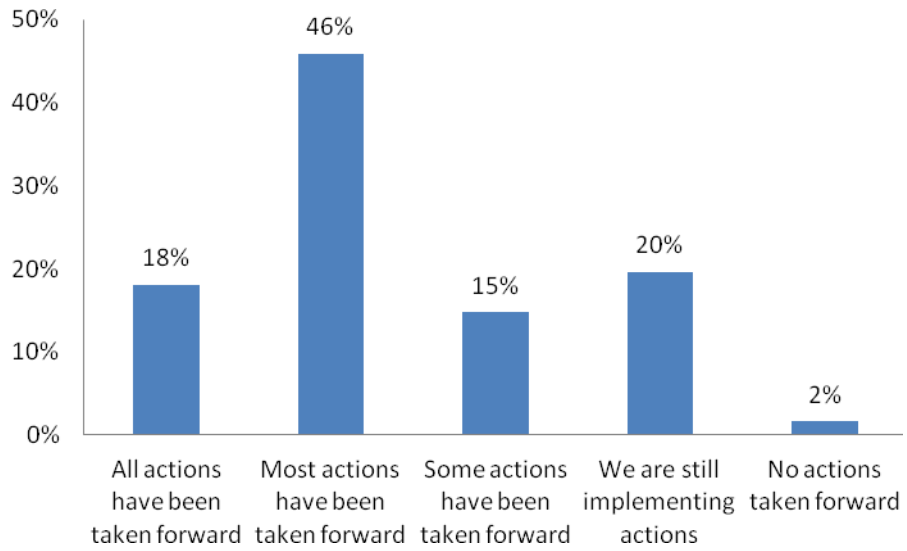
	Number	%
Yes	61	79%
No	16	21%

N=77

Those beneficiaries that did take action following a review or advice from advisors were asked about the extent to which they have taken forward the action.

The response was positive, as **Figure 5.10** shows, the majority have taken forward all or most actions (64%) whilst others have taken forward some actions or are still in the process of doing so. Only 2% are not taking any actions forward.

Figure 5.10: Actions taken forward



N=61

Respondents reported a number of outcomes that were achieved as a result of taking forward the actions identified by the SE support.

The most commonly reported being the identification of business improvements (57%) and enhanced knowledge and skills of management (56%). A further 33% and 30% respectively felt that these areas were in the process of being improved. Although the introduction and identification of new products and processes were not an objective of the, there were outcomes of the support for around half of project beneficiaries.

Table 5.12: Outcomes of Support

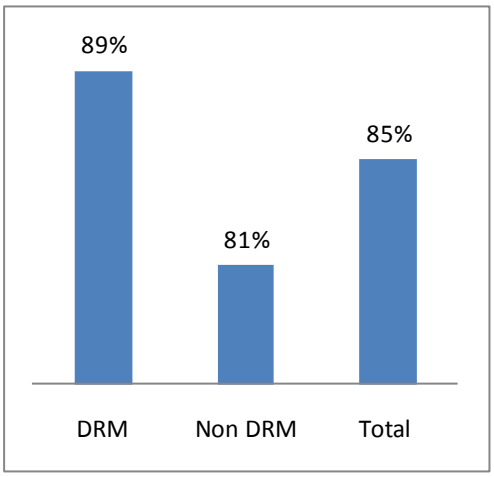
	Yes	No	In Progress
Business improvements identified	57%	10%	33%
Knowledge/Skills of management were enhanced	56%	15%	30%
Knowledge/Skills of staff were enhanced	48%	23%	30%
New products/processes were identified	52%	33%	15%
New products/processes were introduced	46%	34%	20%

N=61

Respondents demonstrated a high level of satisfaction with the support with 95% reporting that all or some of their objectives had been met.

In addition, **Figure 5.11** shows that most respondents (85%) were very satisfied/satisfied with the support they received. DRM companies had a slightly higher level of satisfaction.

Figure 5.11: Very satisfied/satisfied with support be DRM/Non – DRM



N=35 (DRM) N=26 (Non-DRM)

Business Impacts

A number of direct business outcomes and efficiency improvements were also identified by survey respondents.

A wide range of business benefits have been reported, almost three quarters of *manufacturing companies* have improved on-time delivery, 70% have improved space utilisation and 61% have increased capital invested.

In terms of *all companies*, large proportions reported benefits, most commonly new skills and people productivity improvements (80% and 75% respectively). Over 60% also reported that they had benefitted from improved culture and better staff engagement as a result of support from the programme.

Table 5.13A: Impacts/Benefits

	Benefits Now [21]	Benefits in the Future [22]
Manufacturing Companies Only		
Improved machinery utilisation	48%	9%
Improved space utilisation	70%	15%
Improved rejection rate /rework rate	52%	0%
Reduction in Stock Inventory	39%	6%
Capital Invested	61%	3%
Unnecessary Capital Avoided	30%	6%
Improved on-time delivery	73%	6%
All Companies		
People Productivity Improvement	75%	5%
Waste reduction	56%	7%
Energy Savings	43%	0%
Developed new skills	80%	3%
Developed new products/processes/service	59%	8%
Improved culture	61%	7%
Better staff engagement	64%	3%

Manufacturing companies n=33 All companies n1=61

Table 5.13B compares survey responses against proportions of companies that reported these benefits/impacts in the SE performance data. It should be noted that the performance data sample includes those who reported 'no benefits' as well as those that were unable to provide a value of benefits, whereas the survey data does not include those that were unable to provide a value.

Across all of the measures for which data was available, the survey data elicited a much more positive response in terms of reported impacts and benefits. This may reflect that more time has elapsed since the initial performance data was collected and so there has been more time for evidence of impacts to emerge.

[21] Means a benefit has been achieved
[22] Means a benefit will be achieved in the future

Table 5.13B: Impacts/Benefits

	Achieved Now	Performance Data
Manufacturing Companies Only		
Improved machinery utilisation	48%	N/A
Improved space utilisation	70%	11%
Improved rejection rate /rework rate	52%	25%
Reduction in Stock Inventory	39%	N/A
Capital Invested	61%	3%
Capital Avoided	30%	2%
Improved on-time delivery	73%	23%
All Companies		
People Productivity Improvement	75%	57%
Waste reduction	56%	24%
Energy Savings	43%	N/A
Developed new skills	80%	N/A
Developed new products/processes/service	59%	N/A
Improved culture	61%	N/A
Better staff engagement	64%	N/A

In addition to the efficiency and business benefits identified, a number of other financial and economic benefits were realised. Analysis of the financial impacts these business outcomes have had, as well as future impacts, is provided within the Economic Impact Assessment Chapter.

The most commonly reported business impacts were increases in productivity (77% of respondents) and cost savings (72%). Limited numbers of respondents reported sustained output, productivity or profitability or reductions in Co2.

Table 5.14: Business Impacts

	Achieved Now	Future
Cost Savings	72%	18%
Increased output	59%	13%
Sustaining output	11%	0%
Increased productivity	77%	10%
Sustaining productivity	7%	0%
Increase in profitability	57%	8%
Sustaining of profitability	16%	2%

Reduction in Co2	18%	7%

n=61

Limited numbers of companies were able to quantify these benefits, therefore the figures in **Table 5.15** are understated.

Table 5.15: Business Impacts

	Total	Companies	Average per Company	Median per company
Cost Savings (n=44)	£6,132,035	19	322,739	80,000
Increased Output(n=36)	-	23	25%	10%
Increased Productivity(n=47)	-	31	11%	10%
Increase in profitability(n=35)	£8,247,045	14	549,803	25,000
Sustaining of profitability(n=10)	£2,680,000	4	670,000	800,000
Reduction in Co2 (n=11)	-	5	25%	14%

NB: includes only those that could quantify benefits

However, the programme was successful in generating at least £6.1m in cost savings amongst respondent companies, an average of £322,739 per company (two companies reported very large cost savings with the median value £80,000).

In addition, an average of £549,803 per company in increased profitability was achieved (this was skewed by two companies reporting very large increases), the median value was £25,000. An average of £670,000 in sustained profitability was reported. Each respondent company increased their output by 25% on average and their productivity by 11%.

For most respondents these benefits are expected to last over the medium to long term - the cost savings, increases in profitability and reduction in Co2 are rated as the impacts which are likely to have the most longevity, with 64%, 62% and 64% respectively expecting these impacts to last more than five years. This is shown in **Table 5.16.**

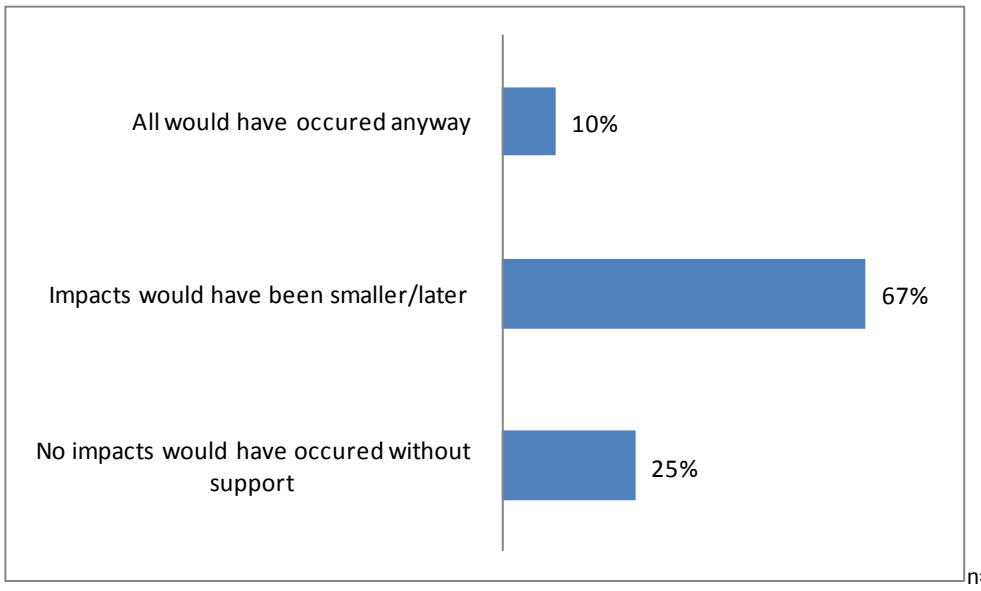
Table 5.16: Percentage of those that have cited Benefits expecting them to last in the short, medium and long term

	Short	Medium	Long
Cost Savings (n=44)	7%	29%	64%
Increased output (n=36)	12%	42%	45%
Increased productivity (n=47)	7%	40%	52%
Increase in profitability(n=35)	8%	31%	62%
Sustaining of profitability(n=10)	33%	44%	22%
Reduction in Co2(n=11)	18%	18%	64%

The majority of those that received both BE and SMAS support reported that they considered the support to be very important/important in terms of contributing positively on their company's performance (both 81%).

Respondents were asked if they think the benefits that they identified above would have occurred without the support provision. **Figure 5.12** indicates a high level of additionality - 25% reported that they would not have happened at all, with a further 67% reporting that the benefits would have been derived at a later date or on a smaller scale.

Figure 5.12: Additionality



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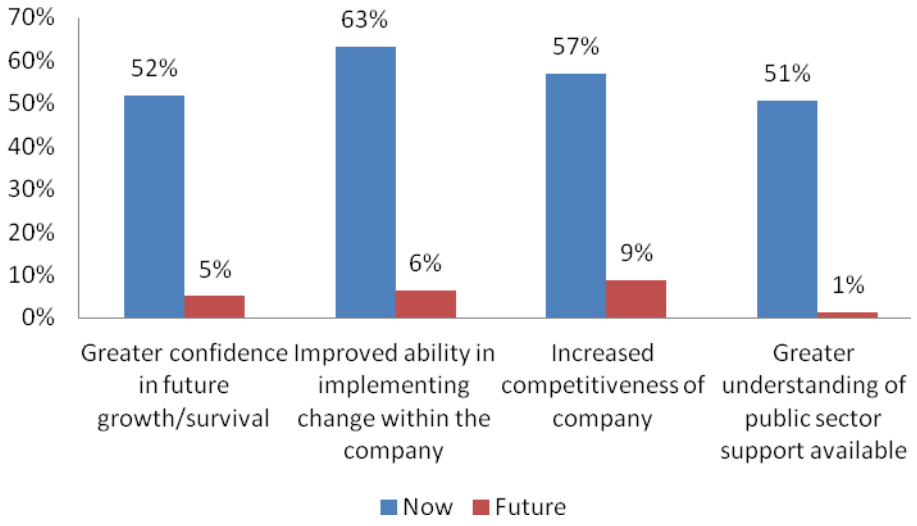
5.6 Qualitative Impacts

Around 50 respondents (64%) identified a number of softer outcomes now and in the future resulting from the support; the most common of which were greater confidence in implementing change within the company (63%) and increased company competitiveness (57%).

Figure 5.13: Impacts/benefits



N=79

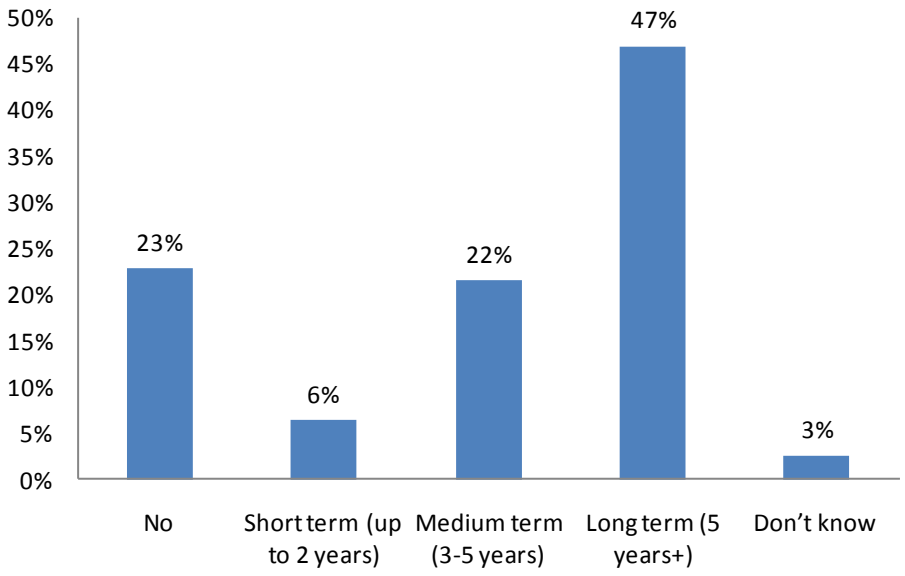
In addition 57 (76%) reported that they had learned and gained experience from the project that will lead to long term changes in their organisation such as the following:

- more positive attitudes to investment, change and improvements, secured buy-in and motivation amongst colleagues and management to make beneficial changes;
- more agile and flexible management approaches;
- more aware of management processes;
- better time/resource management throughout the organisation;
- greater interaction between teams/departments and more efficient working;
- greater awareness of what other staff members roles and goals are/greater incentive and motivation to support each other;

- more keen to think about ways to be leaner and more efficient and to continuously improve;
- more positive attitude to staff training in order to facilitate change; and
- greater awareness of productivity, resource management, waste reduction and efficiency issues and more equipped and motivated to identify areas of poor practice.

The majority of respondents felt that the experience, learning and benefits would remain with them in the future (75%), with most reporting that these would be sustained in their company over the medium and long term.

Figure 5.14: Sustainability of Benefits



n=79

A total of 32 (41%) reported that the participation in the programme has lead to further action being taken within their organisation, including the following:

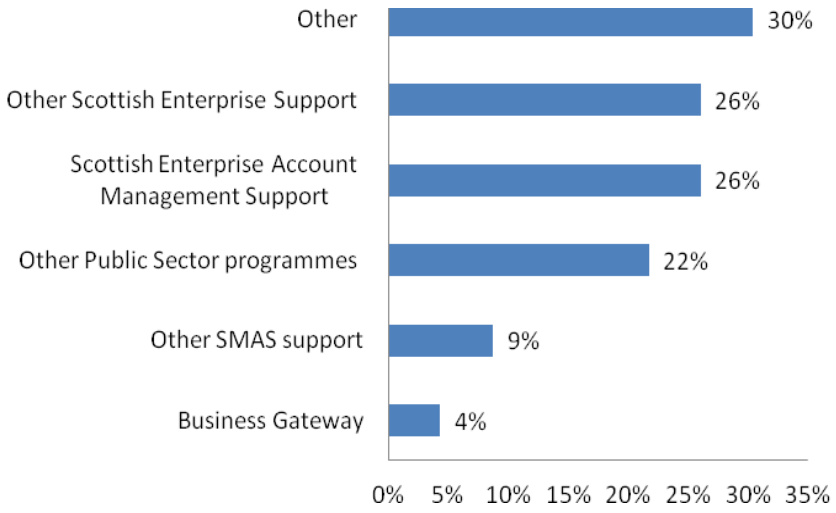
- formally introduced new lean practices and more efficient processes/gained formal accreditation (4 respondents);
- changed the management structure and restructured organisational responsibilities to improve efficiency (4);

- process and experience has fed into new strategy, growth plan/ marketing plan (3);
- rolled out pilots across other business areas (3);
- employed or restructured in order to give a specific individual responsibility for managing and implementing efficiency improvements (3);
- introduced more frequent process reviews and meetings with staff and team members to identify areas for improvement (2);
- engaged another consultant to look at other areas for improvement as well as continuous improvement (2);
- purchased more efficient machinery (2); and
- introduced staff training modules and more training for staff (2).

5.7 Cross Referral

SMAS and BE are intended to be useful vehicles for cross referrals and for acting as a pipeline into other aspects of SE support. In order to test the effectiveness of the cross referral mechanism, respondents were asked if they had been referred onto any other sources of support during or after receiving assistance and only 23 (29%) had. It is possible that the other 71% were not referred because it wasn't required or if they were already accessing other types of support (i.e. a significant proportion were already account managed).

Figure 5.15: Other Support



n=23

Of those that had been sign-posted to other support, 26% were referred onto SE Account Management support and a further 26% onto another SE support programme. Only 9% reported that they moved onto another aspect of the SMAS support programme.

Other sources of support that businesses were referred onto included Edinburgh University, private financial consultants and West Business Solutions.

5.8 Strengths, Weaknesses and Improvements

Respondents were asked to identify strengths, weaknesses and improvements in the support provision. The majority identified strengths and much lower numbers (no more than seven) identified weaknesses suggesting a high level of satisfaction with the support.

Strengths

The main strengths of the support around business efficiency were described as:

- the provision of access to excellent expertise/knowledge and experience and individuals with a relevant business background (36 respondents);
- the support was excellent and described as organised/timely/good communication/clear/concise/flexible/tailored/innovative (12);

- the independent review allowed ideas to be generated/tested and provided an external perspective of issues that need to be addressed (11);
- advisor understood the business and had the ability to apply theory practically (10);
- assistance was low cost/affordable (4);
- the intensity of support was pitched at the right level/comprehensive (3);
- good quality and useful conferences/events/networking (4);
- best practice visits were very useful; and
- the application process was straight forward and guidelines were clear.

Weaknesses

The main weaknesses of the support around business efficiency were described as:

- advisor did not have the correct transferrable skills/did not have an in depth understanding of the sector/was stretched for resources (7);
- there was no/little follow up or ongoing support after completion of the project (7);
- there was limited funding available (5);
- the report provided by the advisor was too in depth for a small company to use (2); and
- support was too generic (2).

Improvements

Respondents were asked to provide suggestions for improvements, the most cited suggestions were:

- simplify application forms (4);
- advisors should have a greater knowledge of a wide range of sectors (4);
- a greater awareness from advisors of support that is available elsewhere (3);
- follow up/after care support should be made available (3);
- more networking and collaboration opportunities for businesses involved (2);

- appeal to a wider range of companies i.e. not solely manufacturing (2); and
- tailored support for companies instead of generic “one size fits all” approach (2).

6. Economic Impacts

6.1 Economic Impacts

This Chapter presents the Economic Impact Assessment (EIA), which reports the quantitative impacts generated by the SMAS Programme.

The economic impacts are based on direct feedback from businesses that have received support through the Programme over the evaluation period 2007/08 – 2009/10. Impacts are reported at the overall Programme level and broken down by those receiving SMAS support and those only receiving Business Efficiency support.

A total of 79 beneficiary businesses responded to the telephone survey (53 SMAS and 26 Business Efficiency).

Please note, in order to increase the number of survey responses, additional companies that received support outwith the evaluation period (2007/08 – 2009/10) participated in the survey - 16 in total. As the SMAS Programme has not undergone any significant changes with regards to its delivery, this is not expected to have any fundamental impact on the assessment of impacts.

Actual and potential future impacts have been assessed over a ten year time horizon (2007/08 – 2017/18) inclusive reflecting expectation of persistence affects. This was seen to be appropriate as the survey showed that companies believed that benefits would last over the long term (five or more years into the future).

6.2 Method

The method used for our assessment is based on internal Scottish Enterprise Guidance Notes and using the standard additionality calculator. The impacts are reported at the Scottish level and take account of employment (created and safeguarded) and Gross Value Added, (GVA), created and safeguarded.

The additional effect of the Programme is the difference between what would have happened anyway (i.e. the reference case) and the benefits generated by the support (i.e. the intervention case), adjusted for displacement, leakage, substitution,

and multiplier effects. This is demonstrated in **Figure 6.1** below, with definitions of the additionality factors outlined in **Table 6.2**.

Figure 6.1: Approach to Assessing Programme Level Additionality

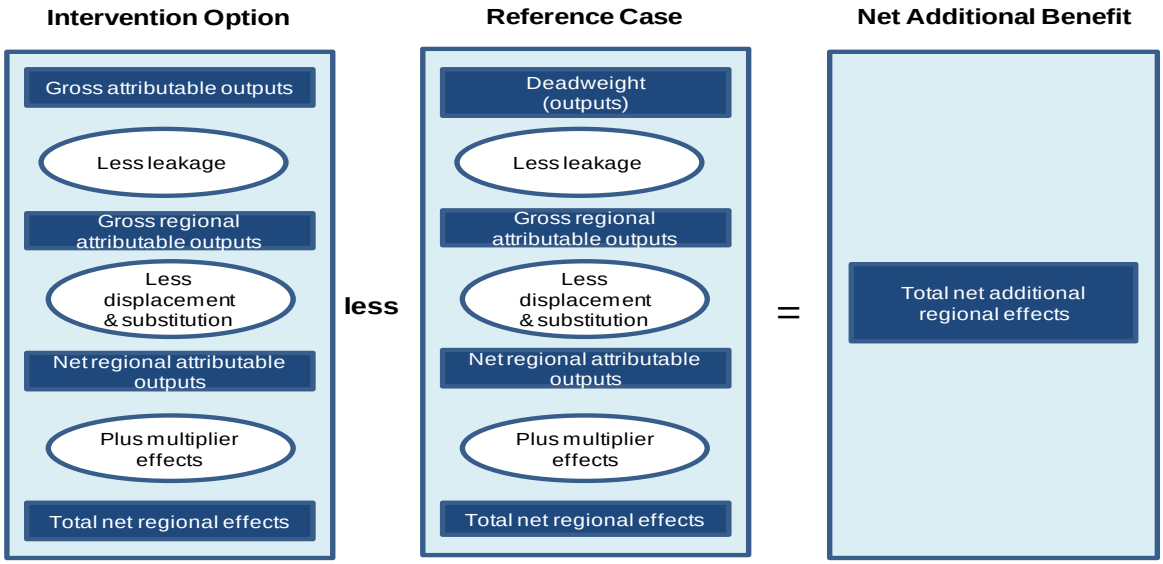


Table 6.1: Additionality Logic Chain

Term	Definition
The Intervention Option	This is the level of gross impacts generated through the intervention, i.e. impacts that would not have happened in the absence of the intervention.
The Reference Case	This is the level of forecast impacts that would be secured if the individual/business did not participate in the project.
Deadweight	The proportion of total impact (turnover and employment) that would have occurred anyway.
Leakage	The number or proportion of impact that benefits economies outside Scotland.
Substitution	This is a negative effect that arises when a firm substitutes one activity for another to take advantage of public sector support.
Displacement	The number or proportion of impacts that reduce value elsewhere in Scotland. These effects can occur in product markets (e.g. amongst non-assisted business competing in the same market) or in factor markets (e.g. in the labour market).
Multipliers	This is further economic activity (e.g. jobs, expenditure or income) associated with additional income to those employed by the project (income multipliers), with local supplier purchases (supplier multipliers) and with longer term development effects (dynamic effects e.g. induced effect).

6.3 Gross Employment and GVA Impact

We were provided with a database of businesses that received varying levels of support through the Programme (either through SMAS or Business Efficiency). The beneficiaries invited to participate in the survey were then chosen at random to ensure a representative sample. The respondents were asked a number of questions aimed at establishing levels of turnover and employment.

Please note: the gross impacts reported cover total business performance (turnover and employment) in each year over the ten year impact time horizon.

All impact data presented is based on responses received from individual companies. Two of the main factors cover:

- deadweight – this has been estimated based what proportion of total company employment and turnover in each year wouldn't have happened without the efficiency support; and
- displacement – this has been estimated based on the companies response to a question on the location of their competitors and the extent to which their main market was growing, static or declining.

In order to convert gross turnover to GVA, turnover to GVA ratios[23] were used on a company by company basis, based on a 'best fit' sectoral analysis.

The gross impacts are reported at the Scotland level and include:

- employment created/safeguarded from 2007/08 – 2017/18; and
- GVA created/safeguarded from 2007/08 – 2017/18.

6.4 Net Employment and GVA Impact

In order to calculate the net impacts of the Programme, a number of questions were asked to identify deadweight (the reference case), displacement and leakage. Multipliers were collected for each company based on a 'best fit' 4 digit SIC code,

[23] Scottish Annual Business Statistics, 2009

and then matched with the appropriate Scottish Government Input-Output Multiplier for GVA and employment.

As highlighted above, the additionality factors were applied on a case-by-case basis to those beneficiaries that quantified gross impacts.

Please note, the survey questionnaire asked respondents to identify impacts that only occurred in Scotland, therefore implying any leakage has already been accounted for. Further, no evidence of substitution was found in the evaluation and as such, has been assumed to be zero in the additionality calculations.

In order to move from gross impacts to net impacts, the additionality factors of deadweight, displacement and multipliers are considered.

In terms of what is driving the (activity) additionality, **Table 6.1** (taken from the beneficiary survey, **Section 5**) identifies that the Programme has had the greatest effect on time additionality i.e. impacts and activity would have occurred anyway, but have happened sooner.

Table 6.1: Outcome if Support was not Received

	No.	%
We would have done the activity anyway	6	10%
We would have done the activity at a later date	25	40%
We would have done the activity on a smaller scale	3	5%
We would have done the activity at a later date and on a smaller scale	15	24%
We would not have done the activity at all	15	24%

Grossing Up Net Additional Impacts

To calculate the impact of all the beneficiaries receiving support through the Programme, it is necessary to 'gross up' the impacts (of jobs and GVA) to reflect the entire population that received support.

To provide a robust assessment we have grossed the sample up to the population of businesses that have received more intensive support through the Programme, and are therefore more likely to generate a positive impact. The more intensive levels of support are considered as:

- SMAS – level two and level four; and

- Business Efficiency – Business Improvement Project level three and Sustainable Development Specialist Engagement Project.

While grossing up on the basis of those businesses receiving more intensive support will likely underestimate the wider impact of the Programme, guidance provided by Scottish Enterprise identifies that given the light touch nature of some of the support, a cautious approach is preferable.

Grossing up has been undertaken at three levels:

- overall programme – 79 businesses interviewed out of a total sample of 301 unique instances of business receiving more intensive support, generating a sample size of 26.2%. This generates a grossing up factor[24] of 3.8;
- SMAS – 53 businesses interviewed out of a total sample of 146, generating a sample size of 36.3%. This represents a grossing up factor of 2.8; and
- Business Efficiency – 26 businesses interviewed out of a total sample of 155, generating a sample size of 16.8%. This represents a grossing up factor of 6.

In addition, outliers were removed from the sample when grossing up and added back in to the total grossed up impacts.

Grossing up on this basis generates the following impacts as presented in **Table 6.2a – 6.2c**.

24 Please note, the grossing up factor is calculated as the inverse of the response rate i.e. 100%/response rate.

Table 6.2a: Grossed Up Net Additional Impact – Overall Programme

	07/08 Yr 0	08/09 Yr 1	09/10 Yr 2	10/11 Yr 3	11/12 Yr 4	12/13 Yr 5	13/14 Yr 6	14/15 Yr 7	15/16 Yr 8	16/17 Yr 9	17/18 Yr 10
Employment	420	495	617	716	1,046	853	853	853	650	650	651
GVA (£m)	£5.9	£11.3	£15.6	£20.4	£32.8	£23.4	£23.4	£23.4	£16.5	£16.5	£16.5

Table 6.2b: Grossed Up Net Additional Impact – SMAS

	07/08 Yr 0	08/09 Yr 1	09/10 Yr 2	10/11 Yr 3	11/12 Yr 4	12/13 Yr 5	13/14 Yr 6	14/15 Yr 7	15/16 Yr 8	16/17 Yr 9	17/18 Yr 10
Employment	279	315	344	346	571	453	453	453	299	299	279
GVA (£m)	£2.5	£3.1	£3.3	£5.5	£5.3	£6.5	£6.5	£6.5	£4.5	£4.5	£5.0

Table 6.2c: Grossed Up Net Additional Impact – Business Efficiency

	07/08 Yr 0	08/09 Yr 1	09/10 Yr 2	10/11 Yr 3	11/12 Yr 4	12/13 Yr 5	13/14 Yr 6	14/15 Yr 7	15/16 Yr 8	16/17 Yr 9	17/18 Yr 10
Employment	28	46	106	179	264	273	273	273	214	214	236
GVA (£m)	£4.8	£12.0	£17.6	£21.6	£37.8	£18.8	£18.8	£18.8	£13.3	£13.3	£11.8

The impact assessment has identified that the Programme has generated/ is predicted to generate the following **grossed up net additional impacts**[25]:

Net additional impacts to date, 2011/12 (Yr 4):

- overall Programme:
  - PYE jobs (in effect cumulative job years) – 3,295
  - cumulative Present Value (PV) GVA of £86m;
- SMAS:
  - PYE jobs (in effect cumulative job years) – 1,855
  - cumulative Present Value (PV) GVA of £19.7m; and
- Business Efficiency:
  - PYE jobs (in effect cumulative job years) – 623

[25] Please note, due to the different grossing up factors for each of the different elements of the Programme (SMAS and then BE products), summing up of the individual elements provides impacts that are greater than the results presented at the overall Programme level.

- cumulative Present Value (PV) GVA of £93.7m.

Potential net additional impacts by 2017/18 (Yr 10):

- overall Programme:
  - PYE jobs (in effect cumulative job years) – 7,804
  - cumulative Present Value (PV) GVA of £205.7 m;
- SMAS:
  - PYE jobs (in effect cumulative job years) – 4,092
  - cumulative Present Value (PV) GVA of £53.1m; and
- Business Efficiency:
  - PYE jobs (in effect cumulative job years) – 2,105
  - cumulative Present Value (PV) GVA of £188.7m.

6.5 Cost Effectiveness

In order to make an assessment of value for money i.e. what returns the Programme generates for the public sector investment, we compare the total Programme costs over the evaluation period set against the total net PV cumulative GVA generated.

The total Project costs are reported as £12.4m (undiscounted) over the Programme period.

As per SE guidance notes, all costs and impacts have been up rated to constant (2011/12) values using the GDP Deflators series. Impacts predicted to occur in the future i.e. after Year 4 (2011/12) have been discounted using the HM Treasury discount rate of 3.5% to reflect the social time preference.

The Return on Investment broken down by individual Programme elements is reported below in Table 6.3.

Table 6.3: Return on Investment

	Overall Programme	SMAS	Business Efficiency
Total cumulative discounted net impact	£174m	£45m	£162m
ROI to date (Yr 4)	£6.3:1	£4.3:1	£10.3:1
ROI (Yr 10)	£13.5:1	£10.2:1	£19.0:1

Overall, the Programme is forecast to generate cumulative net PV GVA of £174m over the 10 year period. If we set this against the discounted costs of £12.9m, **the Programme generates a return on investment of £13.5 :1**. This means that for every £1 Scottish Enterprise invested in the Programme generated £13.50 GVA in the Scottish economy.

It is important to note the difference between SMAS and BE support. While SMAS generated ROI of £10.2, BE support achieved £19.0:1, a higher figure.

There are three possible explanations. First, as noted earlier, it was difficult for some company respondents to disaggregate the effects of BE support from those of wider support received through the account management process. In terms of assessing impact this would mean we are measuring the impact of both the BE and wider SE Development Project support available to Account Managed companies, but only setting this against the costs of the BE support, and therefore over estimating the impact ratio for BE support.

As a result, we suspect a degree of over-reporting of impacts relating to the BE support.

Secondly, and relating directly to the point above, the impact data suggests that the BE intervention has achieved higher levels of additionality compared with SMAS. Again, it is likely that this is down, in part to issues with beneficiaries being unable to disaggregate the effects of BE support from wider Account Management support.

Finally, closer examination of the impact data for the BE products revealed that one company had accounted for a larger net impact than others, even though the scale of this was not sufficient to justify its exclusion as an outlier. Rather, the scale of its impacts were due to a combination of the company size, the SE method of recording

all company impacts rather than gross attributable, and the fact that the company reported very low deadweight and displacement. That being said, removing this company from the impact assessment had a notable but not significant impact on the results.

If we benchmark ROI against other similar SE interventions, in particular those within the broad themes of R&D, innovation, and enterprise, the Programme delivers a comparably higher ROI (£9.6:1, £6.6:1, £7.9:1 respectively).

7. Carbon impacts

As part of the evaluation we were asked to review the carbon impacts of Scottish Enterprise support through its BE programmes and SMAS. This encompassed a critique of the current approach employed by SE to examine carbon impacts and any assumptions underlying this approach, and how data are collected and used.

Due to the relative infancy and design of the current system used by SE staff for collating carbon data, only a small selection of headline figures was available. It was not possible to extract more detail from the system at this time and it is therefore not possible to report in detail on the actual carbon impacts of the support e.g. by sector or company size. In addition, what carbon data is collected is focussed on specific intervention products which form a subset of the wider set of BE products and SMAS support.

This section therefore presents a brief discussion of the headline carbon impact data but is primarily a commentary on the current approach employed by SE and wider issues related to evaluating carbon impacts.

7.1 Approach

As part of the wider evaluation, survey beneficiaries were asked about the carbon impacts of the support they had received. There were a number of evaluation challenges which affected the survey and were largely out with our control (see **Chapter 1.1.3**). In particular, many respondents struggled to differentiate between programmes to draw out the particular elements of SE support offered and then link these directly to specific impacts on company performance.

When discussing an issue such as carbon this effect is compounded as it is a relatively new and generally less well understood concept which is also less directly measurable than, for example, jobs created or increased sales. We were therefore unable to generate any meaningful results from the survey.

7.2 Background

SE has a requirement to make a contribution to ameliorate carbon impacts i.e. demonstrate carbon savings, both in terms of internal operations and also with regards to the business support it delivers.

Relevant data from individual companies given business support is reported on a company-specific *Efficiency Practitioner Workbook (EP Workbook).* This is designed to collect efficiency data with regards to fuel use, waste disposal and water use, which is then linked to a CO_2 emissions calculator. The results from the calculator and the *EP Workbook* details are collated onto a single *CO_2 Reporting Sheet.* This sits alongside a *Company Record Workbook* used to record financial information.

The *EP Workbook* is completed by one of SE's sustainability managers (currently seven members of staff). They decide what is relevant and can be recorded as a result of SE support. In theory they should operate across all SE's business support offerings however it is reported that this relies on individual initiative to identify and get involved in relevant projects. In practice, in its current format the *EP Workbook* is designed for collecting data from companies receiving support from one or more of six specific intervention products. These have been stipulated as they are considered most likely to offer the potential for easily measurable carbon savings. This group forms a subset of support delivered within the SE's Business Efficiency products and the six products detailed on the *EP Workbook* are:

1. Lean Management Thinking;
2. Business Efficiency Project Support;
3. Sustainable Development Specialist Engagement;
4. ICT Project Support;
5. ICT Specialist Engagement; and the
6. Environmental Management Initiative (EMI).

Products 1 to 3 map directly to BE products whilst ICT support and engagement and EMI are included within the raft of Business Improvement Support.

The more basic levels of BE support are not included in the *EP Workbook* as they are considered unlikely to result in any significant measurable carbon savings. They offer 'information', a 'review' or the opportunity to 'explore' a company's

processes and are designed to engage companies with the issues around efficiency and a low carbon economy. They represent the stage prior to SE potentially getting involved in actual efficiency projects with measurable outputs.

7.2.1 Data

The following headline figures were provided from the CO_2 Reporting Sheet.

Table 6.8: Carbon Impact Data (1)

	2010/11	2011/12	2012/13
Number of Companies Supported	n/k	n/k	n/k
Productivity Savings (£)	£35,000	£1,971,000	£0,000
Revenue Savings (£)	£783,000	£1,654,000	£359,000
Identified Savings (£)	£4,328,000	£1,842,000	£2,339,000
Identified Savings (tonnes CO_2)	37,392	31,609	26,583
Implemented Savings (£)	£85,000	£150,000	£9,000
Implemented Savings (tonnes CO_2)	2,122	2,473	43
Carbon Savings Target (tonnes CO_2)	Not set	25-30,000	40-50,000
Energy Identified Savings (£)	£1,530,000	£1,649,000	£2,299,000
Energy Identified Savings (tonnes CO_2)	25,605	30,276	23,500
Energy Implemented Savings(£)	£55,000	£122,000	£4,000
Energy Implemented Savings (tonnes CO_2)	1,490	1,386	0
Waste Minimisation Identified Savings(£)	£2,746,000	£17,000	£500
Waste Minimisation Identified Savings (tonnes CO_2)	8470	1017	67
Waste Minimisation Implemented Savings(£)	£1,000	£500	£0
Waste Minimisation Implemented Savings (tonnes CO_2)	358	1005	43
Waste Recycled Identified Savings(£)	£22,000	£67,000	£0
Waste Recycled Implemented Savings (tonnes CO_2)	271	81	0
Water Identified Savings(£)	£31,000	£110,000	£39,000
Water Identified Savings (tonnes CO_2)	2	103	17
Water Implemented Savings(£)	£22,000	£5,000	£0
Water Implemented Savings (tonnes CO_2)	1	0	0

Notes: The CO_2 savings are recorded in the *EP Workbook and* financial information is recorded in the *Company Record Workbook*.

The data from 2012-2013 are incomplete as it is only half way through the year, but it is reported that the majority of savings come from a small number of companies and projects.

Without a more detailed breakdown e.g. savings by sector, company size, company turnover, carbon saved as a percentage of carbon emitted etc it's difficult to do much analysis on the figures.

In addition, it is difficult to comment on any trends as there are only two years of complete data[26], although this is something to look at it in future. In particular, one would expect carbon savings to increase through greater awareness and as more efficiency projects come online. Ultimately, as companies become more efficient and as we move more generally towards a low carbon economy the scope for carbon savings should decrease.

The main issue highlighted through the data is the clear difference between *identified* carbon savings and *implemented* carbon savings. The former are those identified as '***potential***' savings should a company implement the range of actions identified and recommended through the SE support, while the latter refers to those savings that have been achieved through the support provided by SE e.g. through reduced energy use. This is a key issue for evaluation of carbon impacts and is explored in more detail in the analysis section below.

7.2.2 Analysis

To be able to analyse the carbon data and the reported impacts requires an understanding of the process used to gather the information. Our analysis is therefore broken down firstly into a review of the carbon impact process currently implemented by SE and secondly an assessment of the data in this light. The subsequent sections deal with these issues as follows:

- assessment of the actual method used to calculate carbon savings – the workbook and the assumptions on which it is based; and
- how the workbook is used by SE staff - the wider application of the workbook throughout SE and carbon impact evaluation issues.

Carbon Workbook

The current workbook appears to be fit for purpose.

[26] SE started to collect information in 2009/10 but this was essentially a pilot year and the data were incomplete. The data from 2012/13 is also incomplete as it is obviously still being collected. SE therefore has two complete years worth of carbon and efficiency data - 2010/11 and 2011/12.

A sustainability manager working with an individual company e.g. as part of a Business Improvement Project (Level 3), completes the workbook with the company account details, the specific SE intervention (support product or products) and collects relevant data under the following headings; fuel use, water use, and waste disposal.

A baseline figure before intervention is recorded for the specific resource identified e.g. annual electricity use. This then has an appropriate measurement unit applied which is selected from a drop down menu e.g. Kwh. The manager then inputs the relevant figure after intervention. This is often an estimate.

Using the recognised industry standard emission factors published annually by DEFRA these different units, i.e. Kwh, litres, tonnes are converted into CO_2 emissions. We were unable to access the actual background calculations or examine the workings behind the *EP Workbook* but these can be downloaded directly from the DEFRA website and it is reasonable to assume these are accurate.

It is understood that the DEFRA emissions are reviewed and updated annually and this should continue to ensure the right **emissions factors** are being applied. This may be the case in practice, but wherever possible the data used to complete the *EP Workbooks* should be **evidence based** e.g. come from utility bills, water bills or waste transfer notes etc.

The current scope of the *EP Workbook* focuses on fuel and water use and waste disposal. There are a number of **other aspects** which SE should consider adding which could be relevant to the intervention products and where positive carbon impacts may be being missed. These include the impact of upgrading or servicing refrigeration and air conditioning units (particularly relevant for the food and drink sector) and the impacts of efficiency improvements e.g. the implementation of ICT, on company transportation (both the shipping of supplies and products and staff travel).

In addition, the *EP Workbook* is based on being able to identify data for single resources e.g. individual waste streams such as wood, soil or plastic.

There is guidance available on how to scale emissions from mixed waste streams or energy co-generation. Obviously increasing the number of factors which can be inputted must be balanced with usability and keeping the *EP Workbook* relatively simple to complete.

A further area where SE support could potentially contribute to significant carbon savings would be involvement in the development of green products, particularly where these replace a conventionally manufactured product.

The current *EP Workbook* may capture some of the impact of a company changing to manufacture a greener product but the best way to address this comprehensively would be through product **carbon foot-printing**. Carbon foot-printing is an involved process and is not an easy or quick way to measure carbon impacts. It may therefore be worth SE considering undertaking one or two case study projects working to a standard such as *BSI PAS 2050:2011 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services.* The potential impacts could be considerable and persistent (last for several years).

Obviously, however, the amount of carbon savings which could be attributed to the assistance provided by SE alone would need to be evaluated on a case-by-case basis. The issues of attribution and persistence are integral to carbon impact assessment and are explored in more detail in the following section.

Workbook Completion

Based on discussion, we understand that the *EP Workbooks* are completed by the sustainability staff based on expertise and judgement. A sustainability manager decides when to complete the workbook, when to record baseline waste, water and fuel data, when to record new figures and, importantly, which changes in resource use can be allocated as a result of SE intervention or assistance. This is done through expertise, discussion with the company and, where required, with colleagues.

Although this relies heavily on individual judgement, employing specialist advisors with efficiency expertise is a recognised method employed by established business efficiency programmes such as WRAP (England and Wales) and Zero Waste Scotland (Scotland). These programmes encompass a range of former resource efficiency support programmes such as Envirowise, NISP, BREW etc.

We also understand that there is a sustainability team leader and the managers have monthly meetings to review figures and methods and discuss any specific project issues.

For this section and the issues discussed we would direct the reader to the following report *Methods used to calculate WRAP's impacts 2008-11*[27]. This provides detailed guidance on the issues and best practice in terms of current methods for evaluating the carbon impact of business efficiency support.

The issue which stands out most clearly from the available carbon data is the difference between **identified carbon savings** and **implemented carbon savings**. For example, in 2010/2011 whilst there were nearly 40,000 tCO_2 in identified savings recorded as a result of SE support, there were only 2,000 tCO_2 recorded as savings actually implemented.

There are several issues here. First, SE provides efficiency support over a relatively short time scale e.g. a number of months working in a company on an action plan or project, and there can be a time lag before efficiencies and any carbon savings are realised. Savings may not come to fruition until a year or more after the support has been given. Arguably these savings should be picked up in later years when they are implemented, although this relies on companies still being in contact with SE, the information being requested and available, and them being able to attribute the changes to the original support given.

It is common industry practice for advisors to estimate or record identified carbon savings, giving companies detailed and practical advice as to where and how savings can be made. The Carbon Trust and WRAP report estimated savings to get an indication of the scale of impact their advice and support is having. However, both companies, in particular WRAP, have undertaken detailed work to improve their estimates, where possible recording actual savings made and extrapolating from this. They now indicate a level of confidence in terms of the carbon savings they report against particular efficiency programmes.

SE should continue to try and gather as much detailed information on actual carbon savings which have been achieved as a result of support. The potential for the sustainability managers to follow up with companies after a suitable time period has elapsed so they are able to capture actual implemented savings which were identified at the outset of a project or action plan should be considered.

[27] http://www.wrap.org.uk/sites/files/wrap/Methods_used_to_calculate_WRAP_s_impacts_2008-2011.pdf

Collecting and reporting impacts based on identified savings which are essentially estimates and setting targets accordingly is reasonable, however SE should consider undertaking some kind of work to verify the accuracy of these estimates.

There are numerous instances where the savings could be both an under-estimate (e.g. based on SE support a company rolls out efficiency projects at more than one site) and an over-estimate (the company never gets round to implementing the advice given). An example from *Methods used to calculate WRAP's impacts 2008-11* is provided:

"Savings from the Construction programme have been verified using interviews with a sample of Commitment signatories. Actual savings made during construction on a number of projects were compared against expected savings to check the accuracy of the modelled savings. Interim factors that could be used once the build had started and information became available about the size (area) of the building and types of material being used were introduced to the savings model during the Business Plan period to improve its accuracy, meaning that the initial estimates based on projections for the build could be revised and updated with real data on a project by project basis.

Potential for uncertainty exists in that some of the reported savings are based on factored estimates rather than on actual results, as many of the projects are yet to report actual figures, or have not yet completed. The checking undertaken with those projects that are complete, and by speaking to construction contractors on the sites concerned, has reduced the level of uncertainty."

Attribution of Carbon Savings

Another more immediate way to improve the accuracy of identified carbon savings is through the judgement of the sustainability managers and careful **attribution of carbon savings**. Attribution largely relates to only including impacts which are direct results of SE support but this can also mean taking into consideration and recording only those carbon savings which are realistically likely to be implemented by the company.

It is possible to work with a company and identify a whole raft of potential efficiency savings but judgement must be applied as to which are likely to be realised. In terms of attribution to the support given solely by SE, in the realm of business efficiency and business support there is plenty of opportunity for double counting.

Partnership approaches to business assistance are encouraged meaning that companies are often engaged with more than one form of support and/or more than one organisation at a time. In terms of carbon savings, the WRAP report also looks at attribution in detail.

This will rely on the judgement of the sustainability managers but through discussions with companies they can consider any other assistance a company may be receiving. Providing efficiency improvements are predominantly due to SE intervention it is reasonable to record the carbon savings.

Persistence of Carbon Impacts

Another issue which SE does consider in its calculations is the **persistence of carbon impacts** – simply how long can carbon savings be claimed.

Persistence is also described in terms of lifetime vs. annualised impacts. If a company change their manufacturing process to one which is more energy efficiency they arguably make those carbon savings from using less energy year on year not just once. To really understand how long carbon savings last requires further work. WRAP is still seeking further study on the issue of persistence and for the moment is applying a 10 year cut off due to uncertainty. At the moment SE is claiming carbon savings for three years which seems a reasonable compromise in the absence of more detailed work and evidence.

At the moment, the *EP Workbook* is used by the sustainability managers when a certain subset of business efficiency support is provided by SE. There is the potential for engagement of the sustainability managers across SE support programmes e.g. innovation or sector support which could yield both greater business improvements and carbon savings. However, there is a health warning here that relates to the slightly uneasy relationship between economic development and carbon emissions. At the moment it is reasonable for SE to equate 'carbon impacts' in terms of business efficiency support to 'carbon savings'. However, other aspects of business support e.g. which seek to increase output or job creation even within the context of a move towards a low carbon economy have the potential to result in carbon increases.

In the context of a support programme such as SMAS, this is an issue worth further comment. SMAS is focussed on productivity improvement, and companies that achieve efficiency savings may 'rebound' to fill the efficiency gap with greater

productivity thereby raising absolute carbon emissions again through increased resource use.

It is therefore important to take a measured view of the potential of different kinds of economic development intervention to reduce carbon emissions. This issue goes beyond the scope of the current study, but is nonetheless worth mention in this context.

7.2.3 Conclusions and Recommendations on Carbon Impact

The design of the current EP Workbook for recording carbon impacts from specific SE business efficiency products seems fit for purpose. The assumption that efficiency support predominantly leads to carbon savings in the short term is reasonable when you look at the detail of the types of support and advice given – e.g. recycling, waste minimisation, energy efficiency, ICT.

Clearly SE efficiency support is helping companies to identify carbon savings and begin to implement the measures which will realise these savings.

The use of identified savings is common throughout the industry due to the difficulties and limits of only recording implemented savings. However, it is preferable to report on actual savings implemented and use these in addition to further detailed research to verify any estimates. As detailed above this would require follow up work, not necessarily with all companies supported but certainly with a representative sample that would allow the accuracy of estimated savings across SE support to be assessed. There are many good business reasons why savings may not be realised. In contrast, SE may be underestimating in other areas.

In the interim it should be clearly stated that the headline figures and targets are based on CO_2 savings *identified*.

As an economic development agency SE also has to wrestle with a number of more complex carbon issues, specifically:

- potential rebound as companies expand production and resource use, filling in where efficiency gains have been made and ultimately seeing a return to absolute carbon emission levels; and

- taking into account all business support across the organisation means looking at other interventions and products which may be increasing company carbon emissions.

8. Consultations

This chapter draws together the feedback from the consultation interviews. In total 20 consultations were undertaken with both internal (within SE) and external stakeholders.

This section focuses on their views on particular areas highlighted for exploration in the tender for this study, namely:

- policy fit;
- demand;
- linkages and dependencies
- usage and quality;
- management and delivery; and
- project learning.

8.1 Internal and external consultations Scotland

Policy fit

Consultees agree that the programmes had a good fit with the SE agenda, and Scottish Government objectives regarding business growth. For SMAS, it was highlighted that half of SE's account managed companies are in manufacturing, and that the manufacturing sector accounts for 50% of exports. As such it is a significant section of the business economy, and improving competitiveness is a critical objective.

Cost efficiency and competitiveness are key drivers and very relevant for company growth. The support provided by SMAS is strongly focussed on these issues.

For other business efficiency products, helping companies identify and implement improvements were very important elements of support.

It was felt that the low carbon agenda was less of a driver (although important from policy terms) but that business efficiency would often lead to carbon reduction.

In terms of rationale, strategic fit is a necessary but not sufficient condition for public intervention. Consultees identified a need for SMAS based on two main drivers:

- low levels of awareness and understanding within the manufacturing sector (and particularly among SMEs) of the benefits of lean manufacturing and business efficiency, and of how to improve efficiency and competitiveness. This results in a low levels of willingness to invest in such support; and
- limited ability to invest in efficiency improvements and limited skills and knowledge of how to do so, again particularly amongst SMEs.

SMAS and other BE products address these issues by raising awareness both of the benefits of investing in efficient improvements *and* the processes for doing so. It also provides a relatively inexpensive and lower risk way for companies to begin the process of improvement.

Demand

Most felt that the overall level of demand for SMAS support had increased in line with awareness of the services within target sectors. Historically, demand has been driven by certain sectors (F&D, textiles) where there is greater pressure to deliver cost savings in a tight margin production environment. It was reported that there were signs that this was now spreading across all sectors. In particular, it was felt to be an opportunity to expand delivery in areas like oil and gas in which SMAS (and BE) has traditionally had lower penetration.

Business efficiency improvements deliver savings immediately to the bottom line of a company, and so demand continued to be high.

Geographically, demand is strongly focussed within the Central Belt (and to some extent in the Aberdeen city region). Elsewhere, in particular Highlands and Islands and the South of Scotland, demand tends to be from smaller companies and for lower value projects. However, this tends to reflect these regions share of the total manufacturing business base. Some reported that engaging SMEs was still a challenge.

It was also noted that the level of repeat business in SMAS is high. This potentially suggests that specific issues may be being addressed rather than building capability at a company level. (N.B. This is an issues that has already been picked up by SMAS team)

Projects targeting specific low carbon opportunities showed lower demand from companies. In fact, one SMAS practitioner estimated that only around 5% of SMAS projects had carbon reduction as an output of the project.

Nevertheless, there was a perspective that there were opportunities to be explored here in helping companies to diversify and move into low carbon markets. It was felt that many companies were unaware of the opportunities that existed.

Linkages and Dependencies

SMAS and Business Efficiency products fall under the Company Growth team's responsibility within SE. Business Efficiency products (and practitioners) were viewed as more integrated with the company growth team, particularly as SMAS was initially established as an independent entity.

SMAS is a product offered to all manufacturing companies across Scotland (DRM and non DRM, and both SE and HIE areas). However, account managed companies accounted for nearly half of SMAS activity and typically provided a better route to more in depth projects.

There was feedback that SMAS is still perceived as a slightly separate team (with separate targets and structure), but that more recently it had made good progress in becoming more integrated as part of the account managed team approach[28]. One practitioner noted that while SMAS operates a regional structure, account managers are organised along sector lines (implying that the sectoral expertise within SMAS are not always immediately directed to companies not in their geographic area of responsibility).

While all identified room for improvement in the degree of connectivity between SMAS and account management (including better awareness and understanding on *both* sides*)* the general feeling from internal consultees was that greater integration with SE services has been a step in the right direction. External consultees were less convinced, feeling that SMAS benefits from having its own identity and strong market reputation independent from SE. Having the spread of products allowed all companies (both manufacturing and non-manufacturing) to be supported, although there was felt to be lower awareness amongst businesses of other business efficiency products (SMAS was seen as a strong and visible brand).

[28] The account managed team approach endeavours to follow a process where the account manager and different specialists of relevance to the company act as a coordinated team

There was some suggestion that it would be possible to have a single contact for a company, combining the role of the Account Manager and the SMAS practitioner, however others felt this would require too much of one individual. SMAS support was characterised as different in that it provided “narrow and deep” expertise.

There were some linkages with other teams such as innovation and sector teams, but it was felt that this could be improved as the activity of these teams could also help business efficiency improvements. Similarly, there was an opportunity for the sustainable development team and the SMAS team to work closer together.

Externally there were some key partners in delivery, including HIE, business Gateway and several low carbon organisations (N.B. Separate to this study, the Scottish Government is currently undertaking a review of low carbon organisation support and structures).

Usage and Quality

The products, especially SMAS, were felt to give real tangible and immediate benefits to companies in terms of bottom line gain and productivity improvement. Performance was viewed to be good, on or ahead of profile, with good examples of impact on companies.

There were some questions raised over the efficacy of events. Information was widely available from a range of sources, and events were therefore less essential for companies. They did, however, act as a useful recruiting tool for further activity.

Sustainable development support was viewed as less well understood, although raising awareness of the opportunities in low carbon markets may help engage more companies.

Some raised concerns over the number of repeat customers, which raised the question of whether the learning was being passed on to the company sufficiently as part of the project process, although it should be noted that highlighting good manufacturing practices is a core element of SMAS offering. It was felt that longer term support offered greater potential for the transfer of knowledge and skills from the practitioner to the company. The contrast was made with the Lean Management

Training (LMT) approach where building the capability of the internal staff was key to the delivery.

SMAS in particular was highlighted as a very valuable service, highly regarded and viewed as independent.

For companies, the SMAS service was widely perceived to be good value for money – a cost effective, and therefore lower risk, way of improving performance.

From the public sector perspective, even though the level of company contribution has decreased in projects as part of the support during the downturn[29], the service was still seen as offering good value for money in terms of the return on investment.

Overall, there was widespread agreement that SMAS has had a significant impact on the competitiveness of the manufacturing sector. Even if it is able to touch only a small proportion of the company base, awareness of the service is high and it has raised the profile of business improvement.

Management and Delivery

SMAS was, in the past, more of a stand alone team within SE, and the formal move to be part of SE's Company Growth was generally seen as positive (external comments notwithstanding).

The clarity and quality of the monitoring data collected as part of SMAS was viewed as positive, and helped to showcase the returns for companies. For other business efficiency products monitoring data was less well collated and reported.

There was widespread agreement that the core source of value within SMAS is the high quality and industry experience of the SMAS practitioners. However, the service faces a significant and ongoing challenge in attracting and retaining high quality staff, and turnover is high. SMAS practitioners are paid on SE pay scales, and could often earn more in industry. It was reported that practitioners are frequently offered better paid jobs within companies with which they have worked, and SE struggles to retain this expertise.

There was also a perceived need to match the right practitioner with the right expertise to the appropriate company. However, the geographical structure of SMAS

[29] Previously SE would expect a company contribution of 50%, but as part of greater support in response to the downturn this was revised to 35% company contribution.

was felt to make this difficult in practice[30], and there is perhaps an opportunity to better share expertise across the team, and with third party consultants. In addition there is the option to bring in external consultants with specific capability, or to flex resources to meet peaks in demand. Feedback suggested this had not always happened to the required extent.

Project Learning and Improvement Opportunities

There was felt to be a number of opportunities in this area.

First, a focus on supply chains, especially in areas of potential growth and working with a large anchor company, was identified as an area that should be actively explored. One practitioner commented that there was too much emphasis on manufacturing improvement and not enough on enterprise and supply chain development.

More support for helping companies identify and realise the opportunities in low carbon was also seen as an area for increased focus. In particular, many commented on the opportunity for SMAS to extend its portfolio in areas relating to renewable energy and green technologies. Indeed, some also felt that SMAS should not be limited to manufacturing and could, in fact, extend its reach into the service sector.

Capturing CO_2 impacts had not been routine and as targets increase this is now essential. However, it must be remembered that the primary focus of both SMAS and BE products is on business efficiency. Increasing productivity does not necessarily mean reducing CO_2, particularly if it also allows an increase in output.

Opportunities were identified to improve linkages with other parts of SE/HIE, including sector teams and innovation specialists, as well as more generic support such as organisational development, an area in which SMAS and BE might, at times, start to overlap.

Promoting and publicising the benefits for companies through case studies and positive PR was seen to be useful, both for recruitment and engaging companies, but also for highlighting successes to key stakeholders such as politicians.

[30] i.e. practitioners are allocated a regional responsibility rather a sector specialism across all of Scotland

Finally, the issue of staff retention was one that consistently arose as an area for improvement. It is difficult to see how this might be achieved without changing the terms and conditions of employment, something that may be difficult to do within SE's pay structure.

8.2 Wider UK Perspective

As discussed in the policy section, although most responsibility for this area (particularly in economic development and enterprise support) is devolved, there are some areas of policy that run UK-wide. In addition there have been significant changes in the MAS delivery approach south of the border and lessons from these changes may be useful for SMAS.

Through interviews with UK government officials and wider UK organisations we have, therefore gathered information that may influence the Scottish future approach, or which can give valuable lessons from the English experience.

Policy and Strategy

It is acknowledged that the agenda crosses several Whitehall departments (BIS, DEFRA, DECC) including areas such as Energy Policy, rebalancing the economy, low carbon technologies, waste reduction etc. There are, however, measures to help ensure there is some coordination of activity. This includes the development of the Green Economy road map (a joint action plan) and joint events (e.g. for offshore renewables cost reduction).

There are a number of key strategies being developed, including Energy Efficiency (led by DEFRA and moving emphasis from waste minimisation to waste prevention), Industry Sectoral Strategies (led by BIS and moving to a longer term view of supply chain competitiveness and encouraging clustering).

There is also an EU level resource efficiency policy being developed which should be launched later in 2012, but is unlikely to be binding.

Context

It is worth reflecting on the context in which the resource efficiency programmes are operating in England. There has been a widespread dismantling of much of the previous economic development support structures (with the abolition of the RDAs).

Within this context MAS has survived as one of the very few national business support programmes. As discussed in the benchmarking analysis the MAS practitioners are seen as a valuable source of on-the-ground intelligence by BIS through their daily relationship with businesses.

In addition, the MAS approach has moved to a much broader definition of competitiveness, going beyond just lean to include strategy, market approaches and diversification issues for a business. In the new programme about one-third of the projects are lean oriented. Finally, there is now consistency in measuring and reporting.

The abolition of the RDAs has raised some challenges, not least how to engage with businesses and consolidate activity without the coordinating support for networks.

Areas of Improvement

Within the new approaches being adopted in England, one key area of focus is supply chain development activity. This is particularly targeted at sectors with growth potential where, in order to capitalise on the economic impact in the UK, there is felt to be a need to build the capability of a potential supply chain (e.g. offshore renewables, civil nuclear). The flagship programme – AMSCI – is discussed in greater detail in the benchmarking section, although it is worth noting that there were fewer applicants for the first round of funding than had been anticipated.

Measuring success in this programme is seen to be a challenge, but is ultimately to do with enabling companies to be accredited as suppliers, and further to gain contracts. The aspiration (though not a target) is to have 50% of the supply chain in the sectors addressed in the supply chain programme from the UK.

Demand

It was acknowledged that it was challenging to get a true picture of demand for resource efficiency programmes, although demand was reported to still be strong for this type of intervention, not least as it generated cost savings/improved efficiency for the business. The Oakdene Hollings report for DEFRA identified £23billion of potential savings (a high proportion of this was from waste prevention approaches), but it was understood that it was more difficult to engage SMEs. As a result DEFRA's approach was targeting mid size companies who potentially had the resource to implement improvements and could influence their supply chain.

SMEs were driven to make changes by:

- cost saving/business improvement potential;
- legislation (e.g. landfill charges had a significant effect on the changing approach within construction); and
- personal enthusiasm (of a company leader, or key operational staff member).

For this reason it was highlighted that to be successful, resource efficiency programmes had to be engaged with the right people within an organisation who could commit to implementing substantial changes.

In addition, it was reported that face to face support is the most effective for initiating change, and at the initial stage, when first engaging the business, it was very useful if this could be offered free of charge.

9. Conclusions

9.1 Introduction

This section presents our conclusions and recommendations drawn from the preceding analysis and structured into the key issues identified in the study brief.

We have already outlined (in **Chapter 1**) some of the challenges faced in the evaluation process, and these do not require repetition. However, it is important that these issues, and the caveats that they place on the data and findings reported here, are borne in mind when interpreting the conclusions presented below.

9.2 Conclusions

We have structured our conclusions into six main headings, which capture all of the twelve main components identified in the brief:

- rationale for the intervention;
- market size and demand;
- linkages to other provision;
- management and delivery;
- benefits and impacts; and
- value for money.

9.2.1 Rationale

The evaluation found a strong ongoing rationale for SMAS and BE support based on:

- clear alignment with and contribution to the objectives of national economic development policy; and
- appropriate targeting to address market failures affecting the growth of the business base.

SMAS and BE support are focussed on helping companies achieve greater efficiency, thereby improving productivity and competitiveness. This is strongly aligned with the priorities identified in the Government Economic Strategy and SE's Business Plan.

Both SMAS and the BE products are also aligned with the drive towards a low carbon economy, in particular through those products and services that target greater resource efficiency. It is, however, worth noting that SMAS is driven by the need to improve competitiveness first and foremost, and companies tend to be driven by cost efficiencies. While these might result in carbon reduction, they might not, an issue that we return to below.

Policy fit is a necessary but not sufficient rationale for public intervention, Instead, there must be evidence of market failure. The evaluation set out to test the hypothesis that BE support addresses market failures relating to imperfect information.

The findings confirm past evidence relating to financial and skills barriers (Oakdene and Hollins, 2011) but do not provide definitive confirmation of market failures. However, the financial barriers reported by companies are likely an outcome of information failures insofar as companies lack the necessary information to make informed decisions about investment in business efficiency.

The services provided by the BE products, including SMAS, do address these issues, by providing companies with tailored information about the likely cost and benefits of investing in efficiency improvement (e.g. through the Manufacturing Reviews).

Conclusion: there is a valid rationale for BE support based both on the strong degree of fit with policy goals and the appropriate targeting of support at known constraints and market failures affecting company investment in efficiency improvement.

9.2.2 Market size and demand

The market for SMAS is essentially all manufacturing companies in Scotland – 9,126 companies.[31] SMAS has supported a total of 1,207 companies, the majority of which,

[31] *Scottish Annual Business Statistics*, 2009, Scottish Government

with the exception of a handful of services companies, are manufacturing, suggesting a penetration rate of around 13%.

However, it is important to note that SMAS, through its close working links with SE's account management process, has been targeting companies with higher growth potential. This is in line with learning from elsewhere (UK and the US – see **Chapter 4**), and is appropriate given the potential for these companies to generate disproportionate impacts on the Scottish economy.

The survey also found that DRM companies were more likely to progress through further support to initiate projects, confirming the appropriateness of this targeted approach.

Therefore, while the size of the market indicates a relatively modest penetration rate (although one that likely outstrips many other support services) we suggest that the true market for SMAS (and BE products) is really those companies with the potential to improve competitiveness through greater efficiency and turn that into productivity growth, though this group is difficult to quantify.

There is also clear potential for SMAS in particular to broaden its reach. The strongest areas of demand to date have been in construction (in which there are legislative drivers), food and drink (in which cost efficiencies are paramount where margins are tight) and engineering. However, the evaluation identified potential for SMAS to work more with other sectors such as energy and across supply chains, using larger companies to drive efficiencies down through supply chains.

Conclusion: BE support (at least SMAS) has achieved reasonable penetration in the manufacturing sector and has been appropriately focused on high growth companies. There is further potential to extend its reach.

9.2.3 Linkages to Other Provision

BE products are part of the portfolio of support available to DRM companies. As such, they are well integrated with the wider DRM offering. SMAS was originally more of a stand alone team but has since moved within SE and is now part of the Company Growth Directorate. This has been beneficial in bringing SMAS closer to the account management process and closer to account management teams.

However, there are areas for possible improvement here. In particular, the connection between SMAS and innovation support could be stronger to facilitate progress from efficiency improvement to new product and process development, something that has been a feature of MAS support elsewhere (see **Chapter 4**).

It is also worth noting that while integration with SE has brought benefits, not least in allowing SMAS to more accurately target growth companies, there is value in the external SMAS brand, and this should not be lost in any future integration plans.

More generally, SMAS is a national service and its linkages to both HIE and Business Gateway are critical to it delivering against this remit. There have been issues with insufficient numbers of practitioners in the HIE region and variable levels of awareness among HIE account managers. Action has already been taken to address this, and should be continued.

Business Gateway is an essential route to non-DRM companies, but feedback suggests that awareness and connections are variable. Further work is needed to continue to forge these connections and raise awareness and understanding of SMAS services among advisers.

Conclusion: linkages between BE and SMAS services and other sources of support are improving, and have benefitted from the closer integration of SMAS with SE's account management services. There is potential for further improvement.

9.2.4 Management and Delivery

The evaluation found the management and delivery of SMAS to be efficient and effective. In particular, there was consistently positive feedback on the quality and expertise of SMAS practitioners from companies and stakeholders alike.

However, three issues are worth highlighting:

- there is a need for ongoing CPD for practitioners to ensure that their knowledge and expertise keeps abreast of changing market conditions;
- matching practitioner expertise to company needs has been identified as an issue (albeit not frequent) and is possibly made more difficult by the geographical structure of the practitioner team. This is an area in which the use of third party expertise might help; and

- there has been an ongoing problem in retaining practitioners as they are often offered more lucrative positions within industry. It is critically important that SMAS continues to attract suitable experienced practitioners as this is a core source of its value as a service.

Conclusion: SMAS is well managed and the knowledge and expertise of the practitioners is highly valued. Attracting and retaining the necessary expertise are ongoing challenges.

SMAS has developed an effective and comprehensive monitoring system for tracking activities and the effect on companies. We found this dataset to be clear and well managed.

Monitoring data for the BE products are more problematic. The only data available was on the number of companies that had been supported, and any outputs or impacts from this support are captured through the wider monitoring of progress by account managed companies towards agreed growth targets. However, within this wider monitoring system it is not possible to extract the outputs or impacts attributable to one form of support as compared to another. As a result, SE is not in a position, on management information alone, to make informed judgements about the relative effectiveness of different kinds of support provided through the account management process.

In the primary research undertaken for this evaluation, the data were also not sufficiently clear (nor the responses sufficiently numerous) to allow these kinds of comparisons at an individual BE product level. Many of the companies were unable to recall the specifics of BE support that they had received, or were confusing this with other SE products.

The evaluation process was therefore unable to address the shortcomings of the monitoring system.

There is, therefore, a need to review the way in which monitoring data are collected for specific products, including, but probably not limited to BE products, in order to assess the relative effectiveness of different kinds of support.

Conclusion: The monitoring data for BE products (outwith SMAS) are extremely limited constraining proper analysis of effectiveness. Addressing this should now be

considered.

Finally, the benchmarking work identified the benefits of longer term interventions, something that was also highlighted in the current evaluation. This suggests a need for balance in the deployment of resources and a renewed emphasis on longer term projects. Events are helpful for recruiting new companies to the service and for promoting the benefits of the support, but do not typically deliver tangible impacts.

9.2.5 Benefits and impacts

It is clear that BE support has delivered a range of benefits to supported companies, including:

- identification of opportunities to improve business performance;
- skills improvements for staff and management;
- process efficiency gains such as improved space utilisation and on-time delivery; and
- improvements in people productivity, staff engagement and company culture.

Financial and economic benefits include:

- average cost savings of £322k (mean), and (£80k) median per company that provided data in our survey;
- increased productivity;
- increased profitability (over £8m reported by 14 companies); and
- reduction in CO_2 (reported by fewer companies).

Importantly, the majority of these companies also identified these as medium to long term benefits, suggesting behavioural changes within the companies.

The key economic impacts generated through the Programme are reported as:

Net additional impacts to date, 2011/12 (Yr 4)[32]:

[32] Please note, due to the different grossing up factors for each of the different elements of the Programme (SMAS and then BE products), summing up of the individual elements provides impacts that are greater than the results presented at the overall Programme level.

- overall Programme:
    - PYE jobs – 3,295
    - cumulative Present Value (PV) GVA of £81m, an impact ratio of 1: 6.3 ;
- SMAS:
    - PYE jobs – 1,855
    - cumulative Present Value (PV) GVA of £19m, an impact ratio of 1: 4.3; and
- Business Efficiency:
    - PYE jobs – 623
    - cumulative Present Value (PV) GVA of £88, an impact ratio of 1: 10.4.

Achieved and potential net additional impacts by 2017/18 (Yr 10):

- overall Programme:
    - PYE jobs – 7,804
    - cumulative Present Value (PV) GVA of £174m, an impact ratio of 1: 13.5 ;
- SMAS:
    - PYE jobs – 4,092
    - cumulative Present Value (PV) GVA of £45m, an impact ratio of 1:10.2; and
- Business Efficiency:
    - PYE jobs – 2,105
    - cumulative Present Value (PV) GVA of £162m, an impact ratio of 1:19.0.

In terms of additionality, there was mainly time additionality i.e. impacts/activity, although likely to occur in the absence of the Programme, happened sooner as a result of the intervention.

9.2.6 Cost Effectiveness

The Programme (BE, including SMAS) is predicted to generate cumulative discounted GVA of £174m over the ten year time horizon. Based on discounted costs of £12.9m this generates a net additional GVA ratio of:

- £6.3:1 by Yr 4 (to date); and
- £13.5:1 by Yr 10 (to date and predicted impacts combined).

It is important to note the difference between SMAS and BE support. While SMAS generated ROI of £10.2, BE support achieved £19.0:1.

There are three possible explanations. First, as noted earlier, it was difficult for some company respondents to disaggregate the effects of BE support from those of wider support received through the account management process. In terms of assessing impact this would mean we are measuring the impact of both the BE and wider SE Development Project support available to Account Managed companies, but only setting this against the costs of the BE support, and therefore over estimating the impact ratio for BE support.

As a result, we suspect a degree of over-reporting of impacts relating to the BE support.

Secondly, and relating directly to the point above, the impact data suggests that the BE intervention has achieved higher levels of additionality compared with SMAS. Again, it is likely that this is down, in part to issues with beneficiaries being unable to disaggregate the effects of BE support from wider Account Management support.

Finally, closer examination of the impact data for the BE products revealed that one company had accounted for a larger net impact than others, even though the scale of this was not sufficient to justify its exclusion as an outlier. Rather, the scale of its impacts were due to a combination of the company size, the SE method of recording all company impacts rather than gross attributable, and the fact that the company reported very low deadweight and displacement. That being said, removing this company from the impact assessment had a notable but not significant impact on the results.

With these caveats in mind, it is difficult to draw firm conclusions about the relative impact performance of SMAS/ BE. On the basis of the data reported (and the

method used), the Programme is delivering strong impacts and is cost effective in comparison with other SE interventions within the same broad themes.

9.2.7 Carbon Impacts

Due to data limitations, it was not possible to provide a definitive view of the carbon impacts attributable to the BE products (including SMAS). However, our review of SE's approach to assessing carbon impacts was broadly positive, although there is potential for some improvement primarily by collecting actual carbon savings data from a sample of supported companies, and extending reporting beyond a small number of support products.

More generally, there are some tensions between the objectives of improving company growth and realising carbon savings. This goes beyond the scope of the current study, but does highlight an issue for SMAS and BE support in terms of the extent to which carbon reduction objectives may (at times) compete with the drive to achieve greater company growth.

9.3 Recommendations

On the basis of the evaluation findings and conclusions, we have a number of recommendations for SE to consider.

1. Review and improve the monitoring process for BE products to provide greater detail on the effectiveness of this support.

2. Continue to expand the reach of SMAS support into the energy and renewable energy sectors. This could be expanded as the Renewable supply chain develops bringing new opportunities for efficiency.

3. Continue to shift emphasis from lean to innovation and supply chain development work. (Building on the supply chain programme commenced in 2012).

4. Prioritise longer term intervention work with companies with demonstrable potential for growth in line with Company Growth policy.

5. Establish stronger links between SMAS support and other provision, particularly innovation support and sustainable development, as well as other provision as it comes onstream (such as the High Value Manufacturing Catapult centre).

6. Continue to develop the links and relationships between SMAS and the Business Gateway.

7. Continue to develop and nurture the relationships between SMAS practitioners and HIE account managers. This should build on the appointment in 2012 of business development resource located within the HIE area

8. Continue to develop the integration of SMAS and the account management process such that the service continues to target higher growth companies, and support can be effectively co-ordinated.

9. Consider the ways in which use of third party expertise can help address mismatched areas of practitioner knowledge and company need (such as Six Sigma projects).

10. Continue to invest in appropriate CPD for SMAS practitioners to ensure that their knowledge keeps abreast of changing market conditions.

11. Review arrangements regarding terms and conditions for SMAS practitioners to try to address issues with retention and attraction of suitable expertise.

12. Introduce a more structured approach to the collection and recording of carbon impact data by extending the use of the EP Workbook beyond the current sample of support products and requiring staff to input data, even if this means recording a zero impact in those cases where support is simply not focussed on achieving carbon reductions.