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# Business Resource Efficiency and Waste (BREW) Programme

## Disaggregated Metrics Results for 2007/08

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## **Business Resource Efficiency and Waste (BREW) Programme Metrics Results for 2007/08**

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## Introduction

This paper presents metrics results reported by delivery bodies funded by the Business Resource Efficiency and Waste (BREW) Programme in its third and final year (2007/08).<sup>1</sup> This paper contains the disaggregated results for 2007/08.

The delivery bodies that reported results for 2007/08 were:

- the Carbon Trust;
- Envirowise;
- the Market Transformation Programme;
- the National Industrial Symbiosis Programme (NISP);
- the Waste and Resources Action Programme (WRAP);
- the Environment Agency;
- The Business Reuse Fund (managed by the Royal Society of Wildlife Trusts, RSWT);
- Action Sustainability;
- the Technology Programme;
- Defra's Waste Data Strategy; and
- the RDAs.

In addition, a number of pilot projects received funding in 2007/08. The purpose of the pilot projects was to test innovative ideas in the programme, which had the potential to be scaled up in later years. The pilot projects were:

- Strategic Approach to Construction Waste (AEA Technology/Building Research Establishment);
- Business Link Diagnostic Tool (Business Link Kent);
- Compost Doctors (Community Recycling Network UK);
- Mentoring for Success in Construction (the Environment Practice);
- BREW Centre for Local Authorities (LGA/Oxfordshire County Council/NISP);
- Centre for Remanufacture and Reuse (Oakdene Hollins); and
- White Young Green Environmental (WYGE)

This report covers all delivery bodies and pilot projects that were part of the 2007/08 BREW Programme.<sup>1</sup>

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<sup>1</sup> The Technology Programme is an exception to this. Actual and projected results achieved from BREW funding for the entirety of this programme (2005-08) are covered by this report.

## The BREW Metrics

### a. What are the metrics?

The following seven metrics have been developed to assist with the monitoring and evaluation of the BREW Programme:

#### *Business*

- cost savings to business;
- increase in sales;

#### *Environmental*

- reduction in greenhouse gas equivalents;
- water conservation;
- virgin raw materials saved;
- reduction in hazardous waste; and
- materials diverted from landfill.

These have been developed as a means of ensuring that BREW delivery bodies are reporting as accurately and consistently as possible on the progress made with their funding from the Programme.

### b. How were the metrics devised?

The metrics were developed by consultants Oakdene Hollins in the first year of the Programme, 2005/06. Based on a range of options, the BREW Steering Group and Programme Board decided to adopt these seven measures for monitoring and evaluating delivery body performance in the programme.

Guidance provided by Oakdene Hollins in 2005/06 on attribution and persistence also applies to results for 2006/07 and 2007/08. Attribution takes into account the amount of a benefit reported by a business for which a delivery body can reasonably take credit. Persistence refers to the lifetime impact of the action taken by the business, i.e., the level of continuing benefit in future years.

Oakdene Hollins recommended that:

#### *On attribution:*

- Attribution should not be attempted where savings are only identified, not implemented, or where diffuse activities are taking place. Delivery bodies could simply report that they “helped identify” savings.
- Where savings are being implemented, businesses should be asked to allocate a proportion of savings to be attributed to delivery body activities, for example by “somewhat, quite a lot, a lot...” scales or a numerical scale.

- Part of the attribution survey of businesses would identify whether the organisation was working with other delivery bodies on the same project, this would minimise the risk of double counting the benefits.

*On persistence:*

- Where working closely with an organisation, the delivery body should use the persistence figure provided by the organisation for that asset or intervention, i.e., the delivery body defines its own persistence methodology based on programme evidence.
- There should be a default figure if persistence cannot be estimated or no evidence exists. This default is where the benefit declines to zero over five years. This is intermediate between the benefit persisting infinitely and the benefit only being estimated for the first year.

## **Understanding the results**

This report was shared in draft with delivery bodies as it was being prepared. Defra has done its best to reflect delivery bodies' views in the report. However the report should not be taken as an agreed view of all of the delivery bodies.

### **c. Level of robustness and comparability of the data provided**

Although efforts were made to improve the robustness and comparability of the metrics results reported under the BREW Programme, some inconsistencies remain, as explained below. Also the results reported cover a wide range of delivery body activities on business resource efficiency. The activities vary greatly both in their coverage and means of delivery. For these reasons, care should be taken in using the results, particularly when comparing between delivery bodies.

#### Comparability of the results

The involvement of Oakdene Hollins and officials from the Programme Office has helped ensure a degree of consistency of reporting between delivery bodies so far. For example, some delivery bodies that were previously not using any attribution methodology and claiming 100% of all reported savings by businesses with whom they worked have now introduced attribution. This means that they have been reporting more realistic results under the BREW Programme. The results are more closely linked to delivery bodies' interventions, and take fuller account of what would have happened in their absence. Thus there is some consistency of approach with Government guidelines, which indicate that greenhouse gas reporting should address overlap with other programmes and policies and should take account of what would have happened anyway.

However, due to the wide range of activities undertaken by delivery bodies to improve business resource efficiency, there is significant variation in how impacts are calculated and attributed to each delivery body's intervention.

We recommend that readers consider the impacts reported by delivery bodies in isolation, and do not make comparisons between delivery bodies' impacts. This is because of the various approaches that delivery bodies have applied. Also it is not possible based on this report to break down all delivery bodies' impacts transparently. This means that reasonable conclusions cannot be drawn on the materiality of specific approaches taken, and so the results cannot be readily compared.

#### *Attribution*

Delivery bodies use different methodologies to attribute impacts. Some apply major assumptions. Some delivery bodies' reports are based on evidence of the influence that the delivery body has had in the sector, whereas other

reports only include impacts that are solely attributable to the delivery body in question.

### *Materiality*

“Materiality” is used to describe the effect of an action – in this study the savings which have occurred as a result of an intervention.

However some delivery bodies have included both implemented and identified savings in the attribution they have reported. Implemented savings are those that have been made and accounted for during the reporting year. Identified savings may not have been confirmed yet, but are expected to have been achieved during the year.

Whilst explained in many cases, the information provided may not allow the reader to separate out the level of confidence in the results. Some delivery bodies report an amalgamation of results under different categories. It may not be possible to separate out the different contributions these savings have made to the overall result.

Given these differences in methodology and reporting and the absence of further detailed analysis behind the reported savings, we are cautious about using the results alone to compare the relative success of different delivery bodies. In particular, there is a higher level of uncertainty about savings in future years resulting from either short-term or long-term activities, which are estimates based on a number of assumptions.

### Robustness of the results

#### *Persistence*

All of the results exclude estimated future lifetime impacts, also known as persistence. That is, they state achievements for 2007/08 only. Persistence has been excluded because of the wide range of approaches that delivery bodies have taken to this issue in reporting their results. Also, these lifetime results are often much less certain and tangible than savings that are achieved in the year of the action taken by the business.

The report only includes results for later years where these are from longer term measures that will only start to bring results much later than the first year of implementation. Where delivery bodies are projected to deliver such results, these have been reported as “long-term savings”. Delivery bodies have used a variety of methods to estimate these savings.

Excluding persistence will mean that the BREW Programme is understating its impact, since for many interventions improvements can last beyond the year in which action took place. It should be noted when reading the report, some activities by nature will generate savings in-year because the impact is immediate. An example of this is waste prevention, as this produces a range

of life-cycle benefits some of which only apply for the year in question. Other types of intervention have a different profile, for example implementing an approach to saving energy, the benefits of which are expected to occur over a longer period.

### *Assurance*

The level of assurance achieved for both savings and attribution differs between delivery bodies. For example, some delivery bodies secure external assurance on all savings reported in the BREW report including evidence from end-user organisations and the complete reporting methodology; other delivery bodies secure assurance only on specific aspects of their reporting methodology, while others do not secure any assurance or no reference is made to assurance. The results of delivery bodies reporting to these different standards are included in the report alongside each other.

### *Coverage*

The metrics do not capture the results of all activities such as awareness raising. Therefore the metrics results should in general be considered to be a conservative representation of delivery body performance. Other supporting information is however recorded elsewhere. In particular, qualitative and quantitative achievements from 2007/08 feature in the quarterly reports produced by the delivery bodies for the BREW Programme Office.

### *Cost effectiveness and value for money*

Cost-effectiveness and value for money calculations in this paper include the value of the Climate Change Levy (CCL). This is normally excluded from cost-effectiveness calculations within Government, in line with Government guidelines on greenhouse gas reporting. However the CCL factor has not been removed in this case because some BREW delivery bodies operate across not just energy reduction – where the CCL has an effect – but also across waste and water reduction. For those cost savings that are energy related, including the CCL would reduce the benefits by approximately 6-9%. This range is based on information from the BERR quarterly Energy Prices report (published December 2008) on energy costs in 2007/08 for small and medium sized electricity and gas consumers. The CO<sub>2</sub> savings in this report only include UK emissions reductions.

The BREW Programme intervened with only a proportion of UK businesses. If a larger proportion of businesses received the benefit of BREW advice then it would be expected that there would be a lower increase in sales, because the metric depends on competition between businesses.

According to guidance given to delivery bodies, the cost saving metric is a net direct cost saving associated with adopting a practice or measure. Where long-term results are presented, these are based on estimated cost savings.

All results in this paper are given to 3 significant figures.

#### d. Reading the results

The results are presented in various tables later in the report, in aggregate (for short-term interventions only) and for each of the delivery bodies in turn. Most delivery bodies produced results that include as well as exclude attribution. Where this was the case, both attributed and non-attributed results are presented together for comparative purposes. However, given the guidance from Oakdene Hollins outlined above, delivery bodies' impacts are best understood in terms of attributed results. Therefore the reader is advised to focus on the attributed results, and use the non-attributed results for reference.

Given the range of delivery body methodologies for calculating impacts, great caution is urged in reading the aggregated results shown in the next section.

The first column of each table shows the actual impacts without attribution; the second column shows the impacts with attribution; and the third column shows the savings achieved per £ spent across the range of metrics. These amounts are additive.

Thus, from Table 1 in section 4 below, on average £1 spent on the short-term BREW interventions that were measured in 2007/08 achieved £1.64 of increased sales *plus* £3.22 of cost savings to business *plus* 0.0347t virgin raw material savings *plus* 0.0549tCO<sub>2</sub> equivalent savings *plus* 0.0729m<sup>3</sup> water savings *plus* 0.0449t waste diverted from landfill *plus* 0.000308t hazardous waste savings.

#### e. Units

m	Million
t	Tonnes
mt	Million tonnes
tCO <sub>2</sub>	Tonnes carbon dioxide
mtCO <sub>2</sub>	Million tonnes carbon dioxide

## Aggregated Results for 2007/08

Most of the delivery bodies funded by the BREW Programme in 2007/08 have reported metrics results for that year. Together, the bodies that did report account for £117m out of a total of £121.628m of BREW expenditure in 2007/08. Annex 1 provides an overview of the delivery bodies that were funded by the BREW Programme in 2007/08, showing the amounts that Defra spent on each of the activities, and which delivery bodies reported short-term and long-term results.

### Short-term interventions only

These figures are related to spending of £76.9m on short-term interventions,\* excluding VAT. The £76.9m figure is used for the value for money assessment in the final column of the table below. It excludes VAT, in line with the Government's guidelines on greenhouse gas reporting.

**Table 1: Aggregated impacts from BREW funding of short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	£52.1 m	£46.9 m	£1.64
<b>Cost savings to business</b>	£1,061 m	£249 m	£3.20
<b>Virgin raw material savings</b>	6.27 mt	2.67 mt	0.0347 t
<b>Greenhouse gas savings</b>	7.83 mtCO <sub>2</sub> equivalent	4.22 mtCO <sub>2</sub> equivalent	0.0549 tCO <sub>2</sub> equivalent
<b>Water savings</b>	27,100,000 m <sup>3</sup>	5,603,000 m <sup>3</sup>	0.0729 m <sup>3</sup>
<b>Waste diverted from landfill</b>	4.65 mt	3.45 mt	0.0449 t
<b>Hazardous waste savings</b>	60,800 t	23,700 t	0.000308 t

\* Due to difficulties in separating short and long-term results, WRAP's total funding is counted within this total despite some of this also producing long-term savings, which are not shown in this table.

\* Action Sustainability did not report any results without attribution.

### Long-term interventions

The basis of reporting the impacts of long-term interventions from delivery body funding in 2007/08 varies considerably between delivery bodies, so these results have not been aggregated, but are described individually below.

## Individual delivery body results for 2007/08

### 5a. Carbon Trust

#### Activities

The Carbon Trust received £24.0m of BREW funding in 2007/08, in order to help businesses to understand the issues and opportunities surrounding climate change, and to take action to reduce their carbon emissions. Support included energy efficiency schemes for large businesses and site surveys for smaller organisations. The funding is also used to help develop low carbon technologies and to support the development of low carbon businesses.

This funding was split between both short- and long-term work and included some activities from which CO<sub>2</sub> savings are difficult to measure and attribute robustly. These activities include the Carbon Trust's work on informing key decision makers as well as the Carbon Trust's management and promotion of the Government's Enhanced Capital Allowance (ECA) scheme (for which savings are measured by Government through HM Treasury) and BREW's contribution towards the Carbon Trust's core costs. Savings have not therefore been included for these areas despite an expected material impact.

#### Results

For both short-term and long-term interventions, the detail of the Carbon Trust's performance assessment methodology is set out in the "Carbon Trust 2007/08 Performance Assessment", available at [www.carbontrust.co.uk](http://www.carbontrust.co.uk).

#### Savings from short term interventions

##### *Attribution and materiality*

£13.4m of the Carbon Trust's funding in 2007/08 was directly allocated to short-term work (Carbon Trust Solutions and Insights). This includes the cost of capital of interest-free energy efficiency loans, rather than the total capital amount (as the loans total capital amount is recycled).

For short-term savings, the Carbon Trust works with businesses to identify and implement carbon emission reduction opportunities and to secure the associated cost savings. The Carbon Trust only reports to BREW the impact of its *direct* interventions with customers.

The Carbon Trust reports annually on the performance of its activities in terms of how effective it is in helping customers save carbon. The Carbon Trust follows up with its customers directly and conducts detailed analysis of its customer data to quantify the CO<sub>2</sub> savings that customers have implemented as a direct result of Carbon Trust interventions. Therefore all reported savings are attributed entirely to Carbon Trust work. The Carbon Trust has not sought to report on savings that do not fit into this category.

## Assurance

KPMG was commissioned to review the Carbon Trust's approach and methodology for assessing its impact for 2007/08 in order to form an assurance opinion over their reported UK wide results. The findings from this review have been published in the Carbon Trust's Annual Report

The results below are the immediate savings within the year only, so they do not include lifetime impacts (persistence).

**Table 2: Impacts from Carbon Trust short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	Not reported	Not reported	Not reported
<b>Cost savings</b>	£56.1 m	£56.1 m	£4.19
<b>Virgin raw material savings</b>	Not reported	Not reported	Not reported
<b>Greenhouse gas savings</b>	409,666 tCO <sub>2</sub> equivalent	409,666 tCO <sub>2</sub> equivalent	0.03 tCO <sub>2</sub> equivalent
<b>Water savings</b>	Not reported	Not reported	Not reported
<b>Waste diverted from landfill</b>	Not reported	Not reported	Not reported
<b>Hazardous waste savings</b>	Not reported	Not reported	Not reported

## **Savings from long-term interventions**

For long-term savings, the Carbon Trust develops low carbon technologies, creates new, high growth, low carbon businesses and finances clean energy technology businesses that demonstrate commercial potential. The Carbon Trust calculates the potential impact of these activities in reducing CO<sub>2</sub> emissions in 2010, 2020 and 2050 based on a model of potential future impact (which includes calculating attribution to the Carbon Trust and the probability of a project's success).

In 2006/07, the Carbon Trust updated the methodology for estimating the future impact of its work in these areas using best available data and working with industry experts. The methodology was independently reviewed to confirm that the Carbon Trust's approach is fit for purpose and the basis for estimates is not unreasonable.

The long-term results below are from separate activities from the short-term results above, and are on an attributed basis. The results represent the potential CO<sub>2</sub> savings in each year at 2010, 2020 and 2050, due to BREW's funding for the Carbon Trust's longer term activities (Innovations, Enterprises

and Investments). £7.37m of the Carbon Trust's BREW funding in 2007/08 was associated with this activity.

There are some short-term savings associated with these activities (as outlined in the below table for CO<sub>2</sub> savings delivered in 2010). However the main focus of the Carbon Trust's activity is on projects and companies that will deliver future emission reductions over the medium- to long-term (2020 to 2050).

The CO<sub>2</sub> emission reduction figures that are presented here are forecasts and are more uncertain than the figures presented for short-term savings.

**Table 3: Impacts from Carbon Trust long-term interventions in 2007/08**

<b>Metric</b>	<b>Projected results, annual savings in specific years</b>	<b>Estimated results per £ spent</b>
<b>Increased sales/cost savings</b>	Not reported	
<b>Virgin raw material savings</b>	Not reported	-
<b>Greenhouse gas savings</b>	71,800 – 93,900 tCO <sub>2</sub> equivalent in 2010  284,000 – 366,000 tCO <sub>2</sub> equivalent in 2020  1,080,000 – 1,550,000 tCO <sub>2</sub> equivalent in 2050	0.010 – 0.013 tCO <sub>2</sub> equivalent in 2010  0.039 – 0.050 tCO <sub>2</sub> equivalent in 2020  0.147 – 0.210 tCO <sub>2</sub> equivalent in 2050
<b>Water savings</b>	Not reported	-
<b>Waste diverted from landfill</b>	Not reported	-
<b>Hazardous waste savings</b>	Not reported	-

The remaining funding (£3.33m) resourced additional activities for which the Carbon Trust takes a prudent approach and does not seek to quantify direct additional carbon savings in its reporting to BREW. These activities include awareness raising, the Carbon Trust's management and promotion of the Government's ECA scheme (for which savings are measured by Government through HM Treasury), a contribution towards core corporate costs, and VAT for goods and services paid for by the Carbon Trust.

## **5b. Envirowise**

### **Activities**

Envirowise received £20.2m of BREW funding in the calendar year 2007, for its core work to inform and advise businesses on issues of waste minimisation and resource efficiency.

In addition, Envirowise received a further £2m of funding for its Resource Efficiency Clubs scheme. Resource Efficiency Clubs help businesses reduce costs through minimising waste and energy consumption.

The value for money calculations below exclude VAT, in line with the Government's guidelines on greenhouse gas reporting.

### **Results**

#### Attribution

The effect of the support provided by Envirowise was assessed by surveys of the businesses that they had helped. Respondents that had implemented measures were asked, for each measure they had implemented, whether they had used Envirowise to help them, and if so, how. To calculate the attributed savings, each response was factored according to the extent to which the programme had helped, as follows:

- where the business could not have implemented the measure without Envirowise, 100% of the annual savings were included;
- where Envirowise gave the business some of the guidance that was necessary to implement the measure, 50% of the annual savings were included; and
- where Envirowise helped to confirm that the measure was the right thing to do or signposted the business to further, relevant, help, 25% of the annual savings were included.

#### Materiality

All estimates have been based on implemented measures.

#### Assurance

##### *Core work*

These results have been externally verified. The impact data was collected and analysed by independent market research agency Databuild, and reviewed with Defra.

### *Resource Efficiency Clubs*

The results below are for the Resource and Efficiency Clubs include attribution but have not been externally validated.

#### **Savings from short term interventions**

##### *Core work*

The results below are for Envirowise's core work. These results relate to the 2007 calendar year. Envirowise received £17.2m excluding VAT for its core work in 2007/08. This figure has been used when calculating value for money below.

**Table 4: Impacts from Envirowise core activity short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	Not reported	Not reported	-
<b>Cost savings</b>	£976 m	£69.0 m	£4.01
<b>Virgin raw material savings</b>	3.85 mt	55,000 t	0.0032 t
<b>Greenhouse gas savings</b>	1,070 tCO <sub>2</sub> equivalent	194,000 tCO <sub>2</sub> equivalent	0.011 tCO <sub>2</sub> equivalent
<b>Water savings</b>	20,400,000 m <sup>3</sup>	1,900,000 m <sup>3</sup>	0.110m <sup>3</sup>
<b>Waste diverted from landfill</b>	1.77 mt	114,000 mt	0.00663 t
<b>Hazardous waste savings</b>	24,000 t	204 t	0.0000119 t

### *Resource Efficiency Clubs*

Envirowise's Resource Efficiency Clubs received £1.70m excluding VAT in 2007/08. This figure has been used for calculating value for money below.

**Table 5: Impacts from Envirowise Resource Efficiency Clubs short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	Not reported	Not reported	-
<b>Cost savings</b>	£16.7 m	£12.3 m	£7.23
<b>Virgin raw material savings</b>	13,100 t	11,800 t	0.0065893 t
<b>Greenhouse gas savings</b>	17,300 tCO <sub>2</sub> equivalent	15,600 tCO <sub>2</sub> equivalent	0.00917 tCO <sub>2</sub> equivalent
<b>Water savings</b>	902,000 m <sup>3</sup>	812,000 m <sup>3</sup>	0.477 m <sup>3</sup>
<b>Waste diverted from landfill</b>	78,400 t	70,600 t	0.0415 t
<b>Hazardous waste savings</b>	848t	763 t	0.000448 t

## **5c. Market Transformation Programme**

### **Activities**

MTP received £3.30m of BREW funding in 2007/08, in order to improve the resource efficiency of selected products used by businesses.

MTP continued its work supporting Defra, other Government Departments and their agencies to implement policies on sustainable products, to develop a commonly owned product policy evidence base, product policy action plans, and to implement the plans.

### **Results**

#### **Savings from long-term interventions**

##### Attribution

The savings shown are based on the commitment by plasterboard manufacturers to reduce the amount of waste being sent to landfill to 10,000 tonnes (50% of the current amount) and to increase the take back and recycling of plasterboard to 50% of new construction waste arisings by 2010 (ie 50% of approximately 300,000 tonnes). We are not able to define the attribution to MTP because the agreement was jointly worked on with Defra WS and WRAP.

The greenhouse gas and water savings are estimated by the difference between a reference scenario (which provides a baseline that estimates the aggregate impact of existing policy measures, superimposed on underlying market trends, on the supply, sales and use of products) and a policy scenario (which estimates the outcome, in terms of energy consumption by end-users,

of an ambitious but feasible programme of critically timed policy measures and other logistical actions).

### Materiality

The figures presented are for identified savings, as explained above.

### Assurance

Figures are estimated and have not been externally verified. However, the figures presented for virgin raw materials and waste diverted from landfill are targets for 2010, which have been negotiated and agreed with plasterboard manufacturers.

The results are for savings per year in 2010. As explained above, no attempt has been made to determine the attribution to the programme, and therefore these results are likely to be overstated.

**Table 6: Impacts from the Market Transformation Programme long-term interventions, 2007/08**

<b>Metric</b>	<b>Projected results without attribution, annual in 2010</b>	<b>Estimated results per £ spent</b>
<b>Increased sales</b>	Not reported	-
<b>Cost savings</b>	Not reported	-
<b>Virgin raw material savings</b>	160,000 t	0.0553 t
<b>Greenhouse gas savings</b>	1,100,000 tCO <sub>2</sub> equivalent	0.37 tCO <sub>2</sub> equivalent
<b>Water savings</b>	56,600 m <sup>3</sup>	0.0196 m <sup>3</sup>
<b>Waste diverted from landfill</b>	160,000 t	0.0553 t
<b>Hazardous waste savings</b>	Not reported	-

## 5d. National Industrial Symbiosis Programme (NISP)

### Activities

NISP received £9.7m of BREW funding in 2007/08, in order to conduct industrial symbiosis, which brings together companies from all business sectors with the aim of improving cross industry resource efficiency through the commercial trading of materials, energy and water and sharing assets, logistics and expertise.

### Results

#### Attribution

When calculating attribution, the views of the companies that had been helped by NISP were taken into account. In general, attribution has been applied using the following guidelines:

- Full attribution (100%) – the synergy and its outputs would not have happened without NISP;
- Half attribution (50%) – NISP provided valuable advice and support for the synergy, but the synergy and similar outcomes may have happened without NISP;
- Quarter attribution (25%) - NISP provided some support and advice, but the synergy is likely to have happened without NISP, with similar outcomes; and
- No attribution (0%) – NISP had minimal or no involvement in the synergy

Each synergy has been considered on a case-by-case basis. However, there are a few general principles that have been adopted in applying partial attribution:

Half attribution has been applied where:

- NISP helped to speed up the process of a synergy that was already largely in place; or
- a member was taking some action leading to some of the claimed outputs already, but NISP had suggested improvements that resulted in benefits.

Overall, the attribution is similar to previous years, with approximately 60% of impacts being attributed to NISP.

NISP has produced a number of case studies demonstrating the benefits arising from industrial symbiosis projects facilitated by the programme.

## Materiality

All results relate to implemented measures.

Nothing in the programme is allowed to be declared as an output unless it has passed a very rigorous quality assurance (QA) process. There is no element of estimation or probability involved.

## Assurance

The data regarding financial, social and environmental benefits was collected by NISP representatives and confirmed by the participants at the sign-off stage. Databuild was commissioned to undertake an evaluation of the NISP programme, covering the reporting year 2007/08. This involved:

- a verification of the synergy outputs for 2007/08;
- a verification of the process adopted by NISP in calculating the outputs; and
- an evaluation of NISP's role in the synergy.

The figures presented in the table below are the outcomes that have been verified by Databuild, with attribution applied.

### **Savings from short term interventions**

The figures reported for virgin raw material savings and greenhouse gas savings are awaiting the completion of third party verification process, which is due to be completed in the next couple of months.

**Table 7: Impacts from NISP short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	£19.5 m	£14.6 m	£1.50
<b>Cost savings</b>	£25.0 m	£18.9 m	£1.95
<b>Virgin raw material savings</b>	1,480,000 t	1,220,000 t	0.126 t
<b>Greenhouse gas savings</b>	5,802,000 tCO <sub>2</sub> equivalent	1,580,000 tCO <sub>2</sub> equivalent	0.599 tCO <sub>2</sub> equivalent
<b>Water savings</b>	5,750,000 m <sup>3</sup>	2,880,000 m <sup>3</sup>	0.297 m <sup>3</sup>
<b>Waste diverted from landfill</b>	1,640,000 t	1,370,000 t	0.141 t
<b>Hazardous waste savings</b>	35,900 t	22,700 t	0.00234 t

### Long-term savings

NISP has not had the resources to identify the R&D projects where it has had an impact, and measure related long-term metrics. However, NISP would anticipate the outcomes in the long-term to be at least as much as the reported short-term outcomes.

## **5e. Waste and Resources Action Programme (WRAP)**

### **Activities**

WRAP received £12.2m of BREW funding in 2007/08. This funding was used to carry out a range of projects and activities, providing advice, information, training, market development and financial support (capital and de minimis) to businesses in some specific sectors.

WRAP addresses market failures in the resource efficiency arena and develops economically and environmentally sustainable solutions. Its activities cover the waste prevention and recycling and composting part of the waste hierarchy. It does not provide generic support to all businesses. Sectors and materials covered in 2007/08 include the recycling and reprocessing sector (including MRFs), organics, retail packaging, WEEE, tyres, plasterboard, construction materials, batteries and paper.

### **Results**

#### Attribution

All of the savings reported by individual projects have been attributed to WRAP as they are considered by WRAP to have been catalysed by WRAP to an extent that they would not otherwise have occurred.

#### Materiality

The activities undertaken by WRAP will provide both implemented and identified results. These results have not been differentiated, only one overall result is provided for each metric.

#### Assurance

The methodology used by WRAP has been externally verified by Databuild. However, the figures supplied by the organisations were taken on trust and were not externally verified.

## Savings from short-term interventions

**Table 8: Impacts from WRAP short-term interventions 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	£30.8 m	£30.8 m	£2.53
<b>Cost savings</b>	£38.4 m	£38.4 m	£3.15
<b>Virgin raw material savings</b>	923,000 t	923,000 t	0.0758 t
<b>Greenhouse gas savings</b>	1,890,000 tCO <sub>2</sub> equivalent	1,890,000 tCO <sub>2</sub> equivalent	0.155 tCO <sub>2</sub> equivalent
<b>Water savings</b>	Not reported	Not reported	-
<b>Waste diverted from landfill</b>	849,000 t	849,000 t	0.069 7 t
<b>Hazardous waste savings</b>	Not reported	Not reported	-

## Savings from long-term interventions

In keeping with previous BREW reporting, WRAP models the outcomes of long-term projects by taking into account two factors: the projected growth (or otherwise) in diversion from landfill as a result; and the risk that this growth will not be achieved.

The projected growth is determined by the project manager in discussion with the organisation being funded about what the possible future benefits of the work could be. This is used to calculate a 5-year cumulative figure up to March 2012.

A 'persistence risk rating' is applied to this 5-year cumulative figure. This rating indicates the likelihood the benefits being delivered. A 'Red/Amber/Green' methodology is used:

<b>Risk rating</b>	<b>Description</b>	<b>% of total reported</b>
Red	Very risky	33%
Amber	Moderately risky	66%
Green	Low risk	100%

None of the figures used has been discounted, because the uncertainties in the estimates are high compared to the discounting factors applicable over these relatively small timescales.

**Table 9: Impacts from WRAP's long-term interventions, 2007/08**

<b>Metric</b>	<b>Projected cumulative 5 year savings by 2012</b>	<b>Estimated results per £ spent</b>
<b>Increased sales</b>	£94.5 m	£77.62
<b>Cost savings</b>	£26.5 m	£2.18
<b>Virgin raw material savings</b>	239,000 t	0.0196 t
<b>Greenhouse gas savings</b>	254,000 tCO <sub>2</sub> equivalent	0.0209 tCO <sub>2</sub> equivalent
<b>Water savings</b>	Not reported	-
<b>Waste diverted from landfill</b>	230,000 t	0.0189 t
<b>Hazardous waste savings</b>	135 t	0.000011 t

## **5f. Environment Agency**

### **Activities**

The Environment Agency received £4.45m of BREW funding in 2007/08. This funding was allocated to projects designed to remove regulatory barriers and uncertainty for emerging markets for commodities recovered from discarded raw materials (waste). Funding was allocated to three areas:

- £1.45m to improve business understanding on environmental regulations through the development of the NetRegs regulatory guidance website for small and medium sized businesses;
- £1m to develop clear standards and “end of waste” regulatory guidance for recovered waste materials through the development of “Quality Protocols”
- £2m to tackle waste crime and underpin the emerging business opportunities for recycling and recovery businesses.

### **Results**

#### Attribution

The results below are an aggregation of achievements from across the three activities described above. The data gathering process is described below for each of these areas.

#### *Enhancing NetRegs*

Funding from the BREW programme was used to enhance the NetRegs guidance service and the associated E Alert system designed to advise businesses of changes in environmental legislation. During 2007-08 the service recorded a 17% increase in usage of the internet site and a doubling of the number of E Alert users. The E Alert system is currently growing at the rate of 1000 users per month.

The achievements of NetRegs have principally been measured through the methodology applied by Eftec Ltd<sup>2</sup> in an economic evaluation in April 2008. This provided a 2008 baseline (shown as short-term savings below) and a future valuation method. Based on this methodology businesses in England that used the NetRegs service during 2007-08 are estimated to have saved nearly £49m. Long-term benefits calculated over a 10 year period are based on 2007-08 site usage figures and assume no further growth. They also take no account of the wider benefit that will be delivered to users outside England & Wales which includes businesses in Scotland, Wales and Northern Ireland or companies looking to invest in the UK.

### *Protocols for the recovery of waste materials*

Funding from the BREW programme was used to set up a joint project between the Environment Agency and WRAP to define clear regulatory positions for “End of Waste” for 12 discarded raw materials (waste). This is critical to the development of emerging markets for recovered materials from waste. Each Quality Protocol produced was subject to a Financial Impact Assessment which predicted the costs and benefits of the proposed regulatory position on businesses over a 10 year period. WRAP are now monitoring actual market development post the implementation of Quality Protocols. Estimates are reported both for the predicted market benefit for the first 11 materials in the programme and for the first completed material (compost), up to April 2008.

It is considered that the estimated impacts are directly attributable to the Quality Protocols (QP) project, and thus an attribution rate of 100% is assumed. This is possible because a QP is a unique instrument that cannot be replicated by any other party. A QP is dependent on the regulatory support of the Environment Agency. Without this support, none of the benefits could be realised.

In addition, the Financial Impact Assessment explicitly considers other factors which might influence the market going forward. Thus, care is taken to ensure that the estimated impact is limited to the QP only.

The work on the Quality Protocol is being used to influence the UK discussions on EU “End of Waste” standards that are currently being developed. The estimated benefits make no assumptions about the wider market opportunities that may develop in Scotland, Northern Ireland and other EU countries as End of Waste decisions are taken.

### *Waste Crime Innovation Programme*

Funding from the BREW programme was used to test out new ideas and to:

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<sup>2</sup> *Evaluation into the Economic Evaluation of the Benefits of NetRegs to SMEs in the UK* in April 2008 - Eftec Ltd.

- Set up geographic targeted enforcement campaigns across England;
- Trial a wide range of new innovative enforcement techniques;
- Demonstrate the value of a multi-agency approach with the police, local government, business and other delivery bodies; and
- Embed long-term improvements in local expertise and enforcement activity.

A methodology was developed to calculate the impact of this work in the campaign areas. All waste that is fly tipped and cleared is landfilled due to major cross contamination and uncertainties about the materials involved. As a result of the campaigns, tonnage of waste illegal dumped saw a significant decrease. In these areas it is possible to calculate the business benefit that derives from encouraging waste back into legitimate disposal routes. This is both in terms of materials recovered through business recycling and business benefits that follow. These benefits are directly attributable to the work of the Environment Agency.

The Environment Agency has not attempted to calculate the ongoing benefit that will result from this work. This will apply both to the work of partners engaged in this programme and to the Environment Agency itself.

#### Materiality

The activities undertaken by the Environment Agency will provide both implemented and identified results. These results have not been differentiated, only one overall result is provided for each metric.

#### Assurance

The Environment Agency have not reported external verification on the results.

## Short-term savings from all three sub-programmes

The short-term savings below are reported for 2007/08. They reflect savings from the first Quality Protocol to impact the market place along with savings from the Waste Crime Innovation Programme and NetRegs.

**Table 10: Impacts from Environment Agency short term interventions 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	£38.2 m	Not reported	£8.58-
<b>Cost savings</b>	Not reported	£49 m	£11.01
<b>Virgin raw material savings</b>	Not reported	444,423 t	0.0999 t
<b>Greenhouse gas savings</b>	Not reported	Not reported	-
<b>Water savings</b>	Not reported	Not reported	-
<b>Waste diverted from landfill</b>	236,000 t	986,000 t	0.2215 t
<b>Hazardous waste savings</b>	Not reported	Not reported	-

## 5g. Action Sustainability

### Activities

Action Sustainability received £0.424m of BREW funding in 2007/08. This funding was used to embed best practice in sustainability through the supply chains of public and private sector organisations.

The majority of Action Sustainability's activities in 2007/2008 focused on raising awareness of sustainable procurement and working with six large organisations to help them start to embed sustainability into their supply chains.

### Results

#### Attribution

The environmental metrics reported below are based on those savings made by just one of the consultancy clients, Premier Farnell, as Action Sustainability has been unable to gather data from the other clients for a range of different reasons, mainly as a result of key staff leaving the organisations.

Business won (increased sales) has been calculated from the answers to 6 month and 12 month questionnaires, which were sent out to all participants in the Sustainable Solution brokerage events that took place in 2007/2008. The

questionnaire asked attendees to detail the amount of business won to date as a direct result of the brokerage meetings. Action Sustainability received a 45% response rate from attendees at the Sustainable Solutions brokerage events in 2007-2008. These same 45% of respondents had won a total of £488,000 new business.

### Materiality

Action Sustainability have reported implemented savings. They have not taken into account or estimated what the remaining 55 non-respondents may have won, but have just reported actual business known to have been won.

### Assurance

Action Sustainability have not reported any external verification of the results.

### **Savings from short term interventions**

Action Sustainability did not report any results without attribution.

**Table 11: Impacts from Action Sustainability short-term interventions 2007/08**

<b>Metric</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	£488,000	£1.15
<b>Cost savings</b>	Not reported	-
<b>Virgin raw material savings</b>	Not reported	-
<b>Greenhouse gas savings</b>	Not reported	-
<b>Water savings</b>	Not reported	-
<b>Waste diverted from landfill</b>	Not reported	-
<b>Hazardous waste savings</b>	Not reported	-

### **5h. Technology Strategy Board**

The Technology Strategy Board (formerly the DTI's Technology Programme) is a business-led executive non-departmental public body, established by the Government. Its mission is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve the quality of life.

The Technology Strategy Board received £34.6m in funding from the BREW Programme over the period 2005-2008. The funding has supported the following five CR&D competitions in the area of Sustainable Consumption and Production:

- Waste Management and Minimisation;

- The Zero Emissions Enterprise (2 competitions);
- Design and Manufacture of Sustainable Products; and
- Remediation of Contaminated Land.

## Results

### Savings from long-term interventions

#### Attribution

The savings reported relate to the BREW Programme funding of the Collaborative Research & Development (CR&D) competitions. Typically, the first commercial application of a CR&D project is 3-5 years from the start of funding. The savings reported are therefore from long-term interventions and caution should be employed comparing these with metrics relating to other activities.

#### Materiality

Since these figures are for savings from long-term interventions, they are all identified savings. The majority of projects reported estimates, although not all projects recorded values for all metrics. This is because many projects did not intervene across carbon reduction, water saving and waste reduction/recycling.

#### Assurance

Data for each theme was reviewed by a number of technical experts familiar with the projects, to provide a level of quality control.

**Table 12: Impacts from Technology Strategy Board long-term interventions, 2005-2008**

<b>Metric</b>	<b>Projected results in 2010 from 2005-2008 interventions</b>	<b>Estimated results per £ spent</b>
<b>Increased sales</b>	£176.6 m	£5.10
<b>Cost savings</b>	£44.2 m	£1.27
<b>Virgin raw material savings</b>	362,000 t	0.0105 t
<b>Greenhouse gas savings</b>	908,000 tCO <sub>2</sub> equivalent	0.0262 tCO <sub>2</sub> equivalent
<b>Water savings</b>	465,000 m <sup>3</sup>	0.134 m <sup>3</sup>
<b>Waste diverted from landfill</b>	500,000 t	0.0144 t
<b>Hazardous waste savings</b>	372,000 t	0.010 7 t

## **5i. Defra Waste Data Strategy**

### **Activities**

The Waste Data Strategy received £1.9m of BREW funding in 2007/08. The strategy aims to deliver joined-up, accurate, complete, consistent and timely data across all waste streams. It is intended to provide a sound evidence base for policy making, land-use and business planning, target setting and performance monitoring.

### **Results**

The Waste Data Strategy did not report BREW metrics results in 2007/08.

## **5j. Regional Development Agencies (RDAs)**

### **Activities**

Altogether, the RDAs received a total of £10.9m of BREW funding in 2007/08, to co-ordinate resource efficiency work at the regional level and to fund regionally specific resource efficiency projects.

#### *Regional co-ordination of business resource efficiency activity*

The RDAs were allocated £5m in 2007/08 to carry out regional co-ordination activities. The purpose of these is to help the programme meet the varying needs of each English region, while aiming to avoid duplicating national initiatives.

#### *Regionally specific projects*

Each of the nine English RDAs received additional funding for regionally specific projects that fit with the RDAs' economic strategies. The projects include: a Northwest Waste Technology Centre of Excellence to support the research, development and demonstration of waste treatment technologies in the Northwest; regional programmes to develop end-use technologies and develop markets for recovered waste materials; and a West Midlands joint initiative promoting Resource Efficiency on Industrial Estates.

### **Results**

#### *East of England Development Agency (EEDA)*

EEDA received £1.40m from the BREW Programme in 2007/08. A standard EEDA approach was used when monitoring the BREW projects. A monitoring team visited and verified the data that the projects report on a quarterly basis. Additionally, EEDA also independently evaluate a selection of projects on a regular basis, the last one in 2007.

Monitoring does not allow for any assessment according to BREW Metrics and therefore no results are presented here.

South East England Development Agency (SEEDA)

SEEDA received £1.20m from the BREW Programme in 2007/08 and did not report BREW metrics results.

East Midlands Development Agency (EMDA)

EMDA received £1.33m from the BREW Programme in 2007/08 and did not report BREW metrics results.

London Development Agency

LDA received £1.12m from the BREW Programme in 2007/08 and did not report BREW metrics results.

Yorkshire Forward

Yorkshire Forward received £1.33m from the BREW Programme in 2007/08 and did not report BREW metrics results.

South West Regional Development Agency (SWRDA)

SWRDA received £1.12m from the BREW Programme in 2007/08 and did not report BREW metrics results.

ONE North East

ONE North East received £1.36m from the BREW Programme in 2007/08 and did not report BREW metrics results.

North West Development Agency (NWDA)

NWDA received £1.15m from the BREW programme in 2007/08 and did not report BREW Metric results.

Advantage West Midlands (AWM)

AWM received £0.997m from the BREW Programme in 2007/08.

Attribution

All of the savings reported have been attributed to Advantage West Midlands.

Materiality

Only one overall result has been provided for each metric.

Assurance

These results have not been externally verified.

## Savings from short term interventions

**Table 13: Impact of Advantage West Midlands short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	Not reported	Not reported	-
<b>Cost savings</b>	£4.2 m	£4.2 m	£4.21
<b>Virgin raw material savings</b>	Not reported	Not reported	-
<b>Greenhouse gas savings</b>	104,000 tCO <sub>2</sub> equivalent	104,000 tCO <sub>2</sub> equivalent	0.104 tCO <sub>2</sub> equivalent
<b>Water savings</b>	Not reported	Not reported	-
<b>Waste diverted from landfill</b>	47,100 t	47,100 t	0.0472 t
<b>Hazardous waste savings</b>	Not reported	Not reported	-

### 5k. Contingency and Pilot Projects

Seven pilot projects were funded by the BREW Programme in 2007/08. The total funding for the pilot projects was £4.55m for 2007/08.

A contingency fund of £0.644m provided for cross-programme activities, including monitoring and evaluation, stakeholder consultation and strategic programme communications. The results of these interventions were not monitored according to the BREW metrics.

#### Results

The results of the pilot projects are provided below.

#### *Construction Resources and Waste Platform (AEA Technology/Building Research Establishment)*

AEA Technology and the Building Research Establishment received £1.2m from the BREW Programme in 2007/08. The pilot project that they jointly conducted involved working with stakeholders to produce an evidence-based 'roadmap' for enhanced construction resource efficiency over the next 5-10 years.

The Construction Resources and Waste Platform programme is aimed at evidence gathering and streamlining, coherence activities, future proofing of resource efficiency requirements, support to policy makers, and working with the construction industry in the development of Defra business support. It is therefore very difficult to quantify direct savings.

AEA Technology/Building Research Establishment did not report BREW metrics results for this pilot project for 2007/08.

*Business Link Diagnostic Tool (Business Link Kent)*

Business Link Kent received £0.120m from the BREW Programme in 2007/08. This pilot project created and tested a diagnostic and brokerage tool, in order to increase the availability of resource efficiency and sustainability advice to all businesses within the region covered by Business Link Kent.

Business Link Kent did not report BREW metrics results for 2007/08.

*Mentoring for Success in Construction (the Environment Practice)*

The Environment Practice received £0.260m from the BREW Programme in 2007/08. The Mentoring for Success in Construction pilot project helped to skill companies in the development and implementation of Site Waste Management Plans, with the aim of providing waste minimisation and resource efficiency improvements for the companies concerned, thereby increasing their profitability.

This project has since developed and is delivering a comprehensive mentoring programme for North East based construction companies in the development and implementation of Site Waste Management Plans.

This pilot project did not report BREW metrics results for 2007/08.

*BREW Centre for Local Authorities (Local Government Association/Oxfordshire County Council/National Industrial Symbiosis Programme)*

The BREW Centre for Local Authorities received £1.4m from BREW in 2007/08. The purpose of this pilot project was to establish a central support service for councils to disseminate best practice, create an active learning network of Local Authority Officers and provide kick-start funding for Local Authorities to initiate business resource efficiency projects.

## **Results**

### Attribution

Attribution has been assessed on the basis of the views of the Local Authority officers as to the difference that the funding from the BREW Centre made to the projects and its outcome. Whilst it could be argued that the officers are biased, the feedback obtained suggests that in the majority of cases,

Trailblazer projects would not have gone ahead at all without the funding received from the BREW Centre.

Attribution has been applied using the following guidelines:

- Full attribution (100%) – the project and its outputs would not have happened without the BREW Centre;
- Half attribution (50%) – the funding, advice and support provided by the BREW Centre was valuable, but the project and similar outcomes may have happened without the BREW Centre; and
- Quarter attribution (25%) – despite the fact that the project was funded by the BREW Centre, it is likely to have happened without the BREW Centre funding with similar outcomes.

### Materiality

The savings are all implemented savings.

### Assurance

The BREW Centre employed the agency Databuild to collect and verify their funded projects work. Qualitative interviews were held with key personnel at the local authority.

### **Savings from short term interventions**

**Table 14: Impacts from BREW Centre for LAs short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Attributed results per £ spent</b>
<b>Increased sales</b>	£301,000	£298,000	£0.26
<b>Cost savings to business</b>	£276,000	£271,000	£0.32
<b>Virgin raw material savings</b>	5,670 t	5,571 t	0.001 t
<b>Greenhouse gas savings</b>	52,200 tCO <sub>2</sub> equivalent	51,300 tCO <sub>2</sub> equivalent	0.01 tCO <sub>2</sub> equivalent
<b>Water savings</b>	Not reported	Not reported	-
<b>Waste diverted from landfill</b>	5,670 t	5,571 t	0.005 t
<b>Hazardous waste savings</b>	Not reported	Not reported	-

### **Savings from long term interventions**

The table below shows the estimated cumulative level of the attributed outputs over 5 years for projects funded in 2007/8. These figures **do not** include

potential 'roll-out' that could happen as a result of long-term strategy development type projects or expansion of projects.

**Table 15: Impacts of BREW Centre for LAs long-term interventions, 2007/08**

<b>Metric</b>	<b>Projected results cumulative over 5 years</b>	<b>Estimated results per £ spent</b>
<b>Increased sales</b>	£13,400,000	£9.55
<b>Cost savings to business</b>	£12,000,000	£8.57
<b>Virgin raw material savings</b>	310,000 t	0.22 t
<b>Greenhouse gas savings</b>	873,000 tCO <sub>2</sub> equivalent	0.62 tCO <sub>2</sub> equivalent
<b>Water savings</b>	60 m <sup>3</sup>	-
<b>Waste diverted from landfill</b>	310,000 t	0.22 t
<b>Hazardous waste savings</b>	106 t	-

*Centre for Remanufacture and Reuse (Oakdene Hollins)*

The Centre for Remanufacture and Reuse received £0.7m from the BREW Programme in 2007/08. This pilot project aimed to create an evidence base for remanufacturing, as a basis for further work in this area.

Centre for Remanufacture and Reuse has undertaken a series of background interventions and some targeted projects with nearer term, but still unrealised, benefits. Only these latter projects have been included as they can be verified with the organisations involved. These are:

- a building materials reuse centre development with Bioregional; and
- a corporate textile reuse project.

#### Attribution

##### *Building materials reuse centre development*

Oakdene Hollins agreed with Bioregional that Oakdene Hollins would take 50% credit for the first implementation for one centre for the first five years of operation. For further implementations up to year ten, Oakdene Hollins would take 25% credit.

##### *Corporate textile reuse*

The project focused on technical issues of de-logoing, Oakdene Hollins assumed that the year 1 net impact would result in an attribution level of 10% accounting for the weight of this specific aspect.

In estimating its achievements, Oakdene Hollins has excluded background improvements that may have accrued by profile raising and general increased awareness, improvements in operating standards, etc. Assuming a 1%

increase in remanufacturing activity, these might, for example account for 1,500tCO<sub>2</sub> equivalent or £50m of new business sales.

### Materiality

All of the figures presented are identified savings.

### Assurance

The projects have been included because they can be verified with the organisations involved, but no independent verification has been carried out.

## **Results**

### **Savings from long term interventions**

The savings presented are the combined results of both projects.

**Table 16: Impacts of CRR long-term interventions, 2007/08**

<b>Metric</b>	<b>Projected attributed results</b>	<b>Estimated results per £ spent</b>
<b>Increased sales</b>	£600,000	£1.17
<b>Cost savings</b>	Not reported	-
<b>Virgin raw material savings</b>	1,550 t	0.00221 t
<b>Greenhouse gas savings</b>	280 tCO <sub>2</sub> equivalent	0.004 69 tCO <sub>2</sub> equivalent
<b>Water savings</b>	88,000 m <sup>3</sup>	0.126 m <sup>3</sup>
<b>Waste diverted from landfill</b>	13 t	0.0000185 t
<b>Hazardous waste savings</b>	Not reported	-

### *White Young Green Environmental (WYGE)*

WYGE received £0.8m from the BREW Programme in 2007/08. WYGE identified three industrial sectors with which to work collaboratively to develop and test the delivery of Environmental Management Systems to BS8555. The three sectors involved were horticulture, ship building/ship repair and cleaning and support services.

## Results

### Attribution

Only 14 companies were able to provide data in response to requests by WYG for the remote provision of data. From the 14 companies which responded, the respondents for each parameter were as follows:

- Diversion from landfill: 7 companies reported data.
- Virgin raw materials saved: 2 companies reported data.
- Carbon savings: 2 companies reported data.
- Water conservation: 2 companies reported data.
- Reduction in hazardous waste: 1 company reported data.
- Cost savings: 7 companies reported data.
- New business sales: 1 company reported data.

Attribution has been assessed using the following scale:

- 100% - intervention fully responsible for reported saving.
- 75% - intervention mostly responsible for reported saving.
- 50% - intervention equally responsible for reported saving.
- 25% - intervention partially responsible for reported saving.
- 0% - intervention not responsible for reported saving.

### Materiality

The results do not differentiate between identified and implemented savings. Only one overall result is provided for each metric.

### Assurance

These results have not been externally verified.

## Savings from long term interventions

**Table 17: Impacts from WYGE short-term interventions, 2007/08**

<b>Metric</b>	<b>Results without attribution</b>	<b>Results with attribution</b>	<b>Short-term metrics results delivered per £ spent (against attributed results)</b>
<b>Increased sales</b>	£1,500,000	£750,000	£0.94
<b>Cost savings to business</b>	£227,000	£227,000	£0.28
<b>Virgin raw material savings</b>	3,520 t	3,520 t	0.0044 t
<b>Greenhouse gas savings</b>	271 tCO <sub>2</sub> equivalent	187 tCO <sub>2</sub> equivalent	0.0000642 tCO <sub>2</sub> equivalent
<b>Water savings</b>	11,100 m <sup>3</sup>	6,240m <sup>3</sup>	0.0078 m <sup>3</sup>
<b>Waste diverted from landfill</b>	3,940 t	3,950 t	0.00491 t
<b>Hazardous waste savings</b>	17 t	17 t	0.0000212 t

### Annex 1: BREW Programme activities in 2007/08, by delivery body

Delivery Body	Activities	2007/08 funding (£m)	Short-term <sup>3</sup>	Long-term <sup>4</sup>
Carbon Trust	<ul style="list-style-type: none"> <li>Reducing carbon emissions</li> <li>Developing low-carbon technologies</li> <li>Helping organisations to understand impact of climate change</li> </ul>	24.0	✓	✓
Technology Programme	<ul style="list-style-type: none"> <li>Collaborative R&amp;D on commercial and industrial waste issues</li> </ul>	26.8 <sup>5</sup>	✗	✓
Envirowise	<ul style="list-style-type: none"> <li>Waste minimisation and resource efficiency awareness</li> <li>Resource efficiency clubs</li> <li>Waste minimisation advice</li> </ul>	22.2	✓	✗
Market Transformation Programme (MTP)	<ul style="list-style-type: none"> <li>Market transformation, including product design: improving the resource efficiency of products used by business</li> </ul>	3.93	✗	✓
National Industrial Symbiosis Programme (NISP)	Industrial symbiosis – identifying businesses with the aim of improving cross industry resource efficiency through the commercial trading of materials, energy and water and sharing assets, logistics and expertise.	9.7	✓	✗

<sup>3</sup> A tick indicates that the delivery body reported short-term metrics results for 2007/08. A cross indicates that no such reporting took place.

<sup>4</sup> A tick indicates that the delivery body reported long-term metrics results for 2007/08. A cross indicates that no such reporting took place.

<sup>5</sup> In the body of the report, results are presented against the entirety of the Technology Programme's £34.6m of BREW Programme funding received over 2005-08, not all of this funding was received in 2007/08 so is not included in the total above.

Waste and Resources Action Programme (WRAP)	<ul style="list-style-type: none"> <li>providing advice, information, training, market development and financial support (capital and de minimis) to businesses in some specific sectors.</li> </ul>	12.2	✓	✓
Environment Agency	<ul style="list-style-type: none"> <li>Enhancing NetRegs</li> <li>Tackling waste crime</li> <li>Protocols for recovery of waste materials</li> </ul>	4.45	✓	✓
Action Sustainability	<ul style="list-style-type: none"> <li>Promoting sustainable procurement through supply chains</li> </ul>	0.424	✓	✗
Waste Data Strategy	<ul style="list-style-type: none"> <li>Implementing the Waste Data Strategy</li> </ul>	1.9	✗	✗
Regional Development Agencies	<ul style="list-style-type: none"> <li>Coordinating resource efficiency work at the regional level and funding regionally specific resource efficiency projects</li> </ul>	10.9	✓	✗
AEAT/BRE (CRWP)	<p>Strategic Approach to Construction Waste:</p> <ul style="list-style-type: none"> <li>With stakeholders, producing an evidence-based 'road-map' for enhanced construction resource efficiency over the next 5-10 years</li> </ul>	1.2	✗	✗
Business Link Diagnostic Tool (Business Link Kent)	<p>Business Link Diagnostic Tool:</p> <ul style="list-style-type: none"> <li>Developing the "diagnostic tool", and training on its use</li> </ul>	0.120	✗	✗

The Environment Practice	<p>Mentoring for Success in Construction</p> <ul style="list-style-type: none"> <li>• Reviewing the resource efficiency of, and developing a comprehensive mentoring programme for, 15 North East based construction companies in the development and implementation of voluntary Site Waste Management Plans</li> </ul>	0.260	x	x
BREW Centre for Local Authorities (LGA/Oxfordshire County Council/NISP)	<ul style="list-style-type: none"> <li>• Establish a central support service for councils to disseminate best practice, create an active learning network of Local Authority Officers and provide kick-start funding for Local Authorities to initiate business resource efficiency projects.</li> </ul>	1.4	✓	✓
Centre for Remanufacture and Reuse (Oakdene Hollins)	<ul style="list-style-type: none"> <li>• Developing an evidence base for the potential of remanufacture</li> </ul>	0.700	x	✓
White Young Green	<ul style="list-style-type: none"> <li>• Developing and delivering Environmental Management Systems (EMS) to BS8555 for 20 companies within three Trade Associations, with the potential for subsequent full roll-out to their memberships</li> </ul>	0.800	✓	x
Contingency fund	<ul style="list-style-type: none"> <li>• NISP Yorkshire Forward shortfall</li> <li>• Stakeholder event</li> <li>• Agricultural waste</li> <li>• Small water project</li> </ul>	0.644	x	x
<b>TOTAL</b>		<b>121.628</b>		