Economic Evaluation of the Benefits of NetRegs to Small and Medium Enterprise Users in the UK: 2008 baseline and future valuation method

Final Report

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Executive Summary

NetRegs is an Environment Agency led partnership initiative, providing a web-based tool (www.netregs.gov.uk) offering guidance to help businesses comply with environmental legislation. The aim of this project is to obtain robust quantitative data about the benefits to small and medium enterprises (SMEs) in the UK of using the NetRegs website. It also aimed to define a NetRegs valuation methodology that can be used in the future.

The approach to conducting the research followed three broad steps:

1) The first phase scoped and designed the work and specified the web-based method for administration of the survey.
2) Phase two conducted the web-based survey among a sample of NetRegs' e-alert subscribers.
3) The third phase analysed the responses, aggregated the results from the sample to wider user groups and defined a repeatable methodology for the future.

Research Design

The research reviewed several relevant methods used in literature to value the benefits of environmental regulations and website information. It also considered available data related to the NetRegs website and the present user population. A bespoke method for valuing the specific economic benefits of NetRegs to SMEs was then designed. Pilot telephone interviews were conducted to ensure the viability of the method, followed by a pilot survey to test the survey questions and format.

The benefits of NetRegs to SMEs occur in two ways: *search benefits* (the reduction in time and expenditure to gain the information provided), and *compliance benefits* (the reduction in the time and costs spent complying with regulations). A method based on the International Standard Cost Model (ISCM) was used to measure the value of NetRegs' benefits to businesses. This value is defined as the difference between the environmental regulatory burden on businesses with and without NetRegs. The survey questionnaire asked the respondent to consider the nature of the regulatory burden for their company, and to quantify this. They were then asked to estimate the extent of the reduction in the regulatory burden directly attributable to the use of NetRegs information in relation to both employee time savings, and to business expenditures.

Survey Process and Results

The survey was sent to 5,000 email addresses, randomly chosen from the list of 8,111 business (but not public sector) e-alert subscribers, on the 3rd and 4th of March, 2008. To encourage responses, an incentive was offered as a £5 charity donation made on behalf of the first 400 completed responses to the survey. Donations have been made to the Royal National Lifeboat Institute, the Woodland Trust, and the National Society for the Prevention of Cruelty to Children. The survey achieved 465 valid responses from SMEs, this is a statistically reliable representation of the population of SMEs who subscribe to e-alerts.

The results found that for the population of e-alerts subscribers:

- Almost half of the responses were from firms which were medium sized enterprises, while the other half split relatively evenly between the micro and small categories. Compared to

the UK economy as a whole, the e-alert subscriber population is skewed toward medium sized firms.
- The great majority of e-alert SME users reported they were 'primarily based' in England (85%).
- There is a greater proportion of e-alert subscribers in primary and resource-intensive industries such as agriculture, mining and quarrying, and manufacturing sectors.
- The majority of e-alerts use the site every week or every month, and the frequency of visiting the site was not strongly related to firm size.

The economic value of NetRegs was calculated by adding the time and physical cost savings:

- The time savings value was calculated by dividing the total time saved as a result of using NetRegs between two occupational groups ('Managerial and professional' and 'Associate professional, technical, administrative and elementary'), and then multiplying their time savings by the average wage rate for those groups.
- The physical savings is simply the sum of the reported savings in terms of capital costs, resource savings, and other costs.

In relation to the cost savings, our analysis found:

- The average economic value of using NetRegs to the firms surveyed was **£2,615 per year**.
- The value of respondents' reported cost savings from NetRegs were plausible and fairly evenly spread, making the mean an appropriate figure for aggregation.
- The savings reported varied with firm size: medium sized businesses derived the greatest value from NetRegs.
- The mean economic value varied significantly by frequency of visits to NetRegs. Unsurprisingly, those businesses that use NetRegs more frequently (defined as the number of months out of the year that they visit NetRegs) derive more total cost savings.
- The average economic value of savings per monthly visitor to NetRegs shows a much less variation.

Estimating the Total Value of NetRegs

To aggregate the data on the economic value of NetRegs beyond the 465 respondents required assumptions about the aggregation populations. After allowing for email delivery failures and public sector email addresses, there were estimated to be 7,829 valid private sector e-alert subscriber email addresses. Assuming, in line with the survey response, that 68% of these are SMEs gives a population estimate of 5,295 SME e-alert subscribers. Therefore SMEs are assumed to make up just over 59% of all NetRegs users.

The time and expenditure cost savings by business type for the 465 survey responses were aggregated to the 5,295 SME e-alert subscribers as shown in Table ES.1 below. Of the estimated **£13.85 million annual costs savings to SME e-alert subscribers**, over 61% comes from medium sized enterprises, not only because they form almost half the respondent sample, but also because they report larger savings. We have a high degree of confidence in this aggregation.

Table ES.1: Annual aggregate economic value to e-alert subscribers, based on average savings from the sample

	Number	Average savings (£ per business per year)	Total savings (£ per year)
	(a)	(b)	(c) = (a) x (b)
Survey sample (SME)	465	£2,615	**£1.23 m**
Aggregated to e-alert SME population	5,295	£2,615	**£13.85 m**

Aggregating further to the rest of the NetRegs user population is less certain. Because e-alert subscribers are likely the most intensive users of NetRegs, using them as a basis for aggregation could overestimate cost savings. The total population of NetRegs users in the UK was examined using several available data sets, the most reliable and precise of which was the web traffic data for the domain name www.netregs.gov.uk. These data provided the unit, 'unique monthly visitors,' on which the overall value calculation was based.

"Monthly visitors" is an important unit because the most accurate aggregate data about the level of use of NetRegs is the website traffic data of unique monthly visitors. The survey sample's annual value from, and frequency of visits to NetRegs, are believed to be higher than those for all NetRegs users (because the e-alert sample is made up of relatively intensive users). However, the survey shows a much more even relationship between cost savings and frequency of monthly visits, suggesting that the value per monthly visitor from the sample is similar to that for all NetRegs users. Therefore, aggregating on a monthly basis is better than aggregating on an annual basis.

The approach summarised in Table ES.2 is the best available for the benefits NetRegs provides to SMEs in the UK. The approach is equivalent to saying that for each month that a different user logs on to NetRegs, a cost saving is made in their business. As shown in Table ES.2, this gives an estimated range of values of £57.7 million - £85.7 million per year. Due to the assumptions mentioned below, the lower figure is thought to be the most sensible estimated value for the benefits NetRegs provides: about **£58 million to SMEs in the UK each year**.

Table ES.2: Annual economic value of NetRegs to all users, estimated from monthly cost savings

	Number of browsers (visitors) per year		Average savings per unique monthly visitor (£ per business per month)		Total annual savings (£ per year)	
	Unique annual (a)	Unique monthly (b)	Low (c)	High (d)	Low = (b) x (c)	High = (b) x (d)
Survey sample	465	4,139	£205	£304	£0.8 m	£1.26 m
Aggregated to e-alert population	5,925	52,733	£205	£304	£10.8m	£16.04 m
NetRegs SME monthly visitors	unknown	281,901	£205	£304	**£57.7 m**	**£85.7 m**
NetRegs total monthly visitors	unknown	476,625	£205	£304	£97.9 m	£145.0 m

The calculations based on monthly unique users are sensitive to certain assumptions:

- The figure is heavily dependent on the assumption that 59% of all NetRegs users are SMEs (in line with the survey findings). This assumption seems sound because the survey

sample is reasonably large, SMEs make up over 99% of businesses in the economy, and because larger firms (non-SMEs) may be more likely to subscribe to e-alerts.

- The assumption that other SME visitors to NetRegs obtain the same value from their visit as e-alert subscribers could be questioned. The lower value in the range (£205 cost savings per monthly visitor) is used due to this concern; and relates to e-alerts subscribers who visit NetRegs less than once a year so is likely to be representative of less frequent non e-alert subscriber visitors.

The average value of total cost savings per firm was compared against the responses to a willingness to pay question in the survey and two market-price substitute benchmarks. The willingness to pay question, asking how much businesses would spend per month to buy an equivalent service if NetRegs did not exist, revealed a very low valuation. This discrepancy might be explained by imbalances in the risk of being caught not complying with environmental regulations, or by poor ex-ante understanding of the benefits of using NetRegs.

The value of NetRegs to an individual business as a basis for the aggregations was also cross-checked against the cost of two comparable commercial services: ENDS Legal Compliance Manager and BarbourInfo. On the whole the cost of these services (c. £2,000 per year) were relatively close to the average cost savings described by the survey population (£2,615 per year), about a 20% difference. This difference is small enough to support a degree of confidence in the research method and survey data.

Recommendations

The second objective of this research was to set out a method by which to continue valuing NetRegs in the future. Moving forward from what is now an established baseline, we recommend developing the research method in future years:

1. *Develop a continuous NetRegs valuation strategy - gather data on the user population and value elements of the calculation, these may be best researched separately, and then combined.*
2. *Gather data on the population and characteristics of non e-alert NetRegs users – either through the NetRegs website or Atkins' survey, to understand the beneficiaries better and to facilitate better aggregation of benefits in future.*
3. *Continue using a cost savings framework to calculate the value of NetRegs – it is consistent with comparable work.*
4. *Follow a structured research approach – we suggest the steps that should be followed.*
5. *Be clear about valuation objectives with respondents - our survey's wording was carefully chosen in this respect.*
6. *Consider different beneficiaries (other than SMEs).*
7. *Keep sector divisions consistent for comparability of results.*

NetRegs could also consider monitoring 'competitor' services, and developing aspects of the survey analysis, such as country and regional differences, further. Finally, we would note that given the fixed costs of developing NetRegs, the evidence that only a small proportion of SMEs (even in environmentally-intensive sectors) know about the site, and the economic value generated to firms in visiting NetRegs, raising awareness of the site through putting more resources into promotion and marketing should have a high pay-back.

1 Introduction

1.1 Background

There is a wide range of environmental regulations in the UK. When companies seek advice and guidance in relation to them they can encounter diverse, inconsistent and often conflicting information. Poor information in relation to environmental regulations can be linked to two problems. Firstly, it can create a cost burden for businesses, which can in particular affect small and medium-sized businesses (SMEs) that lack resources to understand regulations efficiently and therefore bear unnecessary costs. Secondly, it can lead to environmental problems. Many UK businesses are unaware of their legal environmental responsibilities. The majority of them are not permitted or inspected regularly in relation to environmental protection. However, these non-regulated business create the majority of pollution incidents (Environment Agency, pers comm.).

NetRegs was established as an Environment Agency led partnership initiative to address these problems. Some 99% of UK businesses are SMEs, so NetRegs is designed to provide advice that is amenable to their circumstances. An SME is defined as a profit-seeking business or organisation controlled predominately by private interests with fewer than 250 employees. NetRegs has received UK wide support from private, public and voluntary sector partners, including SMEs and their trade associations.

NetRegs (www.netregs.gov.uk) is a web-based tool offering UK businesses, and SMEs in particular, guidance on how to comply with environmental legislation and reduce their environmental impacts. Since its establishment, NetRegs has seen a significant level of use (currently attracting over 40,000 unique web visitors per month), and becoming increasingly known within the business community. Atkins (2007) recorded increasing use within certain target sectors like manufacturing, and NetRegs has 8,000 subscribers to its e-alerts service.

Increasing use and Atkins' research show that the majority of users find NetRegs valuable, helping them to improve their environmental compliance. NetRegs has also received feedback from individual companies reporting savings of hundreds of thousands of pounds as a result of efficiency gains from following the site's guidance. However, putting a monetary figure on the value of NetRegs is not straightforward. Therefore, in January 2008 the Environment Agency for England and Wales contracted eftec to research the value of NetRegs to the SME community in the UK. This information is needed in order to demonstrate the value of continuing to develop and enhance the NetRegs website so that greater benefit can be given to its users.

To investigate this value, eftec's research needed to fill key information gaps in relation to NetRegs:

- The exact number of users of NetRegs;
- The makeup of NetRegs users (e.g. by size, public or private sector); and
- The value to SMEs of using NetRegs.

1.2 Objectives

The aim of this project is to undertake primary survey work to obtain robust quantitative data about the benefits that users of the NetRegs website obtain. In doing so it also identifies recommendations about how the benefits can be measured in the future. In order to fulfil this aim, this research set out to:

- Review use of the website among SMEs, in particular to better understand how the website is viewed by the SME community.
- Identify the benefits to business of using the website, focussing on the key benefits for SMEs.
- Obtain robust and defensible financial values for the benefits of NetRegs to SMEs through surveying a user sample, in order to inform future decisions about the use of public resources in supporting the service.
- Develop, test and refine a repeatable NetRegs valuation methodology that can be used in the future (e.g. on a yearly basis) to gain up-to-date statistics, and therefore a measure over time of how the website is delivering benefit to SMEs.

The first priority for the research was to determine the monetary value of the NetRegs site to the individual SME user, and to aggregate this for all SME users. A secondary objective was to identify the website's potential value for all SMEs. However, deriving robust economy-wide statistics for SME users is dependent on relating survey response data to relevant wider populations to accurately aggregate the results to the national level. This in turn depends on the representativeness of the respondent sample of the overall user population.

The project also aimed, where possible to identify the value of the website to sub-groups of SME users, identified by:

- business size (particularly micro (<10 employee), small and medium bands);
- sector (at least construction, agriculture, and manufacturing (food and drink; metal working and fabrication));
- regions, and
- countries (at least UK/England split).

The project benefited from a survey population of c. 8,000+ email addresses, belonging to individuals who subscribe to NetRegs' e-alert service. This survey group is clearly a biased sample of NetRegs users, as having requested regular updates in relation to the service, they are likely to be amongst its more intensive users. Nevertheless, they form a valuable resource for this study given the difficulty in obtaining survey responses from SMEs, the relatively tight timeframe for the research, and the very large random survey of SMEs that otherwise would have been necessary to obtain a significant response from SME users of NetRegs.

1.3 Approach

The approach to conducting the research followed three broad steps:

1) The first and most extensive phase started with discussions with the NetRegs program staff and reviewed related literature. It designed the questionnaire, using telephone interviews and a pilot survey to SMEs to check the questionnaire for accuracy and completeness. It also specified the web-based mode of administration.
2) Phase two conducted the web-based survey among a sample of the 8,000 NetRegs e-alert subscribers, and consolidated the data into a format ready for analysis in the project, and storage by the Environment Agency.
3) The third phase analysed the questionnaire responses, drew conclusions and recommendations about the financial benefits to users and laid out the tested and repeatable methodology by which to evaluate the use and monetary benefit of NetRegs to users in the future.

The compressed timeframe of the review allowed approximately nine weeks for the research project, starting at the end of January 2008. The forthcoming Sections of this report outline our approach to the problem (Section 3) and findings in more detail. Section 4 describes the

survey's results. Section 5 uses these results, in conjunction with population data to produce aggregate values for NetRegs. Section 6 outlines the recommended future research approach other recommendations. More details of the survey itself are provided in the appendices.

2 Research design

2.1 Benefits and beneficiaries

NetRegs improves the quality and the quantity of information available to businesses about complying with environmental regulations. It is free to businesses with internet access. The advantages of the NetRegs information and its accessibility through a web platform, are that it:

- Is written in common, easy-to interpret language;
- Provides firms with sector-specific guidance;
- Lays out requirements for and steps to achieve compliance;
- Provides resource efficiency advice;
- Is written by an authoritative source which also happens to be the regulators/ enforcers;
- Minimises time searching for compliance information, compared to relevant alternatives;
- Can be assumed to be current, real-time (not outdated) policy;
- Can be anonymously accessed and consumed by firms without risk of detection of non-compliant status by regulators, and
- Can be costlessly replicated for wider consumption within or between firms.

Various groups benefit from these features of NetRegs in a range of situations. As described in Section 2.2, the different available valuation methods can measure different types of benefits, to different beneficiaries, in different ways. The focus of this specific research is on the benefits of NetRegs to small and medium enterprise (SME) users in the UK. An SME is defined, for this project, as a private business with less than 250 employees. SMEs can be further divided by size into micro (<10 employees), small (10-49 employees) and medium (50-249 employees) (ONS, pers comm.).

The focus on SMEs rules out some of the approaches for looking at benefits to different agents and to different levels - groups such as Local Government, the Environment Agency and the UK economy as a whole. The benefits to the specific SME user group of interest, around which the research method and survey questions are designed, are therefore:

- Search benefits: These are the reduction in search costs (time and expenditure) of businesses to gain the information provided by NetRegs.
- Compliance benefits: This is the reduction in the time and costs spent complying with regulations, as a result of receiving a greater quantity and/or quality of information via NetRegs.

2.2 Review of relevant valuation methods

Benefits of using NetRegs may take the form of avoiding costs of non-compliance penalties, resource efficiency savings and time saving. The research reviewed several relevant research methods used in literature to value such benefits of environmental regulation and website information, before designing a bespoke method for the specific economic benefits of NetRegs. The following methods were initially considered in terms of their appropriateness for the present research and to the degree that they focus on the provision of information about the regulations (as by NetRegs) rather than the benefit of the regulations themselves.

2.2.1 Value of time spent by businesses using NetRegs

A time-value approach works on the assumption that a business spends time using NetRegs information when it is worthwhile for the business in terms of benefits realised. The benefits of NetRegs are at least as large as the value of the time invested in visiting NetRegs. In other words, the value of time acts as a 'proxy' for the benefits of NetRegs. The approach requires estimating the number of hours spent by a business using the information and so estimates are sensitive to the difference in value between, say, a manager's and an administrator's time. Website traffic data on the average visit length are useful in this way, and a preliminary estimate valued the information on the site at £0.5 - £2.4 million per year[1]. The disadvantage of this approach is that the value figure is inevitably an underestimate of the savings covered, and omits other types of cost savings directly attributable to putting the information to use, but that the business user was not aware of when gathering the information. It is not pursued further.

2.2.2 Reduction of regulatory burden

Potential costs to businesses of complying with new regulations, environmental or otherwise, are commonly framed in terms of economic regulatory burden to the non-compliant business. A business earning 15 percent profit before the regulation might be projected to earn 12 percent once the regulation comes into force. The aim is to minimise the profitability loss (3% in this example) as much as possible.

Providing businesses with bespoke compliance advice would likely reduce this burden. The value of the burden-reducing measure is estimated by asking businesses the value of the time and cost they avoided by using the service. This approach can take two forms:

- In the implicit baseline approach respondents are asked to directly estimate time and cost savings attributable to NetRegs. This implicitly requires respondents to understand the counterfactual (the costs of complying with the regulation in a world without the benefit of NetRegs), and then estimate savings against this baseline as a result of accessing NetRegs. Therefore, merging both stages of the calculation into a single question format could compromise the accuracy of response.

- In the explicit baseline approach the researcher gathers the same information but in two separate stages. First, the respondent is asked to establish a baseline regulatory burden (how much does it cost your business to comply with environmental regulations per year?), and second to estimate the portion they save (or saved, or would save) by using NetRegs (how much of this cost was avoided by using NetRegs?).

This method (the International Standard Cost Model) is commonly used in policymaking to assess the burden of new regulation on business and is therefore systematic and robust, with a method practiced throughout Europe by advocates and policymakers interested to quantify the value of 'red tape'. It has the advantage of taking into account non-time costs such as avoided capital expenditure, but it potentially requires a burdensome level of survey detail and therefore respondents' time. This approach is developed further in Section 2.4.

[1] Based on 640,000 NetRegs website sessions in 2007 and 275 seconds per session on average = 48,888 hours or 6,111 person-days. Assuming an 8 hour working day, valued at between £80 per day (average wage rate for lower paid staff) and £400 per day (a lower bound cost to hire consultants to do equivalent work), the estimate comes to £0.5 - £2.4 million per year.

2.2.3 Market price of substitutes for NetRegs information to firms

Estimates are obtained by comparing the quality, quantity and accessibility of information on the NetRegs website to market prices for comparable providers of information. The most direct comparison is to commercial online environmental compliance services that perform (most of) the same functions as NetRegs such as ENDS, etc. It is also useful to compare against rates charged by environmental consultants, solicitors and accountants for guidance and advice, and against subscription fees to industry associations. To ensure comparability, initial assumptions must be made about the purposes for which firms use NetRegs (understanding extent of liability; assessing compliance options) and the benefits they derive (assurance that the advice makes no omissions; assurance that advice useful to a specific sector). A disadvantage however is that exact market substitutes do not exist for NetRegs, i.e. there is nowhere businesses can go in the private marketplace for environmental compliance advice as unquestionably authoritative as that on the NetRegs website. Despite the lack of exact substitutes, the approach is used for checking that results reached through other research approaches are reasonable.

2.2.4 Cost of website and information

The above methods approach the benefit estimation from the point of view of the demand. The value can also be estimated by using the cost of supply as a proxy. In other words, the site can be assumed to be at least as valuable as the cost of producing the content. The cost of supply includes the time NetRegs and Environment Agency staff spend researching, negotiating, writing, editing and maintaining the information on the NetRegs website. Staff hours spent are categorised by salary band and multiplied by an appropriate hourly rate, both of which would likely be available from administrative records. One disadvantage is that the approach does not account for the value-added achieved by some businesses when they make resource efficiency or savings as a direct result of implementing the advice. Another drawback is that although an economic value is identified, there is no named beneficiary of that value – not the Environment Agency, not SMEs. Because the basis of the estimate is a cost, the question of whether or not this cost is indeed worth the benefits it generates (i.e. the purpose of this research) remains open. Finally, the assumption about the value of the content can be challenged. This approach is not pursued further.

2.2.5 Administrative efficiency gains to Environment Agency

It is possible to estimate the value of information – its creation and existence – to the Environment Agency to the extent that it benefits functionally, as an organisation, from NetRegs in the following ways:

- Reduced enforcement costs;
- Regulatory consensus and consistency;
- Less time providing advice;
- Providing anonymity (and so improving communication), and
- Expanding and improving the dissemination of regulatory information.

These categories are very likely real, probably sizeable, and quantifiable with some research effort. However, because the objective of this research is valuing the economic benefit of NetRegs to SMEs specifically, as opposed to the Environment Agency, the UK economy as a whole or another beneficiary, these benefits were a low priority and the approach was not pursued.

2.2.6 Website capital valuation methods

Website capital valuation methods are used by financial- and IT-industry valuation professionals to assess the capital value and earning potential of a commercial website before an acquisition or sale. Estimations are typically based on the cost of creation, present earnings and future earnings projections. In theory this method should measure all the benefits that NetRegs provides, assuming that some market revenue could be obtained in relation to each of them. This valuation technique was felt inappropriate in a public sector context because the idea of NetRegs being bought or sold is unrealistic.

2.2.7 Willingness to pay

This method directly asks users of NetRegs, via a theoretical payment model, what price they would pay to have access to the NetRegs service. It is a widely used approach in valuing non-market goods and services (those which are not traded but nonetheless generate benefits and hence are valued), as it captures all aspects of economic value, not just those for that are reflected in market prices. If carefully executed, this approach could capture the full economic benefits of the information provided by NetRegs. However, this method includes some otherwise intangible values (such as option value) that relate to larger populations of beneficiaries than feasible to survey in this instance. Another disadvantage is that since NetRegs is a freely accessible service, formulating a willingness to pay question could cause confusion and imply that access to NetRegs may not be free in future. Therefore, this method is not pursued further.

2.3 Review of relevant data

As well as reviewing valuation methods in the pre-research phase, the approach also considered available data related to the NetRegs website, the business case for the creation of NetRegs and estimates of the present user population. The research method and subsequent survey were largely designed around the availability of these data. The main sources included:

- Nielsen NetRatings statistics on NetRegs website use, from August 2005 (when data began to be collected) to the present.
- Atkins research reports and raw survey data from 2002, 2003, 2005 and 2007 on UK SME environmental awareness.
- eftec research reports concerned with the valuation of information, and information websites and portals, in the context of performing environmental research for industry and policymaking.
- ONS statistics on the size, sector and country distribution of SMEs in the UK, and on gross hourly earnings by standard occupational category.
- Back-of-the-envelope estimates of the value of NetRegs by NetRegs staff.
- Databuild (2006) report.

2.4 Design of research approach for calculating the costs savings attributable to NetRegs

In order to calculate the benefits of NetRegs identified above, it was deemed necessary to construct a NetRegs user survey (online) to solicit the information from the firms directly. This was in order to (i) gather the necessary data to a sufficient level of accuracy; (ii) account for the variable regulatory costs faced by firms (see Section 2.4.1); (iii) be as thorough as possible

in a research exercise that is the first of its kind; and (iv) take advantage of the e-alert subscribers list, the only information database through which to contact NetRegs users.

The core of this approach were questions to gather information that allows calculation of the costs savings attributable to NetRegs. The time unit of analysis was one year, and all values were expressed in GBP.

2.4.1 Criteria and assumptions for the approach

The research approach was designed by selecting suitable aspects of valuation approaches identified in Section 2.2, for the specific purpose of valuing NetRegs to SME users in the UK. Several overarching criteria were laid out in advance to ensure the conceptual approach would be robust, effective and that it would take advantage of existing data on NetRegs. Therefore the approach chosen:

- Draws on tested and defensible valuation models used successfully in economic research related to valuing information for environmental compliance and research (eftec 2004, Databuild 2006);
- Allows for the valuation of staff time savings as well as the avoided physical costs normally triggered by complying with environmental regulations, while minimising the possibility of 'double counting';
- Accounts for the variable environmental regulatory cost burden borne by firms of different sizes and sectors;
- Takes advantage of a list of 8,952 email addresses for NetRegs e-alert subscribers. These comprise a biased sub sample of the total NetRegs user population, but offer the only feasible means of directly targeting NetRegs users with a survey, and
- Gathers new, primary data in a cost effective way and within a short time frame.

Three major assumptions are behind the research approach chosen:

1. All businesses affected by environmental regulations of any kind are assumed to bear compliance costs on an ongoing basis that would not be born in the absence of regulation (SCM, 2008). These costs encompass complying with all environmental regulations relevant to all industrial sectors (manufacturing, telecommunications, etc) and all environmental domains (water, waste, etc). Costs of complying with all other non-environmental regulations are excluded from this research framework.

2. Each firm has a variable level of regulatory liability according to its characteristics and therefore bears a variable cost of compliance. Only the business itself knows its own specific compliance costs.

3. NetRegs is a source of information businesses can use to reduce compliance costs. Costs are reduced by saving staff time that would have otherwise been spent searching for, verifying and digesting information, and/or following regulatory guidance from inferior sources (or in some cases coping with no guidance at all) (see Section 2.1.1). Costs are also reduced when businesses avoid having to spend money on non-staff 'physical' and related items to comply with environmental regulations (see Section 2.1.2). These may include special chemicals or machinery, waste disposal services or continuous inputs into the business's production process such as water, energy or materials.

2.4.2 Framework for calculating the value of NetRegs to the individual firm

The International Standard Cost Model (ISCM) exists to measure the cost of regulatory burdens to businesses. It suggests measuring the regulatory burden of a new regulation by observing the difference between the total regulatory burden with and without the new regulation (i.e. before and after it is introduced - requiring observations in two time periods).

In line with the ISCM, the value of NetRegs to businesses is the difference between their environmental regulatory burden with and without NetRegs. Ideally this would be based on observations from two time periods (before and after the firm started using NetRegs). However, such observations are not possible here given that the short time table for this study, and that NetRegs has been an established service for more than five years.

The ISCM approach was adapted for this study, by defining the value of NetRegs to an individual business as the reduction in the total environmental regulatory burden as a result of using NetRegs. The difficulty with directly asking survey respondents to estimate the value of this reduction is that they might misjudge the baseline, which is implicit to the calculation. Therefore, following 2.2.2 above an explicit baseline approach was used to break down the complexity of the calculation in the mind of the respondent into two stages. The first stage in this research framework is accurately quantifying the cost of the environmental regulatory burden on businesses. Against this baseline, the second stage elicits the reduction in these costs as a result of using NetRegs.

2.4.3 Calculation of the value of NetRegs to the individual firm

To fully calculate the cost savings as a result of using NetRegs, the International Standard Cost Model (ISCM) was again used. The manual includes a model for calculating the administrative burden for businesses imposed by regulation. Therefore, it is an appropriate tool for measuring the reductions in the costs (savings) to businesses of environment-related regulations as a result of NetRegs.

The costs of regulations under the ISCM include:

- Internal staff costs: (hours spent on all administrative and compliance activities) x (hourly pay for various occupation groups performing these tasks) + (overhead at 25%).
- External staff costs: (hours avoided on administrative/compliance activity) x (hourly pay for various occupation groups).
- Acquisitions: (expenditure on necessary acquisitions to comply with specific reporting obligations. Includes capital expenses (postage stamps to send permit requests) and current expenditure (avoided waste disposal, water, energy or material costs).
- Other costs: fines, penalties, taxes, surcharges or related costs attributable to environmental regulation that do not fall into the above categories.

The staff costs function was simplified by merging the internal and external staff costs together into 'staff costs to your business'. This allowed for simpler and shorter questionnaire wording, but also meant that the 25% overhead could not be added to external staff costs. However, there is no apparent precedent to add the 25% overhead to a time savings estimate. The ISCM manual says it is correct to add this when calculating a regulatory burden, but gives no guidance on whether to include it when calculating the reduction of a burden. It is possible that time savings may reduce overheads by less than time penalties increase them, because once established they may be sunk costs, or harder to decrease for another reason.

The questions used to generate the data to calculate the reduction in regulatory costs as a result of using NetRegs, are described in Section 3.2.

2.4.4 Testing the validity of the estimates of NetRegs' value to the individual firm

Economic value estimates of NetRegs calculated through the method above for the survey as a whole (derived values) were cross checked against value estimates internal and external to the survey. In addition to looking at the regulatory burden reduction model, survey questions reflecting aspects of the willingness to pay approach were also used as an internal method of cross checking values calculated through the model. After responding to the component questions that made possible the detailed calculation, businesses were asked (hypothetically) to state how much their business would be willing to pay for an 'equivalent service' if NetRegs did not exist.

External points of comparison were the back-of-the-envelope calculations performed in the past by the NetRegs staff as well as estimates of the value of the total time spent by users derived from website traffic data. Derived values were also checked against external market reference prices for near-substitutes available in the private marketplace, such as regulatory information and guidance subscription services available for a fee through ENDS, and BabourInfo.

3 Survey design process and empirical data gathering

3.1 Survey Population

The survey population was a list of 8,952 email addresses of individuals or organisations that had requested to receive environmental legislation updates from NetRegs by email. This was all 'e-alert' subscribers to February 2008. Before the pilot survey these data were cleaned to remove 841 email addresses with suffixes such as .gov.uk, .mod.uk, and .org that indicated they were not part of an SME. This minimised the influence of public- and third-sector responses and kept the research focused as much as possible on respondents in the private sector[2]. This left a list of 8,111 business sector e-alert email addresses.

In addition to the public sector suffixes, the email addresses also contained a number of other duplicate email address suffixes. These suffixes were thought to be of two types:

1. Multiple employees from within the same organisation.
2. Addresses provided by the same commercial email provider (e.g. BT, Tiscali).

These addresses were not screened out of the sample. Where they relate to multiple people within a single organisation they are likely to relate to firms of over 250 employees. The survey's first question on the size of the respondent's business gives data on the proportion of SMEs amongst those who were willing to take part in the survey. Knowing this proportion is important to understanding the makeup of NetRegs users and calculating the benefits to SMEs only. Therefore, removing these duplicates would have introduced bias into this calculation. If the organisation they are from has less than 250 employees, this could generate multiple answers to the survey from the same SME. However, this risk was felt to be small.
The addresses at commercial email providers are more likely to be used by micro businesses who do not have their own domain names and company email accounts. Therefore, it was

[2] An SME is defined as a profit-seeking business or organisation controlled predominately by private interests with fewer than 250 employees.

important to keep these multiple addresses in the survey, to give the best chance of sampling SMEs accurately.

The private sector list of 8,111 email addresses was randomly ordered to minimise bias potentially arising from the time the subscribers signed up or another aspect of the order of the list. It was then divided into batches of 100 (for the pilot survey and final survey test), and 1,000 (for the main survey). This ensured, first, that surges of survey activity did not overburden the email system or survey website and, second, that the response rate to the survey could be tracked so that no extra burden was placed on the survey population beyond that necessary for a statistically significant result.

3.2 Survey Design

The final survey contained 23 main questions divided over four sections:

(A) Business characteristics;
(B) Time savings attributable to NetRegs and time value;
(C) Cost savings attributable to NetRegs, and
(D) Estimating market price of substitutes.

The survey structure and the individual questions were developed over three phases to ensure data were of appropriate quality and type: (i) an initial telephone survey with businesses already familiar with NetRegs; (ii) a pilot survey sent out to a random sample of e-alert subscribers; and (iii) the final survey.

Following the calculation model described in Section 2.4.3 he questions used to generate the data to calculate the reduction in regulatory costs as a result of using NetRegs, the survey questionnaire asked the respondent:

1. To consider the nature of the regulatory burden for their company, qualitatively (in terms of the different time and costs they devote to complying with environmental regulations), and then quantitatively, (they were then asked to estimate the full size of the current regulatory burden born by the business).
2. To estimate the extent of the reduction in the regulatory burden directly attributable to the use of NetRegs information. This process was performed twice, firstly in relation to employee time savings, and secondly in relation to business expenditures, broken down into avoided capital expenditure, resource efficiency savings, and other savings.

Although only five questions in the survey produced the variables used in the calculation method, several other questions were used to introduce the framework and model above to the respondent. Further questions were needed to establish population variables (firm size, sector etc.).

3.2.1 Telephone surveys

The viability of initial survey questions were tested via telephone surveys with businesses comparable to the would-be main survey respondents. Respondents were either individuals in businesses known by the NetRegs staff to have been sympathetic to the aims of NetRegs in the past, or were randomly selected from the database of e-alert subscribers and identified through their individual and firm names in their email address. In total 9 businesses were interviewed between the 19th and 22nd of February, 2008 covering construction, manufacturing and professional/business services (see Appendix 8.1 for list of interviewees). Businesses ranged in size from 5 to 200 employees. For each, a semi-structured conversation of

between 15 and 40 minutes was used to test the clarity of question wording, that the value ranges in answer options were appropriate, and that respondents were able to recall, calculate in their heads or otherwise provide the information required for the regulatory-burden-reduction framework. Initial questions were revised accordingly.

3.2.2 Pilot survey

A pilot survey was used to test the revised questions in the web-based survey administration format to be used in the final survey. Respondents were selected from the master list of e-alert subscribers, then removed from the list to ensure they would not be surveyed again in the main survey. The survey was sent to 400 email addresses, inviting them to participate in the survey; 34 ultimately completed the pilot survey making for sufficient responses for a pilot test and constituting a response rate of 8.5%.

3.2.3 Main survey

No major modifications were made to the research approach as a result of the findings from the pilot survey. Several modifications were made to the design, questions and format of the survey:

- Dialogue boxes to improve vital question responses: In order to improve the accuracy and the response rate for the four questions vital to the value calculations, dialogue boxes were positioned on the webpage to the side of the question notifying respondents: '*This is one of four critical questions for our research. Please answer carefully.*'

- Frequency of use data gathered: Given the paucity of data on NetRegs users in the UK and the need to refine estimates of this user population, a question was added asking respondents to state how frequently they used the website, whether weekly, monthly, yearly or some increment in between. This data would allow the reliable information from website data logs to be used to calculate a population of users, by dividing the number of website visits by the frequency of visit per business.

- Possibility of regional analysis preserved: A question was added to gather the first half of the respondent's post code. Although this research exercise did not have sufficient sample sizes to analyse results with attention to UK geographic regions, collecting the data gives clues as to how future regional analysis could be designed. It provides a baseline in future years should survey efforts opt to include a regional dimension.

- Occupational categories combined for ease of response: The last significant adjustment was a change in the range of occupational categories used to calculate the value of time savings. In the pilot these included the categories 'Managerial and professional' (£16.79/hr), 'Associate professional or technical' (£12.71/hr) and 'Administrative or secretarial' (£8.98/hr)[3]. The pilot survey showed that several respondents did not respond to this question, and amongst those that did, few time savings were allocated to the 'Administrative or secretarial' category. In the context of a 5-minute survey, it was felt that the question, asking respondents to state the percentages of hours saved by NetRegs for each of these three categories, was too taxing.

  In the main survey, therefore, the second and third categories were amalgamated into a single category 'Associate professional, technical, administrative and elementary' to

[3] Wage rates came from the ONS annual survey of gross hourly earnings by occupation, according to Standard Occupational Classifications (2000), for winter 2005/2006.

reduce the burden. This category was conservatively assigned a rate of £9.35/hr, the average of technical, administrative and elementary occupational categories for 2005/6. Although this amalgamated category sacrificed some data detail, a sensitivity test on the pilot survey data showed a difference of only 2.7% in the overall value result between the three- and two-category scenarios. Therefore, the gains from a likely greater number of completed responses were felt to outweigh the disadvantage of lesser data detail.

3.2.4 Charity donation incentive

To maximise the response rate, potential respondents were offered an incentive to complete the survey in that a £5 charity donation would be made on behalf of the first 400 completed responses (using a maximum incentive budget of £2,000). The respondents were asked to choose between three charities to receive the donation in the final survey question. The charity donation was actually made based on the proportion of all 465 respondents who voted for each charity. As a result, donations were made to the Royal National Lifeboat Institute of £1,020, the Woodland Trust of £659, and the National Society for the Prevention of Cruelty to Children of £321. These charities were chosen to offer a range of causes that were hoped to appeal to the majority of respondents. The charities were contacted in advance of the survey, and agreed to receive a donation in connection to this work. Unfortunately, one charity then changed its mind, once the survey was underway, necessitating adjustments to the survey wording.

3.3 Survey administration

A system test survey was sent to 100 e-alerts subscribers on the 29th of February, to check that, following the modifications from the pilot survey, the final survey was functioning accurately over the web. Following a response showing that the system was operating well, the main survey was emailed to five batches of 1,000 email e-alert subscribers, at 10:03, 12:55 and 14:50 on the 3rd of March, and 10:08 and 12:51 on the 4th March 2008. The survey was administered through a blind-copied email. The email explained the survey purpose, criteria for participating, and directed potential respondents to the survey website www.netregsvaluation.org.uk.

Seven working days later, at the end of the day on 11th March, the survey had achieved 465 responses. After checking sub-samples, sample sizes and confidence levels, it was determined that continuing the survey would not add appreciably to the representativeness of the data, and the decision was taken to close the survey. While it would have been both feasible and intuitively satisfying to survey the remaining 3,000 individuals in the population, this would have incurred 50-75 hours of time costs for respondents while contributing little to the usefulness of the data.

4 Survey Results

This section presents the data generated by the survey. It starts by examining the response rate to the survey; considers the characteristics of respondents; reports the average cost savings from NetRegs and breaks this down by different sub-groups; and describes the qualitative comments made.

4.1 Response rates

4.1.1 Survey response

The survey was sent to a random sample of 5,000 email addresses from the list of 8,111 business e-alert email addresses (see Section 3.3). One hundred seventy four emails returned with a delivery failure, suggesting that 3.5% of the e-alert database is invalid. This is unsurprising, reflecting the normal turnover of employment in the economy. It suggests that in total, 282 e-alert email addresses are likely to be invalid, giving a current active private sector e-alert subscriber population of 7,829 individuals. Statements about the future annual growth of e-alert subscribers should be tempered by the suggestion here that the real growth rate of NetRegs may only be that in excess of 3.5%.

Out of the 5,000 individuals surveyed, 1,260 (25.2%) initiated the survey by clicking the 'begin survey' button on the introductory webpage. Of those who started, 795 (63.1%) did not complete the full survey. Of these 795 individuals who began but did not complete the survey, 302 (24.0% of responses) were prevented from continuing on account of having 250 or more employees. Although these data are not used in the full analysis, they are an indication of the overall size distribution of the firms in the e-alert subscribers list.

A large number of 493 (39.1% of) responses did not complete the survey for other reasons. The vast majority of these (329, or 26.1% of those clicking on the website) abandoned the survey without answering the first question, so did not really attempt to answer the survey properly. Others answered the questions incompletely, or failed to click the 'finish survey' button on the last page. All these responses were discarded for the full analysis.

Thus, the survey received 465 complete responses that were considered valid. This represents 36.9% of those who initiated the survey, and 9.3% of the 5000 address the survey was sent to.

4.1.2 Question response rates

For the 465 valid responses there was a strong response rate throughout the survey: 96.34% of respondents answered all 23 questions, and 98% of respondents answered 22 of those. Those questions with lower response rates were either optional, such as Q22 where the respondent could enter qualitative comment, or had a split question format where totals did not necessarily add up to 100%, such as Q12. See appendix 8.3 for individual question response rates.

The tables below show key aspects of the composition of the survey data, as well as key aspects of the composition of the population of SME e-alert subscribers. It is possible to make certain statements about this population because 465 is a statistically reliable representation of the population of SMEs who subscribe to e-alerts.

4.2 Characteristics of Respondents

The tables below show key aspects of the composition of the survey data, as well as key aspects of the composition of the population of SME e-alert subscribers. It is possible to make certain statements about this population because 465 is a statistically reliable representation of an 8,111-individual population[4]. Aggregation is discussed in more detail in Section 5.

The overall size distribution of the e-alert population, estimated through the survey response, is shown in Table 4.1. Compared to the distribution of the 4.46 million firms in the UK in 2006, the e-alert population has a much smaller proportion of micro enterprises and a much greater proportion of medium and large enterprises. The e-alert population, or the survey response, is clearly skewed toward medium and large firms relative to the UK economy.

Table 4.1: Estimated size distribution of e-alert population, compared to UK population

	e-alert		UK economy
	Number in survey	%	
Micro (employees)	108	14% (0 to 9)	73% (0)
Small	129	17% (10 to 49)	26% (1 to 49)
Medium	228	30% (50 to 249)	0.6% (50 to 249)
Large	302	39% (250+)	0.1% (250+)

Tables 4.2 – 4.4 show the respondents by size, country and sector respectively. They relate only to the portion of the e-alert subscriber population that is SMEs. Almost half of the SME respondents were medium sized enterprises, while the other half split relatively evenly between the micro and small categories.

Table 4.2: Number and percent of SME respondents by firm size

Micro (0 to 9 employees)	108	23.23%
Small (10 to 49 employees)	129	27.74%
Medium (50 to 249 employees)	228	49.03%
Total	**465**	**100.00%**

The great majority of e-alert SME users reported they were 'primarily based' in England (85%); businesses based in Scotland, then Wales, then Northern Ireland followed in descending order.

Table 4.3: Number and percent of respondents by country

England	394	85.10%
Scotland	38	8.21%
Wales	22	4.75%
Northern Ireland	9	1.94%
Total	**463**	**100.00%**

Comparing the distribution of the respondents across economic sectors to the distribution of all firms in the UK illustrates how this population is different. There appear to be a greater proportion of e-alert subscribers in the agriculture, mining and quarrying, and manufacturing sectors, and a lower proportion in wholesale and retail, hotels and restaurants, real estate and business activities, and health and social work. It is not surprising that businesses seeking

[4] This assumes 61.60% of the population has been surveyed as well as a confidence level of 95% and a confidence interval of 4.29. This survey satisfied all three of these conditions.

environmental compliance advice would concentrate more heavily in the primary and resource-intensive industries.

Table 4.4: Number and percent of respondents by sector

Sector	No.	% of e-alert	UK economy %
Agriculture, Hunting and Forestry; Fishing	44	9.54%	3.99%
Mining and Quarrying; Electricity, Gas and Water Supply	10	2.17%	0.21%
Manufacturing	193	41.87%	7.30%
Of which:			
Food products and beverages	*17*	*3.69%*	
Basic metals	*6*	*1.30%*	
Fabricated metal products (no machinery or equipment)	*35*	*7.59%*	
Recycling	*12*	*2.60%*	
Other manufacturing	*123*	*26.68%*	
Construction	87	18.87%	20.61%
Wholesale and Retail Trade; Repairs	16	3.47%	13.00%
Hotels and Restaurants	3	0.65%	3.12%
Transport, Storage and Communication	27	5.86%	6.09%
Financial Intermediation	3	0.65%	1.49%
Real Estate, Renting and Business Activities	15	3.25%	24.84%
Education	13	2.82%	2.88%
Health and Social work	5	1.08%	5.52%
Other Community, Social and Personal Service Activities	45	9.76%	10.94%
Total	**461**	**100%**	**100%**

The distribution of respondents by their frequency of use of the NetRegs website, shown in Table 4.5, gives the proportion of e-alert subscribers that are low, moderate or heavy users of NetRegs. The majority use the site every week or every month. There was little variation in the frequency of use of NetRegs between the different sizes of firms surveyed. While on average the respondents used NetRegs during 8.9 months of the year, this number varied little by size of firm, from an average of 8.1 months for micro businesses (0-9 employees) to 9.4 for medium sized firms (10-49 employees).

Table 4.1: Number and percent of respondents by frequency of use

Frequency		Assumed number of months NetRegs visited during the year	Respondents	%
Heavy users	Every week	12	67	14.41%
	Every month	12	211	45.38%
Moderate users	Every 2 months	6	67	14.41%
	Every 3 months	4	43	9.25%
	Every 4 months	3	33	7.10%
Light users	Only once or twice a year	1.5	33	7.10%
	Less than once a year	0.5	11	2.37%
	Total		**465**	**100.00%**

4.3 Economic value of NetRegs to respondents

The following tables show the mean economic value of NetRegs to the types of businesses surveyed. Values are based on the survey response data and calculated using the value calculation method discussed in Sections 2.4.2 and 2.4.3. The value was equivalent to the reduction in the regulatory burden attributable to NetRegs. For each respondent, the *time savings* value was calculated by apportioning the total time saved as a result of using NetRegs between the two occupational groups, and then multiplying the number of hours by the average wage rate of each occupational group (see appendix 8.4 for wage rates). This figure was then added to the sum of *physical savings*, the sum of the capital, resource efficiency and other savings the business said it made by using NetRegs.

At the range of all valid responses, the average and mean values are shown in table 4.6 (see time and spending cost savings the electronic data base – details in appendix 8.4 – for full workings). The economic value is the sum of the time and physical cost savings to firms.

Table 4.6: Average values of NetRegs per respondent per year

Range	Median	Mean time savings	Mean physical savings	Mean economic value
£0 - £38,307	£1,023	£1,373	£1,242	£2,615

Table 4.7 shows that the distribution of the value of respondents' cost savings from NetRegs is fairly evenly spread. This suggests that the mean value in table 4.6 is a good average to use for the cost savings that result from using NetRegs. There are a small number of firms gaining very large benefits (> £10,000 per year) through their use of NetRegs, and this will influence the average saving. However, even the largest responses are not so large as to be unbelievable – the largest savings (£38,000, followed by £27,000) are equivalent to the annual cost of employing one person, which is entirely plausible in a medium sized businesses intensively involved in activities subject to environmental regulations.

Table 4.7: Number and percent of respondents by frequency of use

Value of total savings, £/yr	Respondents	
	Number	Percentage
0-99	71	15.3%
100-499	86	18.5%
500-999	70	15.1%
1,000-1,499	56	12.0%
1,500-2,999	63	13.5%
3,000-5,999	57	12.3%
6,000-9,999	30	6.5%
10,000+	32	6.9%

As table 4.8 shows, medium sized businesses derived the greatest value from NetRegs in terms of lessened environmental regulatory burden. This trend is strongest in the physical savings category. The difference in time savings between businesses of different sizes is relatively small, with a range of £329 per year (£1,202.82 - £1531.71). The range in physical savings is £1,181 per year (£586.81 - £1,767.54).

Table 4.8: Economic value of NetRegs to businesses by size, per year			
Number of employees	**Time savings**	**Physical savings**	**Total**
0 to 9	£1,203	£587	£1,790
10 to 49	£1,235	£864	£2,098
50 to 249	£1,532	£1,768	£3,299

Table 4.9 shows the savings in different UK countries which have significant differences. For example Northern Ireland derived the least total savings in all categories. However, the distribution in cost savings for Northern Ireland and Wales should be interpreted cautiously considering the small sample sizes. There were only 9 Northern Ireland businesses in the 465-business sample, for example. The small sample size, rather than any inherent factors in the countries, is most likely to be responsible for the differences the table shows.

Table 4.9: Economic value of NetRegs to businesses by country, per year			
	Time savings	**Physical savings**	**Total**
England	£1,325	£1,281	£2,605
Scotland	£1,573	£885	£2,458
Wales*	£1,813	£1,540	£3,352
Northern Ireland*	£1,090	£611	£1,701

*Note small sample sizes.

Table 4.10 shows the differences in savings by sector. Hotels and restaurants derived the greatest total cost savings, although, again, this result should be interpreted very cautiously given that only 2 out of 465 respondents operated in this sector. Closely following were businesses in the transport, storage and communications sector; mining, quarrying, electricity, gas and water supply; and the food and beverage manufacturing sub-sector. Sectors deriving the least cost savings were health and social work (only 5 respondents) and real estate, renting and business activities. All of the manufacturing sub-sectors stand out as deriving relatively high physical savings.

Table 4.10: Economic value to businesses by sector, per year				
Sector	**(subsector)**	**Time savings**	**Physical savings**	**Total**
Agriculture, Hunting and Forestry; Fishing		£466	£460	£927
Mining and Quarrying; Electricity, Gas and Water Supply		£2,100	£1,900	£4,000
Manufacturing		£1,375	£1,634	£3,009
	Manufacture of food products and beverages	£2,201	£1,963	£4,164
	Manufacture of basic metals	£764	£563	£1,326
	Manufacture of fabricated metal products, except machinery and equipment	£1,071	£2,921	£3,992
	Recycling	£1,791	£2,188	£3,978
	Other manufacturing	£1,338	£1,221	£2,558
Construction		£1,558	£1,079	£2,637
Wholesale and Retail Trade; Repairs		£1,372	£609	£1,981
Hotels and Restaurants		£2,633	£2,208	£4,842
Transport, Storage and Communication		£2,503	£2,167	£4,669
Financial Intermediation		£1,334	£1,167	£2,500
Real Estate, Renting and Business Activities		£380	£225	£604
Education		£1,913	£212	£2,124
Health and Social work		£321	£100	£421
Other Community, Social and Personal Service Activities		£1,167	£947	£2,114

Table 4.11 shows the mean economic value by frequency of visit to NetRegs. Unsurprisingly, those businesses that use NetRegs more frequently derive more time savings, physical savings and total cost savings. This relationship is strong across all three savings categories: businesses that used the site 52 or more times per year derived the greatest total savings while those using it less than once a year derived £102 of savings per year. The range in time savings was £3,099 per year and in physical savings £2,093 per year.

Table 4.11: Annual economic value to businesses by frequency of use of NetRegs

Frequency	Time savings	Physical savings	Total Value
Every week	£3,100	£2,196	£5,296
Every month	£1,571	£1,362	£2,933
Every 2 months	£794	£1,167	£1,962
Every 3 months	£662	£779	£1,441
Every 4 months	£341	£686	£1,027
Only once or twice a year	£190	£235	£425
Less than once a year	£0	£102	£102

Table 4.12 shows the average value of savings per monthly visitor. "Monthly visitors" is an important unit because the most accurate aggregate data about the level of use of NetRegs is the website traffic data of unique monthly visitors to the site. These values are calculated by dividing the values in 4.11 according to the number of unique monthly visits the frequency of use would generate. Therefore: weekly and monthly visitors are divided by 12 (because they would generate a unique monthly visit in all 12 months of the year); data for those visiting every 2, 3 or 4 months are divided by 6, 4 and 3 respectively; once or twice a year are divided by 1.5; and less than once a year by 0.5.

The data show relatively consistent levels of benefit per unique monthly visit, ranging between £204 and £441 in total. In particular, physical savings are fairly consistent per unique monthly visitor. The variation in total value per monthly visitor (£204 - £441, a factor of c. 2.2) is much less than the total variation over firms per year (£102 - £5296, a factor of 52). As the survey sample's annual value is believed to be higher than the average annual value of all NetRegs users (because the e-alert sample is one of relatively intensive users), this suggests that aggregating on a monthly visitors basis may be more accurate than aggregating over annual visitors.

Table 4.12: Monthly economic value to businesses per monthly use of NetRegs

Frequency of visit	Time savings per monthly visitor	Physical savings per monthly visitor	Total Savings per monthly visitor
Every week	£258	£183	£441
Every month	£131	£114	£244
Every 2 months	£132	£195	£327
Every 3 months	£166	£195	£360
Every 4 months	£114	£229	£342
Only once or twice a year	£127	£157	£283
Less than once a year	£0	£205	£205
Average	£148	£156	£304

As discussed below, estimating the number of SMEs using NetRegs each year is problematic, and so aggregating the annual value of using NetRegs is unreliable. The most reliable data available about the number of users of NetRegs is the number of unique monthly visitors to the website: 476,625. In line with the survey findings, 59% (281,901) of these are assumed to be by

SMEs. The value per unique monthly visitor data from the survey can (as in table 4.12) can be used to calculate an aggregate value for this population of SMEs (see 5.2.2).

4.4 Internal value comparison

The average value of total cost savings per firm was compared against a quasi-willingness to pay question asking how much businesses would spend per month to buy an equivalent service if NetRegs did not exist. Over half (55%) replied they probably wouldn't buy an equivalent service at all. On average e-alert subscribers said they would pay £69.06 per year for an equivalent service, compared to the £2,615 they said they save using NetRegs. This means businesses are willing to spend far less on a comparable substitute than the savings they make using the service. Although the two figures are not perfectly comparable (one is a hypothetical payment, the other is a real cost saving), the discrepancy begs explanation.

One possibility is that the risk of being caught not complying with environmental regulations is low. If the risk is low then the average business is unlikely to pay for regulatory compliance information to comply with a standard that probably will not be checked on. However, the penalty if caught is still sufficient to cause businesses to use compliance information to meet their regulatory obligations if the information is free.

Another explanation is that a business' cost savings as a result of using NetRegs, or some other advice service, are unknown or underestimated in advance of using that service. Therefore, businesses are unwilling to invest in advice because they cannot see a clear return, ex ante, on that investment. A final possible explanation is that respondents have not answered the questionnaire accurately in terms of cost savings. There is no way of know if this is the case, but the survey testing and question wording were careful to ensure the questions were understandable to respondents, and the average cost savings per firm can be compared to the value of comparable market substitutes.

4.5 Comparison to market prices

The cost savings from the survey were also compared to an external benchmark in the marketplace. There are several commercial services in the UK that offer environmental regulation compliance assistance on a subscription basis. Two of these are the ENDS Legal Compliance Manager and BarbourInfo. These were compared to NetRegs in content and price.

ENDS Legal Compliance Manager is 'the online knowledge base to assist with research, horizon scanning and information tasks associated with compliance and policy activities'[5]. The annual subscription costs £1,095 for a single user and £1,899 for a corporate license allowing up to 10 different users at multiple sites. Subscribers benefit from a service that:

- Identifies enforced environmental legislation relevant to his or her company;
- Divides regulatory information by sector and subjects;
- Includes an electronic facility to build a legal register, an aspect of 14001 compliance, and
- Sends daily or weekly e-mail notices of legislation changes.

There does not appear to be an appreciable difference between ENDS and NetRegs services, with the possible exception of the document organisation facility. The £2,615 average cost savings attributable to NetRegs is similar to ENDS Legal Compliance Manager subscription at the corporate licence level, especially considering there is no limit on the number of NetRegs users

[5] http://www.endscompliance.com/ENDSApp/About.aspx

in an organisation (so more than 10 employees could use NetRegs simultaneously). The comparison would also suggest that businesses that purchase the ENDS service are more frequent users. The survey data suggest that those businesses with £1,899 or more in cost savings to make would use the site at least once every two months, or six times per year.

Barbour is a 'leading provider of professional information services across the construction, health and safety and environment sectors'[6]. The annual subscription to BarbourInfo costs approximately £2,500 for the full service and £1,500 for a scaled down service. The scaled down service includes an electronic briefing service for both real legislation changes and those likely to occur in the near future. The full service includes these briefings as well as:

- Full texts of legislation;
- Legislation summaries;
- Compliance forms, procedures and checklists; and
- A system of electronic folders chosen by the user but updated by BarbourInfo according changes in the regulatory landscape.

NetRegs does not offer the user an electronic filing system to organise regulatory information or the forms, procedures and checklists to go about the act of compliance. NetRegs' service could be considered to fall between the two BarbourInfo service levels, at around the £2,000 level. The same user-frequency explanation for ENDS applies equally here.

Although, 'cost savings' are not strictly comparable with a 'market price', it is assumed that if a business pays the market price for the compliance assistance service then it expects to save at least the subscription fee for this to be a rational purchase. In both examples e-alert subscribers save around 20% more than the cost of subscribing to a comparable service. Overall, the costs of these commercial services are comparable to the average cost savings reported by users of NetRegs, suggesting a degree of confidence can be taken in the research method and survey data.

4.6 Qualitative responses

Question 23 gave respondents the chance to comment qualitatively on any aspect of the valuation survey or their experience with NetRegs. One hundred and thirty three (28.6%) individuals chose to comment. Their comments, tied to a four digit survey ID number, contain interesting and important viewpoints on NetRegs as a government program from a user perspective. However, they mainly relate to the way the NetRegs service is managed, rather than its value per se. Although not analysed here in detail the comments included:

- Clarification of the respondent's survey answers
- Requests that NetRegs be kept as a free service
- Praise and criticism for the service
- Suggestions for improving the accessibility of the information, and
- Personal testimony

These comments are included in full detail in the electronic data file, see appendix 8.4 for details.

[6] http://www.barbour.info/barbourinfo/

5 Aggregation of survey results

Section 4 presented the results of the survey undertaken in terms of benefits of NetRegs to individual users based on the responses from the survey sample. However, since the central research objective for this study was to calculate the economic value of NetRegs to all SME users in the UK the sample results need to be aggregated to the overall user population. This aggregation requires detailed information on the exact number of private SME users of NetRegs in the UK, as well as their size, sector and frequency of use. As these data do not exist, assumptions need to be made for aggregation to different populations:

- Aggregation from the survey respondents to SME subscribers to the e-alert service (Section 5.1): this requires data on the number of SMEs using e-alerts, which is estimated based on the responses to the survey.
- Aggregation from survey respondents to all SMEs using NetReg (including e-alert service subscribers) (Section 5.2): this requires data on the total numbers of SMEs using NetRegs, which is estimated from website access data and the survey responses.

We have a high degree of confidence in the result from the sample and its aggregation to the SME subscribers of e-alert service. However, aggregating further to the rest of the NetRegs user population does not inspire the same high level of confidence. E-alerts subscribers are very likely to be more intensive users and to attribute greater cost savings than the average business, and are therefore not a representative sample of the general NetRegs users population. Indeed e-alert subscribers are likely to be the most active users of all. Therefore, using e-alerts data to aggregate to the whole population of NetRegs users might lead to an overestimate of cost savings.

5.1 Aggregation to population of private SME e-alert subscribers

5.1.1 E-alert subscriber population

The original e-alert subscribers list contained 8,952 email addresses. Removing 851 of these deemed to be government or third sector organisations reduced the list to 8,101 private businesses. Of these, 3.5% were assumed inactive based on the number of messages returned during the survey from invalid email addresses. This leaves 7,829 valid private sector email addresses.

The response to the initial qualifying question in the survey ('Are you part of a business with fewer than 250 employees?'), suggests that 68% of the valid private email addresses were SMEs[7]. Therefore, of the 7,829 valid private email addresses, 5,295 are assumed to be SMEs, making up just over 59% of the total population of e-alert subscriber email addresses.

5.1.2 Total value for e-alerts subscribers

The time and expenditure cost savings by business type for the 465 survey responses were aggregated to the 5,295 SME e-alert subscribers. The number of survey respondents is 8.78% of the private SME e-alert population and is therefore statistically representative, ensuring a strong degree of confidence in aggregation.

[7] This percentage include SMEs who commenced but did not finish the questionnaire, in order to avoid the drop out rate amongst SMEs (who had to answer over 20 questions) skewing the result compared to large businesses who only had to answer one question.

Tables 5.1 – 5.4 below show the value of NetRegs to the survey respondents, and e-alert subscribers, according to different population characteristics. Table 5.1 shows the total cost savings to the population of private SME e-alert subscribers, using the average (£ per business per year) saving from the survey sample, to be £13.85 million per year.

Table 5.1: Annual aggregate economic value of NetRegs to e-alert SME Subscribers based on average savings from the sample

	Number	Average savings (£ per business per year)	Total savings (£ per year)
	(a)	(b)	(c) = (a) x (b)
Survey sample (SME)	465	£2,615	**£1.23 m**
Aggregated to e-alert SME population	5,295	£2,615	**£13.85 m**

Table 5.2 divides the total savings amongst e-alert SME subscribers (£13.85m) according to the size of firms. This is done by taking the percentage of respondents from the survey in each size category, applying this to the total number SME e-alert subscribers (5,295) and then multiplying this by the average saving per respondent in the size category. Tables 5.3 and 5.4 undertake similar calculations for the sector and visit frequency characteristics of e-alert SME subscribers.

Table 5.2: Annual economic value of NetRegs to e-alert SME Subscribers based on average savings from the sample, by firm size

Size	No. of respondents	% of respondents	Average savings (£ per business per year)	Total e-alert SMEs savings (£ per year)
0 – 9 (micro)	108	23.23%	£1,790	£2,201,366
10-49 (small)	129	27.74%	£2,098	£3,082,597
50-249 (medium)	228	49.03%	£3,299	£8,567,547
Total	465	100.00%		**£13.85 m**

The analysis shows where the majority of economic value from NetRegs is achieved, for example amongst medium sized businesses (see Table 5.2), in the manufacturing and construction sectors (Table 5.3), and amongst more frequent visitors to the website (Table 5.4). In general, these patterns in the distribution of economic value are expected, showing that NetRegs produces greater value within environmentally-intensive sectors, and with more frequent users. However, over 61% of the cost savings to SME e-alert subscribers come from medium enterprises, not only because they form almost half the respondent sample, but also those respondents report larger savings. This is partly to be expected, as medium sized firms are more likely to employ specialists who deal with environmental regulations. However, it also suggests that advice may not be reaching the micro-businesses that make up the vast majority of the economy.

Table 5.3: Annual economic value of NetRegs to e-alert SME Subscribers based on average savings from the sample, by sector

Sector	No. of respondents	% of respondents	Average firm savings (£ per business per year)	Total SME e-alert savings (£ per year)
Agriculture, Hunting and Forestry; Fishing	44	9.54%	£927	£464,316
Mining and Quarrying; Electricity, Gas and Water Supply	10	2.17%	£4,000	£455,567
Manufacturing	193	41.87%	£3,009	£6,615,211
Manufacture of food products and beverages	17	8.81%	£4,164	£806,313
Manufacture of basic metals	6	3.11%	£1,326	£90,641
Manufacture of fabricated metal products, except machinery and equipment	35	18.13%	£3,992	£1,591,331
Recycling	12	6.22%	£3,978	£543,694
Other manufacturing	123	63.73%	£2,558	£3,583,231
Construction	87	18.87%	£2,637	£2,613,057
Wholesale and Retail Trade; Repairs	16	3.47%	£1,981	£361,035
Hotels and Restaurants	3	0.65%	£4,842	£165,431
Transport, Storage and Communication	27	5.86%	£4,669	£1,435,848
Financial Intermediation	3	0.65%	£2,500	£85,427
Real Estate, Renting and Business Activities	15	3.25%	£604	£103,269
Education	13	2.82%	£314,519	£27,614
Health and Social work	5	1.08%	£421	£23,998
Other Community, Social and Personal Service Activities	45	9.76%	£2,114	£1,083,738
Total	461	100.00%		**£13.85 m**

Table 5.4: Annual economic value of NetRegs to e-alert SME Subscribers based on average savings from the sample, by frequency of NetRegs use

	Number of respondents	% of respondents	Average firm savings (£ per business per year)	Total SME e-alert savings (£ per year)
Every week	67	14.41%	£5,296	£4,041,168
Every month	211	45.38%	£2,933	£7,048,746
Every 2 months	67	14.41%	£1,962	£1,497,175
Every 3 months	43	9.25%	£1,441	£705,940
Every 4 months	33	7.10%	£1,027	£385,874
Only once or twice a year	33	7.10%	£425	£159,779
Less than once a year	11	2.37%	£102	£12,813
Total	465	100%		**£13.85 m**

5.2 Aggregation to all SME NetRegs users in the UK

The possibility was investigated of aggregating the results from the survey respondents to the entire population of SMEs using NetRegs in the UK (including both those who subscribe to e-alerts and those who do not). The confidence placed in the figures resulting from this stage of aggregation is lower than for the figures in Section 5.1, primarily because so little is known about the characteristics of non-e-alert users, as mentioned above. A robust estimate of the number of SMEs using NetRegs in the UK will be important in future research and, with better data, this final aggregation stage could become more precise.

5.2.1 Estimates of total NetRegs users

The total population of NetRegs users in the UK was estimated using several available data sets, in order to understand the data limitations, and to improve the potential for taking this step confidently in the future. Three data sources were considered: (1) estimations by the NetRegs staff based on their professional familiarity with the website and its users; (2) data from the most recent Atkins Survey of Environmental Awareness (2007) and (3) Nielsen NetRatings website traffic data on the use of the www.netregs.gov.uk domain since June 2005 when these data began to be collected. The results of these three approaches are summarised here. Their use in aggregation is discussed in Section 5.2.2 below.

Box 5.1 Defining NetRegs Users
In using data to determine the populations using NetRegs, care is needed to use various terms precisely:

- **Visits** are the different instances on which access to the NetRegs website is gained.
- **Visitors** are the people making visits; one individual (visitor) can make repeat visits within the same day, month or year. Each visitor is assumed to represent a different business.
- **Users** are businesses for which at least one individual in the business visits the NetRegs website and makes use of the information.
- **Browsers** are the hits made on the NetRegs website, irrespective of whether they come from the same or different users. The number of browsers recorded is assumed to be the same as the number of visits.
- **Unique browsers** are visits from different electronic addresses (web access points). For the purposes of this analysis, the number of unique browsers, visitors and users in any period are assumed to be the same.

In 2007, the NetRegs staff estimated there were 280,000 NetRegs users each year in the UK, of which 168,000 (60%) were SMEs[8]. It was assumed the number would grow by 20% per year. These estimates are based on the professional expertise of the staff members and their direct experience with NetRegs and its user base, from the time of the website's inception to September 2007. They allow for an assumed rate of repeat visits amongst NetRegs users over the year.

Atkins have gathered data using a sampling approach and survey method that allows the results to be aggregated to a large portion of the SME population in the UK, with good confidence. For example the sample in the 2007 report was taken from 40,000 businesses, drawn randomly from a comprehensive UK directory. Of these, 9,500 businesses were contacted, and of these, 4,489 interviews were achieved. Weighting the sample to ensure respresentativeness, robust

[8] Environment Agency (2007) 'Savings to business resulting from using the NetRegs website' Internal EA document dated 24 September 2007.

statements could therefore be made about the 1.6 million businesses residing in environmentally-intensive sectors based on this set of respondents.

Table 5.5: Summary of Atkins survey data related to NetRegs use, by survey year

	2002	2003	2005	2007
Interviews achieved	1,175	8,604	5,554	4,489
Number of sectors (1 and 2 digit)	10	28	15	15
Number of businesses who had 'heard of' NetRegs	27	213	*333*	304
% heard of	2%	2%	6%	7%
Of 'heard of', number who 'used' NetRegs	9	34	*87*	191
% 'heard of' who used NetRegs	*33%*	*16%*	26%	63%
% used of interviews achieved	0.66%	0.32%	1.56%	4.41%

Italicised entries indicate derived values; regular indicate stated values

Table 5.5 shows the key part of each year's data set from the Atkins survey; the responses to questions about NetRegs (in 2007 'Have you heard of the NetRegs website?' and 'Have you used the site?'). The 2007 data show 7% of SMEs surveyed had heard of NetRegs and of these about 63% had used the site. Simplified, 4.41% of survey respondents had used the site. It would be inaccurate to make a population estimate by taking 4.41% of the 4.02 million SMEs in the UK in 2006 to arrive at an annual user population of SMEs. The percentage of users (4.41%) is likely to be an overestimate, as environmentally-intensive industry sectors are more likely to use NetRegs than the general population of SMEs (a trend supported by evidence from the present survey).

By surveying only the most environmentally intensive sectors the result can only be said to safely represent about 1.63 million SMEs in the UK economy, which is the number of SMEs in the environmentally-intensive sectors surveyed by Atkins. Although it would not take account of potential users in the other 2.39 million businesses, one could apply the 4.41% to just the sectors covered by the Atkins survey. This calculation results in an estimated 71,883 SMEs using NetRegs per year (4.41% of 1.63 million SMEs) which is the best indication of the number of annual SME users of NetRegs.

Comparing the estimates from the Atkins data to the Nielsen web traffic data gives an indication about the frequency of use of NetRegs amongst non e-alert subscribers. If all 72,022 SMEs visited the NetRegs website on average 8.9 months out of the year (as for survey) then this would generate 640,995 unique monthly visitors. NetRegs actually attracts 476,625 unique monthly visitors. Therefore, as expected, the wider SME population of NetRegs users identified by Aktins do not use the website as frequently as e-alerts subscribers.

Data on website traffic through the domain name www.netregs.gov.uk have been collected since June of 2005. The data for 2007 are shown in Table 5.6. These data are the most precise measure of the use of the website. They encompass all possible NetRegs users since the only way to access NetRegs information is through the site. Unlike other websites, the web traffic can be assumed to represent only businesses in the UK because only businesses interested in UK environmental legislation compliance information would visit the site[9]. The disadvantage of these data for the purpose of this research is that they do not distinguish between SME and large business users. Nor do either of the key variables collected by Nielsen represent the exact number of annual NetRegs users in the UK.

[9] It is possible that the website might attract people from outside the UK, like those researching country approaches to environmental regulation and guidance, but such users are assumed to be so few as to be safely ignored.

Table 5.6: Web traffic data for www.netregs.gov.uk for the 2007 calendar year			
Month, 2007	**Browsers**	**Unique browsers by month**	**Estimated unique SME browsers by month**
January	62,999	45,988	27,200
February	53,385	40,014	23,666
March	60,344	45,375	26,837
April	52,562	40,641	24,037
May	56,629	43,822	25,919
June	54,572	41,381	24,475
July	53,679	40,495	23,951
August	45,682	34,223	20,241
September	42,741	32,928	19,475
October	56,051	41,551	24,575
November	55,168	40,481	23,943
December	39,578	29,726	17,581
2007 Total	**633,390**	**476,625**	**281,901**

The total number of unique monthly browsers recorded in 2007 was 476,625. Neilsen NetRatings do not contain a facility to log unique *yearly* browsers. Assuming, in line with our survey, that 59% (see Section 5.1.1) of these browsers are SMEs, this suggests that, as shown in Table 5.6, there are around 282,000 unique monthly SME visitors to NetRegs each year. These data are not representative of the number of *annual* NetRegs users because Neilsen NetRatings only measures unique browsers in a given month, and does not capture whether or not a visit in one month was by a returning browser from a previous month. Therefore, simply summing up the number of unique browser visits per month is not an adequate measure of annual browsers, or annual website users.

However, the data on unique monthly browsers to NetRegs is useful for a *month-based* aggregation, because the data on the value of NetRegs from our survey can be broken down to an equivalent 'per monthly visitor' basis.

5.2.2 Aggregation to all NetRegs users

The obvious method for aggregating survey results into an annual value for NetRegs would multiply the annual number of SMEs using NetRegs by the annual value of NetRegs to each. This calculation, using an *annual-user* basis, could generate value estimates of the order of £100 million or more, but these would have low levels of confidence, be potentially misleading, given the uncertain data on the annual non-e-alert subscriber population, and would distract from the strong statements made about e-alert subscribers.

This uncertainty exists because although the number of visits the site receives each year is roughly known (see Table 5.6), the more detailed characteristics of its visitors (such as their size and sector, and particularly their frequency of use of the site) are not known. The 'average' UK business visiting the site is highly likely to do so much less frequently than the e-alert subscribers surveyed here and would therefore be expected to derive a lower level of cost savings (if any at all). In the absence of accurate data on both the number and the *characteristics* of these firms, it is inappropriate to multiply the *annual* cost savings of e-alert subscribers by the *annual* population of users.

As discussed above (Section 5.2.1), the most reliable data available about the number of users of NetRegs is the number of unique monthly browsers to the website: 476,625. In line with the survey findings, 59% of these are assumed to be by SMEs. The distribution of these unique monthly browsers each month is shown in Table 5.6. The total number of unique monthly SME browsers in 2007 is estimated at 282,000. The value per monthly visitor to NetRegs for the

whole population of NetRegs users is assumed to lie somewhere between the average value per monthly visitor to NetRegs across the survey (£304), and value per monthly visitor for the least frequent users identified in the survey (£205) (rounded from the estimates in Table 4.12).

Using these data in a *monthly-user* based calculation generates a monthly value for NetRegs. These values are independent of how many months out of the year the users visit NetRegs, so can be summed to give an annual value for NetRegs in the manner desired by the research. As shown in Table 5.7, doing so results in an estimated range of values of £57.7 million - £85.7 million per year.

Table 5.7: Calculation of economic value of NetRegs to all users from monthly cost savings

Month, 2007	Unique SME browsers (visitors) to NetRegs (a)	Value per unique monthly visitor		Total value	
		Low estimate (b)	High estimate (c)	Low estimate = (a) x (b)	High estimate = (a) x (c)
January	27,200	£205	£304	£5,563,423	£8,268,704
February	23,666	£205	£304	£4,840,715	£7,194,571
March	26,837	£205	£304	£5,489,265	£8,158,486
April	24,037	£205	£304	£4,916,567	£7,307,306
May	25,919	£205	£304	£5,301,390	£7,879,254
June	24,475	£205	£304	£5,006,089	£7,440,359
July	23,951	£205	£304	£4,898,904	£7,281,055
August	20,241	£205	£304	£4,140,146	£6,153,341
September	19,475	£205	£304	£3,983,482	£5,920,498
October	24,575	£205	£304	£5,026,655	£7,470,925
November	23,943	£205	£304	£4,897,211	£7,278,538
December	17,581	£205	£304	£3,596,119	£5,344,774
2007 Total	**281,901**			**£57,659,971**	**£85,697,816**

For the 476,625 monthly unique browsers to the NetRegs website, it can be assumed that non-SME users derive at least the same value as SMEs. This is likely to be true for both the main categories other than SMEs: large business, and public sector organisations. Public sector organisations also have to expend time and resources complying with environmental regulations and, even though they may not benefit from the advice given in a commercial sense, they may gain benefit in terms of better public service delivery. As Table 5.8 shows, this suggests a total value from NetRegs to the UK economy of £97.9 - £145 million per year.

This *monthly-user* based approach is rational because by estimating the value of NetRegs on a *monthly-user* basis, the need to determine the total annual users of NetRegs is avoided. The approach is equivalent to saying that NetRegs generates value on a monthly basis rather than an annual basis; for each month that a visitor logs on to NetRegs, a cost saving is made in their business.

Table 5.8: Annual economic value of NetRegs to all users, estimated from monthly cost savings

	Number of browsers (visitors) per year		Average savings per unique monthly visitor (£ per business per month)		Total annual savings (£ per year)	
	Unique annual (a)	Unique monthly (b)	Low (c)	High (d)	Low = (b) x (c)	High = (b) x (d)
Survey sample	465	4,139	£205	£304	£0.8 m	£1.26 m
Aggregated to e-alert population	5,925	52,733	£205	£304	£10.8m	£16.04 m
NetRegs SME monthly visitors	unknown	281,901	£205	£304	**£57.7 m**	**£85.7 m**
NetRegs total monthly visitors	unknown	476,625	£205	£304	£97.9 m	£145.0 m

Note: Our best estimate is the one based on NetRegs SME *monthly* visitors, shown in bold.

However, there are several reasons to interpret these estimates with a degree of caution, in particular in relation to three key assumptions made:

First, the figure is heavily dependent on the assumption that 59% of all NetRegs users are SMEs (in line with the survey findings). This assumption seems sound for two reasons. Firstly, the survey sample is reasonably large. Secondly, there were only 8,115 large organisations in the UK in 2006. If they each produced a unique visitor to NetRegs each month, they would generate 97,380 unique monthly visitors – i.e. accounting for 20% of the 476,625 monthly unique browsers Of course, large organisations could produce multiple unique monthly browsers (e.g. people accessing website from different locations), but it still seems likely that the majority of NetRegs visits would come from SMEs. If anything, this assumption may be conservative, as SMEs (especially micro firms) may be less likely to respond to a survey, making the 59% an underestimate. However, there may be a part of the unique monthly visitor population who visit from curiosity, find nothing of interest, and therefore should not be counted as true 'users' because they gain no value from NetRegs. These visitors would be expected to spend only a short time on NetRegs. Unfortunately, the web-user data does not accurately record the duration of visits, so this cannot be adjusted for.

Second, the assumption that other SME visitors to NetRegs obtain the same value from their visit as e-alert subscribers could be questioned. The lower value in the range (£205 cost savings per monthly visitor) is used due to this concern, and relates to e-alerts subscribers who visit NetRegs less than once per year so is likely to be representative of less frequent non e-alert subscriber visitors. Nevertheless, there may be a self-selection bias in the sample of SME NetRegs users surveyed that increases the value above the true average.

Third, the assumption that the value of NetRegs is in proportion to monthly unique visitors is also important. This assumption seems reasonable given the relationship between cost savings and frequency of monthly visits described in Section 4.3.

Due to these caveats, the lower figure of **£57.7 million** is believed to be the most accurate estimated value for the benefits NetRegs provides to SMEs in the UK each year.

6 Recommendations

The two central objectives of the present valuation research were (1) determining a baseline value of NetRegs to the population of SME users in the UK and (2) setting out a recommended method by which to continue valuing NetRegs in the future. This Section deals with the second objective by discussing seven recommendations in relation to the research methods. It also makes some further recommendations beyond the specific issue of further research design.

6.1 Method for ongoing valuation research

Moving forward from what is now an established baseline our suggestions would refine the research method in future years, in light of our research experience.

Recommendation 1: Develop a continuous NetRegs valuation strategy

A long-term approach to assessing the value of NetRegs should develop the information used to calculate the value of NetRegs through a strategic long-term plan. Such a plan should consider undertaking the different steps to gathering the data needed to calculate NetReg's value through different methods and over different timescales. In particular, gathering data on the population of NetRegs users could be done separately from work to value the benefits they gain from using NetRegs.

As described below, developing knowledge of the user population can be done with a survey on the website for a period of months, to survey more typical users, and/or further questions asked by Atkins. Identifying the average value of NetRegs to different user groups may need further specific survey work, but this could be aided by developing as unbiased as possible a database of users for a future survey, (i.e. outside of the e-alerts subscriber group). This is not straightforward - care will need to be taken not to jeopardise the anonymous nature of the access to information through NetRegs, and any self-selecting population will risk bias. However, it is important to consider these steps separately and over a sufficient period of time, so that the best methods can be chosen without time constraints.

Recommendation 2: Gather data on the population and characteristics of non e-alert NetRegs users

We have a high degree of confidence in our calculation for the population of private SME e-alert subscribers, and a moderate degree of confidence in the aggregation to unique monthly SME visitors to the website in a year. However, significant improvements could be made to the data on the total annual user population of NetRegs. Knowing this would avoid having to use e-alert subscriber data to make statements about more than those 5,295 businesses. Better data on these users would avoid the likely overestimation due to using results for e-alert subscribers, who are likely to be the most active users in the population, as if they are representative of the whole population.

Better data on the characteristics of businesses that use NetRegs should cover: their size, the duration of visits to NetRegs, and their frequency of use of the website. We have no reason to believe that the e-alert sample contains any bias toward country, region (by postcode), or sector – although it may not be large enough to generate meaningful sub-samples for some of these parameters. But we do believe e-alert subscribers are on the whole likely to be larger, more established businesses that use the website more frequently than the average NetRegs user.

We envisage three possible ways to collect these user data:

- The collection of website traffic data on visits to the website could be improved to generate information about unique annual visits.

- A simple, potentially 2-question mini survey (asking size of firm and frequency of use) can be placed prominently on the front page of the NetRegs website for a lengthy period of time (at least over the course of a month). All visitors would be invited to respond anonymously, with two mouse clicks, perhaps also with some incentive attached. About 500 responses would be needed to represent the total population of users (estimated at around 200,000) with statistical confidence. This survey would gather data representative of all NetRegs users could then be combined with the results of a separate, comprehensive valuation survey, or the data generated in the present survey. What is needed is to be able to assign to the NetRegs user population unbiased frequency-of-use and firm-size characteristics. Stronger statements could then be made about the entire population of users in the UK.

- Integrate these questions into the regular SME Survey of Environmental Awareness following the questions 'Have you heard of NetRegs?' and 'Have you used NetRegs?'. The survey speaks with about 3,150 businesses per year that have heard of NetRegs and 220 that have used NetRegs. The 220 could be asked one further question about their frequency of use (the survey already asks firm size). Our question 9 would suffice for this purpose. The drawback here is that, while large business users would be included in the front page website survey, mentioned above, (allowing perfect aggregation over the entire population of users in the UK), they would have already been excluded from the SME Survey sample by the time further questions are asked to NetRegs users. However, the proportion of large businesses (and of public sector organisations), can be estimated using the methods outlined in the analysis (see Sections 3.1 and 5.1.1).

Recommendation 3: Continue using a cost savings framework to calculate the value of NetRegs

We approached the broad question of how to place an economic value on NetRegs by considering the website and its contents as an aid in reducing business' environmental regulatory burden (costs). The burden reduction then took two forms: time savings and 'physical' savings. Having considered the availability of data on NetRegs users and several comparable research frameworks, we feel this is the best framework choice. The approach has several strong precedents in the literature, and in existing practice elsewhere in Government. It is consistent with the:

- Benefits professed by commercial providers of comparable services;
- Conceptual framework of the NetRegs staff and Environment Agency, and
- Perception users have of the role of NetRegs in their business.

For future years we recommend continuing to use the regulatory burden-reduction framework, and survey work to allow calculations of cost savings.

Recommendation 4: Follow a structured research approach

We chose a systematic and structured research approach to valuing NetRegs, so the final result would be as robust as possible. While we recognise the steps we chose can unfold in different sequences under different research approaches, we believe future iterations of this research would benefit from including each of these steps, preferably in this sequence:

A. Decide the beneficiaries – whether UK SMEs, the Environment Agency or another group, which also defines the population and sample group.

B. Decide the benefits – whether time savings, avoided capital spending or other.

C. Formulate an overall valuation method – particularly whether benefits will be measured as reduced regulatory burden, by comparing to market substitutes that yield the same benefits, by a willingness to pay approach, etc.

D. Formulate a final value calculation – we suggest the one used here, but in any case it should both quantify benefits financially and be specified before the survey design and data collection stages.

E. Refine the survey questions as necessary – the questions used in this first survey are included as a template in Appendix 9.3

F. Calculate the value per user – using the model specified below and the data gathered through the survey.

G. Aggregate the value to the relevant population – aggregation is potentially the most sensitive step; the definition of user populations is discussed in recommendation 1.

Our model calculates total cost savings to a single NetRegs user. The cost savings are composed of time savings and physical savings. The time savings can be broken down by different staff occupational groups. In our analysis, this has been done for management staff (time valued at a rate of £16.88/hr based on ONS occupational pay rates data), and for technical, administrative and elementary occupations (average value of £9.35/hr for this survey). The physical savings attributable to NetRegs are broken down into: avoided capital expenditure; resource efficiency savings attributable to NetRegs, and all other cost savings.

From this basic building block the research can build up to statements about total value to e-alert subscribers, to businesses with certain characteristics, or to all SMEs presumed to use NetRegs. The detail of the calculation below is included in the 'Value calculation' tab of the electronic appendix.

It should be born in mind that our model is appropriate only in terms of the specific benefits valued here (time and physical cost savings) and the specific beneficiaries to whom those savings accrue (SMEs in the UK). If a value other than cost savings is targeted in the future then the model may need to be adjusted. Under these two assumptions however we are confident the model yields a robust and defensible valuation result when used with good quality data, as has been the case here, and will continue to do so in future years.

Recommendation 5: Be clear about valuation objectives with respondents

Our survey design experience here (telephone, pilot and final) has shown that future surveys should be designed with one critical point in mind in particular, to uphold the robustness of the cost savings framework. Future respondents must understand that they are being asked to report cost savings attributable only and strictly to NetRegs. They must be dissuaded from reporting cost savings achieved by complying with environmental regulations generally. This is a difficult area for both the researcher and respondent, but the burden is on the research to guard against bias to the greatest degree possible. The wording in our survey made this point emphatically by using the phrasing 'Has NetRegs caused your business to...'. We also included a question at the end of the pilot survey asking respondents whether this was clear to them by answering the questions. The answers to this showed that they understood what the researcher was trying to value.

Recommendation 6: Consider different beneficiaries (other than SMEs)

An early decision was taken to define the beneficiaries here as the population of SME NetRegs users in the UK. This ruled out any specific research into the benefits of NetRegs accruing to different users, such as other government agencies, large businesses, or the Environment Agency itself.

In the case of large businesses the present research suggests that firms of this size may derive some of the greatest cost savings of all from NetRegs. These users were not included in this survey but it is feasible for future web-based surveys like this one to include this size band at almost no extra survey administration or analysis cost.

We also believe NetRegs delivers real and quantifiable benefits to the Environment Agency and Local Authorities in terms of staff time savings, service quality improvements and administrative efficiency. None have these been represented in the present valuation statements in any way. Although significant, it is our view that quantifying these benefits would be a considerably more difficult task.

Recommendation 7: Keep sector divisions consistent for comparability of results

The structure of economic sectors and sub-sectors used in our survey represents all 1-digit level SIC codes, and for manufacturing, 5 separate 2-digit sub-sectors codes. This structure was designed to yield data comparable with both the biennial SME Surveys of Environmental Awareness and general ONS SME data. We recommend that future surveys retain this structure to allow for comparison to other data on NetRegs and UK SMEs.

In the future, if finely disaggregated sector data become more important to the NetRegs staff, then we recommend including a wider range of 2-digit manufacturing sub-sectors. Here, in the present survey, 123 out of 193 manufacturing businesses (63.73%) passed over the four suggested sub-sectors (food products and beverages, basic metals, fabricated metals, and recycling), identifying themselves as 'other'. The drawback with this approach is that in these more detailed subsectors the sample sizes may be too low to permit robust analysis. We feel this more detailed data gathering may be a matter of programmatic or policy-making interest but that it is not imperative to the value calculation.

6.2 Other recommendations

We would like to note several reflections based on our research experience here and the understanding we have gained of the workings of NetRegs. These fall somewhat outside the bounds of the brief and concern more the day to day management of NetRegs as a regulatory assistance programme than the economic value of that program per se.

6.2.1 Fixed costs and untapped value

We observe from the SME Environmental Awareness survey data that the uptake and use of NetRegs seems to be high once businesses come to know about the site. That is, while only 7% of businesses (in 2007) had 'heard of' the site, a much greater 63% of those had actually 'used' the site. Correlation is not causation and we cannot say that hearing about the site *causes* businesses to become users, but what appears to be a strong association between the two is noteworthy.

This is important because the costs of keeping NetRegs running, including the costs of web hosting and, especially, the staff time costs of carefully and exhaustively composing and revising the guidance on the site, are fixed costs. They remain fixed whether the site is used by

10 or 10 million users. The NetRegs staff is doubtless aware of this already. But combined with the knowledge of the uptake rate above this suggests that NetRegs is an enormous information asset with largely untapped value for, conservatively, the other 93% of the 1.63 million environmentally-intensive SMEs that have not heard of the site. The obvious management conclusion is that raising site awareness through putting more resources into promotion and marketing would have a high pay-back.

6.2.2 Consider monitoring 'competitor' services

Although there are no perfectly comparable services in the private marketplace, there are a handful of 'competitor' services that businesses use either as a replacement for or a supplement to NetRegs. We believe that NetRegs is at least as good and probably a superior source of regulatory compliance information to these comparable services. In order to keep NetRegs current with the offerings in the 'marketplace', broadly defined, it may be advisable to monitor these services for new features they may be offering customers to, presumably, satisfy their regulatory assistance requirements. An example is the electronic facility some services provide that allows users to organise compliance information relevant to their business' specific legal liabilities on their own computers, or to have relevant information downloaded automatically by the service provider when it becomes available. A future monitoring effort could begin with the two services identified in Section 4.

6.2.3 Future regional analysis

Although 'region' as a characteristics of NetRegs users was dropped from our analysis, we did gather the post code of 99.57% of survey respondents. This permits the NetRegs staff to calculate cost savings to NetRegs users by region or post code, in the same way cost savings have been calculated here by business size, country, sector and frequency of use. Included in the electronic appendix (Question 5), these data present the possibility that this parameter can be included as part of a long term data collection regime on the economic value of NetRegs.

7 References

Atkins (2002) 'NetRegs benchmarking survey of environmental awareness'

Atkins (2003) 'NetRegs Survey of Environmental Awareness'

Atkins (2005) 'NetRegs Survey of Environmental Awareness'

Atkins (2007) 'NetRegs Survey of Environmental Awareness'

SCM Network (2008) 'International Standard Cost Model Manual: Measuring and reducing administrative burdens for business,' pp. 25-36. Standard Cost Manual Network.

8 Appendices

8.1 Interviewees contacted for feedback on the viability of pilot survey question and NetRegs valuation approach

8.2 Survey web format

8.3 Final survey questions and responses

8.4 Reference to electronic file containing raw data

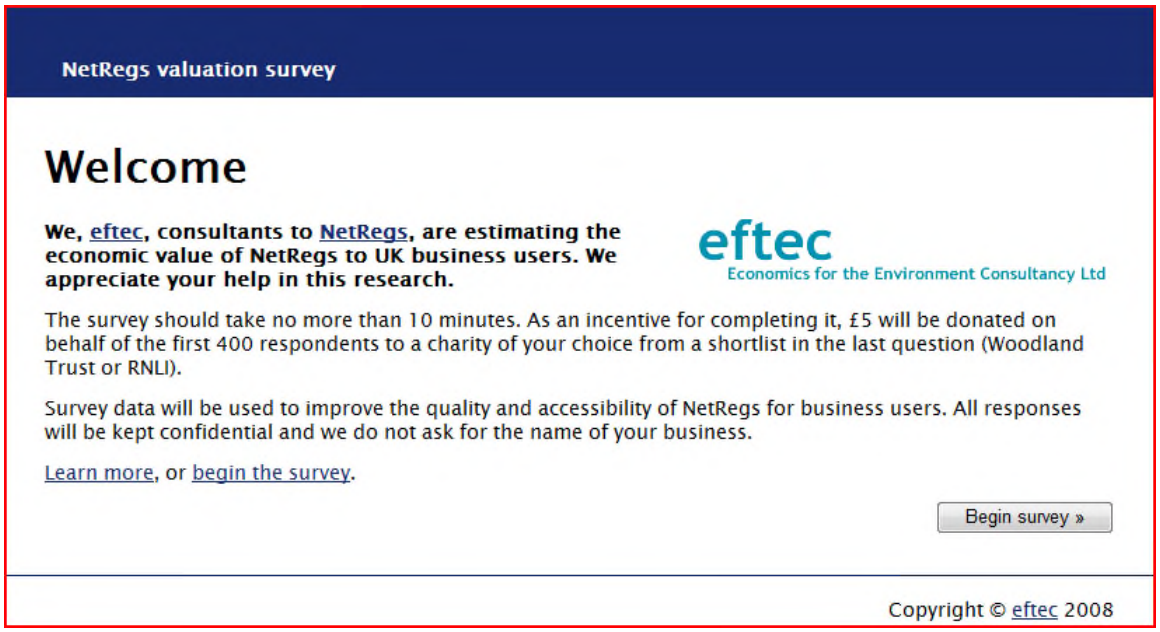
8.1 Interviewees contacted for feedback on the viability of pilot survey question and NetRegs valuation approach

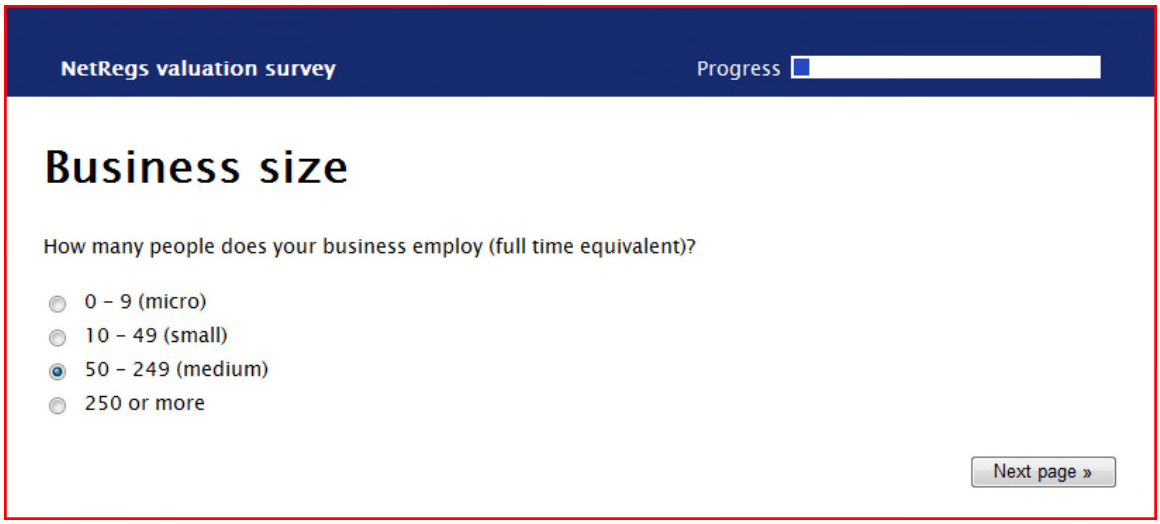
Telephone interviewees to February 22nd

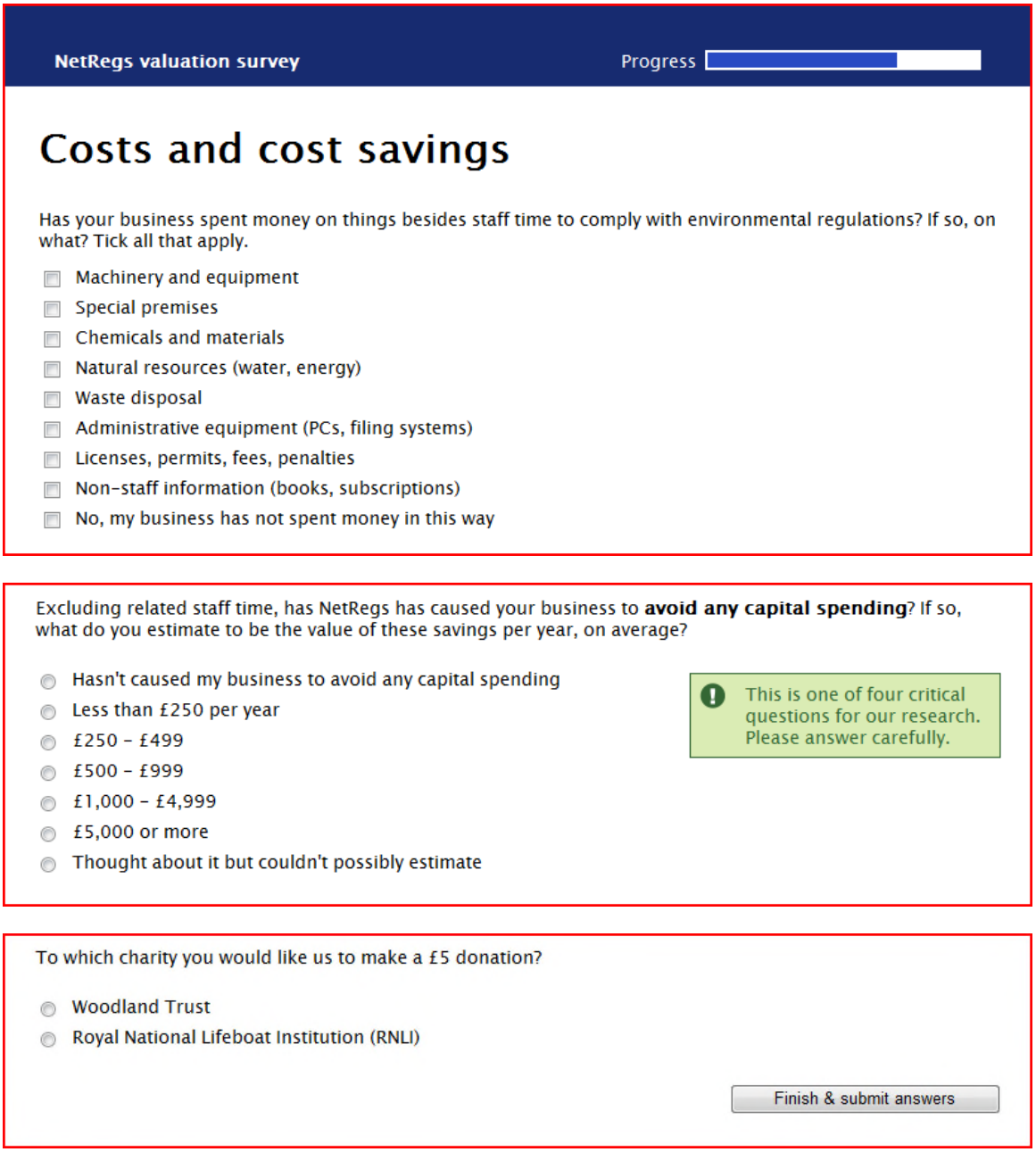
NR = suggested contact by NetRegs staff
EA = e-alert subscribers list

Interviewee	Title	Company	Employees	Email	Lead	Date
Anthony Acquah	Quality health and safety manager	Construction specialities		tacquah@c-sgroup.co.uk	EA	19 February 12pm
Adrian Cueto	Quality and environmental engineer	Euroquality coatings	48	a.cueto@euroqualitycoatings.co.uk	NR	19 February 2pm
Matt Dunmore	Engineering development manager	Taypack	200	matt@taypack.com	NR	19 February 3pm
David English	Director	English Construction	16	englishd@freenetname.co.uk	NR	19 February 4:30pm
Tim Stubbs	Engineering Manager	Fortress Interlocks	55	tim.stubbs@fortressinterlocks.com	NR	20 February 3pm
John Reynolds	Director	Reynolds Geosciences	5	RGSL@geologyuk.org	NR	21 February 11am
Dave Tonks	Technical manager	Wrekin Windows	150	dave.tonks@wrekin-windows.co.uk	EA	21 February 10:30am
David Owens	Manager	Britannia Construction	100	David.Owens@britannia.co.uk	NR	19 February 4pm
Paul Haigney	Operations director	Pasta King	70	ph@pastaking.co.uk	NR	22 February 9am

8.2 Survey web format







NetRegs valuation survey

Progress

Costs and cost savings

Has your business spent money on things besides staff time to comply with environmental regulations? If so, on what? Tick all that apply.

- [ ] Machinery and equipment
- [ ] Special premises
- [ ] Chemicals and materials
- [ ] Natural resources (water, energy)
- [ ] Waste disposal
- [ ] Administrative equipment (PCs, filing systems)
- [ ] Licenses, permits, fees, penalties
- [ ] Non-staff information (books, subscriptions)
- [ ] No, my business has not spent money in this way

Excluding related staff time, has NetRegs has caused your business to **avoid any capital spending**? If so, what do you estimate to be the value of these savings per year, on average?

- ( ) Hasn't caused my business to avoid any capital spending
- ( ) Less than £250 per year
- ( ) £250 – £499
- ( ) £500 – £999
- ( ) £1,000 – £4,999
- ( ) £5,000 or more
- ( ) Thought about it but couldn't possibly estimate

This is one of four critical questions for our research. Please answer carefully.

To which charity you would like us to make a £5 donation?

- ( ) Woodland Trust
- ( ) Royal National Lifeboat Institution (RNLI)

Finish & submit answers

8.3 Final survey questions and responses

1.	**Are you part of a business that employs fewer than 250 people?**	**465**	**100.00%**
	– Yes (continue)	0	0.00%
	– No (stop survey – thank you for your time)	100	100.00%
2.	**How many people does your business employ (full time equivalent)?**	**465**	**100.00%**
	– 0 – 9 (micro)	108	23.23%
	– 10-49 (small)	129	27.74%
	– 50-249 (medium)	228	49.03%
3.	**Which sector most closely describes the majority of your business' output?**	**461**	**99.14%**
	– Agriculture, Hunting and Forestry; Fishing	44	9.54%
	– Mining and Quarrying; Electricity, Gas and Water Supply	10	2.17%
	– Manufacturing [If ticked, respondent routed to 3.1]	193	41.87%
	– Construction	87	18.87%
	– Wholesale and Retail Trade; Repairs	16	3.47%
	– Hotels and Restaurants	3	0.65%
	– Transport, Storage and Communication	27	5.86%
	– Financial Intermediation	3	0.65%

– Real Estate, Renting and Business Activities	15	3.25%
– Education	13	2.82%
– Health and Social work	5	1.08%
– Other Community, Social and Personal Service Activities	45	9.76%
3.1. Which manufacturing sector most closely describes the majority of your business' output?	**193**	**100.00%**
– Manufacture of food products and beverages	17	8.81%
– Manufacture of basic metals	6	3.11%
– Manufacture of fabricated metal products, except machinery and equipment	35	18.13%
– Recycling	12	6.22%
– Other manufacturing	123	63.73%
4. In which country is your business primarily based?	**463**	**99.57%**
– England	394	85.10%
– Scotland	38	8.21%
– Wales	22	4.75%
– Northern Ireland	9	1.94%
5. What is the first half of your business's postcode?	**463**	**99.57%**
– [Box for character entry]		

6. Which occupation category most closely fits your role at your business?		**464**	**99.78%**
–	Manager or senior staff	348	75.00%
–	Associate professional or technical	83	17.89%
–	Administrative or secretarial	33	7.11%
7. Does your business spend staff time complying with environmental regulations? If so, doing what? Tick all that apply.		**464**	**99.78%**
–	Searching for and digesting information	393	84.70%
–	Checking reliability of information	223	48.06%
–	Taking advice from solicitors/consultant/accountants	131	28.23%
–	Dealing with the Environment Agency or other government bodies	309	66.59%
–	Providing information to 3rd parties	267	57.54%
–	Compiling and submitting applications for permission for / exemption from / authorisation	198	42.67%
–	Modifying equipment or machinery	107	23.06%
–	Cooperating with audits or inspections	323	69.61%
–	Record keeping, filing and general administration	366	78.88%
–	No, my business does not spend time complying with environmental regulations	12	2.59%
8. How many person-hours do you estimate your business spends complying with environmental regulations each week?		**465**	**100.00%**
–	< 5 person-hours per week	228	49.03%
–	5 - 9	120	25.81%

– 10 – 19	60	12.90%
– 20 – 49	40	8.60%
– 50 +	17	3.66%

9. How often does your business use the NetRegs website?	**465**	**100.00%**
– Every week	11	2.37%
– Every month	33	7.10%
– Every 2 months	33	7.10%
– Every 3 months	43	9.25%
– Every 4 months	67	14.41%
– Only once or twice a year	211	45.38%
– Less than once a year	67	14.41%

10. How many person-hours do you estimate your business spends using information from NetRegs each week, including website downloads used off-line?	**465**	**100.00%**
– My business doesn't spend any time using information from NetRegs	21	4.52%
– < 5 person-hours per week	337	72.47%
– 5 - 9	88	18.92%
– 10 – 19	12	2.58%
– 20 – 49	6	1.29%
– 50 +	1	0.22%

11. Do you think using NetRegs has caused staff in your business to save time? If so, how many person-hours do you estimate it causes your business to save per week?		**465**	**100.00%**
–	No, NetRegs has not caused my business to save time* [If ticked, respondent routed to 13]	97	20.86%
–	< 1 person-hour per week	116	24.95%
–	1 - 2	154	33.12%
–	3 – 5	65	13.98%
–	6 - 10	20	4.30%
–	11 - 19	5	1.08%
–	20 +	8	1.72%

12. Approximately what percent of those person-hours are saved by these two occupational categories:			
12.1	[field to enter percent] Managers, senior staff and professionals	**332**	**71.40%**
12.2	[field to enter percent] Associate professional, technical, administrative, and elementary	**248**	**53.33%**

13. Has your business spent money on things besides staff time to comply with environmental regulations? If so, on what? Tick all that apply.		**463**	**99.57%**
–	Machinery and equipment	230	49.68%
–	Special premises	34	7.34%
–	Chemicals and materials	144	31.10%
–	Natural resources (water, energy)	107	23.11%
–	Waste disposal	359	77.54%
–	Administrative equipment (PCs, filing systems)	151	32.61%

– Licenses, permits, fees, penalties	277	59.83%
– Non-staff information (books, subscriptions)	170	36.72%
– No, my business has not spent money in this way	38	8.21%

14. Again excluding staff time, how much do you estimate your business spends on all these other non-staff costs to comply with environmental regulations each year, on average?	**462**	**99.35%**
– My business doesn't spend anything on non-staff costs	36	7.79%
– < £499 per year	114	24.68%
– £500 - £2,999	147	31.82%
– £3,000 - £9,999	87	18.83%
– £10,000 - £19,999	37	8.01%
– £20,000 - £49,000	18	3.90%
– £50,000 +	23	4.98%

15. Excluding related staff time, has NetRegs has caused your business to avoid any capital spending? If so, what do you estimate to be the value of these savings per year, on average?	**465**	**100.00%**
– Hasn't caused my business to avoid any capital spending	299	64.30%
– < £249 per year	34	7.31%
– £250 - £499	24	5.16%
– £500 - £999	22	4.73%
– £1,000 – £4,999	17	3.66%
– £5,000 +	5	1.08%
– Thought about it but couldn't possibly estimate	64	13.76%

16. Excluding staff time and capital spending, has NetRegs caused your business to be more resource efficient (perhaps by conserving water, energy, materials and/or reducing waste disposal costs)? If so, what would you estimate to be the value of these savings per year, on average?		**464**	**99.78%**
–	Hasn't caused my business to be more resource efficient	135	29.09%
–	< £249 per year	88	18.97%
–	£250 - £499	46	9.91%
–	£500 - £999	50	10.78%
–	£1,000 – £4,999	37	7.97%
–	£5,000 +	16	3.45%
–	Thought about it but couldn't possibly estimate	92	19.83%

17. Excluding staff time, capital spending and resource efficiency savings, has NetRegs caused your business to save on any other environmental regulation costs, including fees and subscriptions? If so, what do you estimate to be the value of these savings per year, on average?		**464**	**99.78%**
–	Hasn't caused my business to avoid any environmental regulation costs	218	46.98%
–	< £249 per year	70	15.09%
–	£250 - £499	50	10.78%
–	£500 - £999	21	4.53%
–	£1,000 – £4,999	20	4.31%
–	£5,000 +	10	2.16%
–	Thought about it but couldn't possibly estimate	75	16.16%

18. This is not to imply that NetRegs will cease to exist, just to ask a hypothetical question. If NetRegs didn't exist, how much more do you estimate your business would spend per month on regulatory compliance than it spends today?	**465**	**100.00%**
– No more	142	30.54%
– < £24 per month	75	16.13%
– £25 - 49	61	13.12%
– £50 - £99	62	13.33%
– £100 - £199	53	11.40%
– £200 - £499	43	9.25%
– £500 +	29	6.24%
19.1 And if NetRegs didn't exist, would you go elsewhere for environmental regulation information? If so, where? [Primary source]	**463**	**99.57%**
– Environmental consultant	31	6.70%
– Trade or industry association	50	10.80%
– Environment Agency	239	51.62%
– Health and Safety Executive (HSE)	28	6.05%
– Other government office	23	4.97%
– Subscription service (print or online)	64	13.82%
– In house	23	4.97%
– I probably wouldn't seek out environmental regulation information* [If ticked, routed to 21]	5	1.08%
19.2 And if NetRegs didn't exist, would you go elsewhere for environmental regulation information? If so, where? [Secondary source]	**419**	**90.11%**

– Environmental consultant	56	13.37%
– Trade or industry association	74	17.66%
– Environment Agency	83	19.81%
– Health and Safety Executive (HSE)	72	17.18%
– Other government office	32	7.64%
– Subscription service (print or online)	60	14.32%
– In house	32	7.64%
– I probably wouldn't seek out environmental regulation information* [If ticked, routed to 21]	10	2.39%

20. Considering the other places you might go, how does NetRegs generally compare as a way to help comply with environmental regulation?	**459**	**98.71%**
– Better	235	51.20%
– Just as good	202	44.01%
– Not as good	22	4.79%

21. And if NetRegs didn't exist would your business buy an equivalent service in the private marketplace? If so, how much do you think your business would spend per month?	**464**	**99.78%**
– Probably wouldn't buy an equivalent service	256	55.17%
– < £14 per month	49	10.56%
– £15 - £49	64	13.79%
– £50 - £99	41	8.84%
– £100 - £199	30	6.47%
– £200 +	24	5.17%

22. If you have any comments to share with the researchers on any aspect of this survey or NetRegs, enter them here:	**133**	**28.60%**
– [Text box for character entry]		
23. Thank you for your time. Please indicate to which charity you would like us to make a £5 donation:	**461**	**99.14%**
– Woodland Trust	152	32.97%
– Royal National Lifeboat Institution (RNLI)	235	50.98%
– National Society for the Prevention of Cruelty to Children (NSPCC)	74	16.05%

8.4 Reference to electronic file containing raw data

The raw data and the analysis for this report are contained in the spreadsheet called 'eftec NetRegs appendix.xls' supplied to the Environment Agency with this report.