Evaluation of the Revolving Green Fund: a report to HEFCE

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1. Glossary

The following tables provide a summary of acronyms and technical terms used throughout this document.

Acronyms

Term	Definition
AD	Anaerobic digestion
AMHEC	Association of Managers in Higher Education Colleges and Universities
AMR	Automatic Meter Reading
AUDE	Association of University Directors of Estates
AUE	Association of University Engineers
BERR	Business, Enterprise and Regulatory Reform
BIS	Department for Business, Innovation and Skills
BUFDG	British Universities Finance Directors Group
CCL	Climate Change Levy
CETL	Centre for Excellence in Teaching and Learning
CHP	Combined heat and power
CIF	Capital Investment Framework
CRM	Customer Relationship Manager
DECC	Department of Energy and Climate Change
EAUC	Environmental Association for Universities and Colleges
EOI	Expression of interest
GIA	Gross Internal Area
HEEPI	Higher Education Environmental Performance Improvement
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
ISP (fund)	Institutional Small Projects
LCBP	Low Carbon Buildings Programme
LGMF	Leadership, Government and Management Fund

OJEU	Official Journal of the European Union
PBP	Payback period
RGF	Revolving Green Fund
SEELS	Salix Energy Efficiency Loans
SERS	Salix Energy Reporting System
UUK	Universities UK

Technical terms

Term	**Definition**
(kWh)	Kilowatt hour is a unit of energy equal to 1,000 watt hours and is a billing unit for energy delivered to universities by utilities.
(MWh)	Megawatt hour is a unit of energy equal to 1,000,000 watt hours.
Tonnes of CO_2/year	The amount of carbon dioxide (saved) over a 12 month period.
Renewables Obligation Certificates (ROC)	The Renewables Obligation is designed to incentivise the generation of electricity from eligible renewable sources in the United Kingdom. Suppliers meet their obligations by presenting Renewables Obligation Certificates (ROCs).
CO_2	Carbon dioxide
Capacity factor	Capacity factor is one element in measuring the productivity of a wind turbine or any other power production facility. It compares the plant's actual production over a given period of time with the amount of power the plant would have produced if it had run at full capacity for the same amount of time.
Lifetime tonnes of CO_2	The amount of carbon dioxide saved over the lifetime of a project or piece of equipment.
Carbon Management Plan	A Carbon Management Plan is a fully costed plan which makes the business case for cutting carbon and includes a list of potential carbon reduction projects. The production of a Carbon Management Plan is one of the outcomes of participating in the Carbon Trust's Carbon Management programme.
Payback period	Payback period is the length of time that a project takes to repay its capital cost.

Term	Definition
Persistence factor	Salix uses persistence factors to calculate the lifetime savings that are being achieved by a technology or process. The Salix methodology was changed in 2008 and is now based on a "useful life" which is adjusted to reflect deterioration by inherent degradation and operational degradation. The factors are applied cumulatively to the useful life to give the Persistence Factor.
£/tCO_2 LT	The cost of saving each tonne of carbon dioxide over the lifetime of a project or piece of equipment.
Estates Management Statistics (EMS)	Estate Management Statistics (EMS) was established in 1999 to provide the higher education sector with standardised, reliable and useful property information to help managers understand current performance, promote sharing of good practice and drive improvements. As such, the main objective of EMS is to give UK higher education institutions access to relevant information to enable better strategy and decision making.
Recoverable grant	Funding where part or all of the grant monies are repayable to the funder over an agreed period of time, or other repayment arrangement.
Non-recoverable grant	Funding where the grant monies are not repayable to the funder.
European Journal of the European Union	The tendering process required by the EC Directives for public sector procurement where the value exceeds an annually updated threshold.

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3. Executive summary

3.1. Introduction

The Revolving Green Fund

The Revolving Green Fund (RGF) is a partnership fund between HEFCE and Salix Finance Ltd that aims to help higher education institutions (HEIs) in England reduce greenhouse emissions.

£30 million is available from 2008 to 2011 to provide recoverable grants to institutions for projects that reduce their emissions. Institutions will repay the funds through the savings they make.

The fund has two strands, an institutional small projects (ISP) fund which allows the incremental implementation of small scale projects over time; and a 'transformational' fund for large, one-off projects which significantly reduce an institution's carbon emissions. Fifty-seven institutions have received ISP funding; three have received transformational funding.

Purpose of the evaluation

This evaluation investigates the progress of the RGF and lessons learnt following previous funding rounds; the potential for additional RGF funding; and how good practice arising can best be disseminated. This executive summary presents the headline findings in relation to each of these areas, followed by a summary of recommendations.

Extent of evidence base

A broad range of methods were adopted to build up the evidence base for this evaluation including initial interviews with the RGF advisory group members and other key stakeholder representatives; a desk-based review of existing documentation and evidential sources; an online questionnaire available to relevant practitioners across the sector[1]; and telephone interviews with institution representatives[2].

Overall finding

To date the RGF has reduced the greenhouse gas emissions of the English higher education sector through the implementation of ISP (the three transformational projects are not yet operational). The fund is successfully working towards meeting its stated aims by providing a major mechanism for institutions to invest in this area,

[1] Response level: respondents were shown different sections of the questionnaire depending on whether or not they had applied for RGF funding, however all respondents were directed to the section on potential for additional funding which received responses from 104 individuals representing 75 of the 130 HEIs in receipt of HEFCE funds who could have applied for RGF funding.

[2] Ten with funding recipients (three transformational and seven ISP), five with those who have applied unsuccessfully, and nine with representatives of institutions who had not applied to either strand.

accelerating carbon reduction with current projects saving over 2% of English HEI carbon emissions every year. If the current level of success and trajectory of project implementation is sustained then the RGF will lead to significant further carbon and cost savings, potentially up to 8.6% of current English HEI carbon emissions every year by 2020.

A number of indicators suggest that there is significant potential to use future rounds of the fund (should these be available) to further this aim.

The following sections present our main findings.

3.2. Progress to date

Progress of projects funded through the ISP strand[3]

A total of 384 ISP projects have been committed with lighting upgrades and motor controls the most commonly undertaken projects (collectively accounting for approximately 25% of the total). The average size of a project is £21,965 with the least expensive costing £70 and most expensive being £380,000.

Analysis of Salix Energy Reporting System (SERS) reporting data shows that in total, projects which will save 221,903 tonnes of CO_2 over their lifetime have been committed to or implemented so far. This represents 17,353 tonnes of CO_2 saved per annum (a 0.8% reduction in English HEI carbon emissions per annum) for an expenditure of £8.43 million. Although hypothetical, if institutions who have (more recently) been awarded funds as a consequence of round 2 proceed to implement projects at a comparable rate and scale to previous recipients, and all recipients continue to reinvest their cost savings in additional projects, then the current commitment of 221,903 tonnes of CO_2 lifetime savings to date should continue to increase significantly.

The ISP fund is acting as an accelerator to carbon reduction, and recipients have the view that more projects have happened within the timeframe and that these are more effective than would otherwise have taken place (67% of ISP funding recipient survey respondents identified 'implementation of projects that would not otherwise have taken place' as a significant benefit to having received funds).

Progress of projects funded through the transformational strand

The three transformational projects are not yet operational and therefore would not have been expected to produce any carbon savings to date. However, the predicted carbon savings for these three projects are nearly 28,000 tonnes of CO_2 per annum (1.3% reduction in English HEI carbon emissions per annum). For a total project expenditure of a little over £20 million these projects are predicted to save around 325,000 tonnes of CO_2 during their lifetime. If these targets are realised then the projects will be 'transformational' for the institutions involved as they will each significantly reduce their annual CO_2 emissions.

[3] Data used to derive these findings was taken on the 31st October 2009. This data is still subject to quality assurance by Salix

As identified through interviews and survey responses, the main benefits to date for transformational projects relate to raising the profile of the institution's work internally (within the institution), within the higher education sector and beyond. This reflects the large-scale, high profile nature of transformational projects which interviewees have stated generates a great deal of interest across the sector amongst relevant practitioners, within the institution and local community, and for any organisations considering the implementation of comparable projects.

3.3. Lessons learnt

Available staff resource is the major barrier to application

A notable proportion of institutions[4] identified that inadequate staff resource, both to produce applications and manage funding post-award as a barrier to application. Both the capacity and capability of staff to complete these activities would appear to be factors, with capacity particularly acute in institutions without dedicated energy/environmental managers, which tend to be smaller institutions.

Lessons relating to the ISP strand

Application for ISP funding is most commonly encouraged by the ability to identify suitable projects, supported by the availability of suitable estates management data. The development of carbon management plans have also contributed to the decision to apply for funding, and the support provided during the application process is commonly valued by those who have applied.

Arguably the most effective measure for determining the efficacy of a project is the cost of saving each tonne of carbon dioxide over its lifetime (£/tCO_2 LT). There are different ways of analysing this but ISP projects involving insulation measures show some of the cheapest £/tCO_2 LT.

It is of note that there are 76 ISP projects that will have cost less than 21 £/tCO_2 LT. So for an expenditure of £0.84 million, these projects will in total save £11.68 million and nearly 70,000 tonnes of CO_2 over their lifetime.

Changes to the application process following round 1 to streamline this during round 2 have been recognised by applicants to this second round who were unsuccessful at round 1. For those who did not reapply this appears to be due to barriers not linked to the application process itself.

There are some factors that would appear to discourage application to the fund; however we are only aware of these having prevented application in very few cases. These factors relate to:

- Certain aspects of the project compliance criteria.
- Financial considerations, such as the requirement for 25% institution match-funding, and that the funds are available as a recoverable grant.

[4] 15-20% of survey respondents indicated that (if additional funding was available) they disagreed or strongly disagreed that they would have adequate staff resource to develop applications and manage/deliver projects following receipt of funds.

- Aspects of the post award monitoring and reporting requirements.

Lessons related to the transformational strand

The evidence gathered indicates that at the point of calling for transformational applications a number of institutions had well developed proposals that could be taken forward. This has suggested that for those who applied for funding, the opportunity was 'well timed'.

Innovative transformational applications were encouraged through the inclusion of innovation in the assessment criteria for award of funds. The inclusion of this innovation criterion was in part driven by the potential of transformational projects to act as beacons of good practice. However many applicants were unsure what was meant by 'innovation' in this context and have commented that projects can be transformational without necessarily being innovative.

3.4. Potential for additional funding

Indicators relating to the requirement for additional funding

A number of indicators relating to the requirement for additional RGF type funding have been used, all indicating that additional funding could be used by institutions.

The value of unfunded applications to both strands has been calculated and is approximately £5.5 million for ISP HEFCE-Salix funding and £53.8 million for transformational HEFCE funding, indicating the value of 'known' potential projects.

We have also estimated the proportion of the total English higher education estate – in terms of size and energy consumption through reference to Estates Management Statistics (EMS) data – which has received some ISP funding to date. This indicates that the 'coverage' of the recipient institutions is around 65% of the sector in terms of size and energy consumption. This suggests that an additional 35% has not received any ISP funding at all. Although institutions representing approximately 65% of the English estate have received ISP funds, this funding will only have impacted the energy consumption of a proportion of this estate i.e. it is very likely there are more projects that can be implemented. This is supported by the finding that 90% of survey respondents working at institutions that received ISP funding said that they would either explore the possibility of applying or probably apply for more ISP funding. Of these nearly half said that they would probably apply for more funding.

In addition we also asked survey respondents to estimate the value of potential projects at their institution. The estimated amount of funding that survey respondents consider could be spent on projects of each fund strand type was mapped to the whole sector (again through reference to EMS data) giving a value of £42.71 million - £118.18 million for ISP projects and £187.31 million - £410.45 million for transformational type projects.

We have also identified that the RGF fund does not appear to duplicate other sources of funding currently available.

In addition there is a strong validation from the sector that additional RGF type funding could be used. In relation to both strands, approximately 90% of survey respondents indicated that in their opinion their institution would either probably apply

or explore the possibility of application. Approximately 40% indicated their institution would probably apply, and 50% indicated they would explore the possibility of application.

Division of future funding between ISP and transformational strands

In terms of the split of any future funding, there is a view from the sector that potential ISP projects are more easily identifiable. This combined with the relative speed at which carbon savings can be achieved suggests that the largest proportion of any future funding should be directed towards ISP-type projects. However there is also evidence supporting the case for additional transformational funding, with many practitioners suggesting the split of any future funding should be based on the merit of applications.

3.5. Sharing of good practice

Survey responses and interviews suggest that practitioners want to continue to hear about good practice through the membership networks they currently use and want to continue to use them for good practice dissemination. However, this is challenging for individuals at institutions without dedicated energy or environmental staff who, if they are not participating in the Carbon Trust or RGF initiatives, cannot easily access a network of relevant professionals working on similar carbon reduction initiatives.

In terms of future forms of media, generation of case study materials and regional seminars are the two most popular choices, with approximately 80% of survey respondents identifying each option.

There does not appear to be demand for an RGF-specific national conference/seminar, however there is potential for RGF related good practice to feature in relevant regular national conferences and events arranged by the relevant representative professional bodies. Regional conferences/seminars are a popular method for future dissemination of good practice. There is also the potential for institutions to host such events on a rotational basis, reducing direct costs.

In addition there is the potential to further 'promote' the benefits of the receipt of RGF funding to senior managers within institutions. This is a distinct activity from the dissemination and sharing of good practice.

The next section presents a summary of recommendations.

3.6. Summary of recommendations

In this section we summarise the recommendations made throughout the body of the main report. These are also available at Annex A.

These recommendations are intended to build on the success of the RGF to date, and have been written to help the funding council and wider sector consider:

- How learning and good practice arising from the fund can best be shared, now and in the event that any additional funding were to become available.
- The case for future funding; whether this is required and how the current arrangements for operating the fund could be enhanced in any future rounds of RGF funding.

Sharing learning and good practice (recommendations 12-18)

HEFCE should support the production of both detailed and concise case study materials relating to both strands of the fund, including consideration (with Salix) of a mechanism to make existing Salix ISP case studies more widely available.

An institution/consortium or other sector organisation could coordinate the production and dissemination of case study materials through existing national membership organisations and regional networks. There is potential to apply to HEFCE's Leadership, Governance and Management Fund (LGMF) to enable this activity[5]. This activity should be complementary to the ongoing work of the Association of Managers in Higher Education Colleges and Universities (AHMEC) to support practitioners in smaller institutions.

In addition, existing professional networks and representative organisations should consider how good practice can feature in existing regional and national activities, and new ways of encouraging collaboration at the regional level.

Future funding – the requirement (recommendations 2, 9-11)

Findings of this report support the need for additional RGF funding, and HEFCE should take forward measures to request this. If future funding were to be secured, this should be primarily directed at ISP projects, however evidence supports the case for additional transformational funding also.

This should be supported by HEFCE taking forward measures to ensure that senior managers in institutions are fully informed as to the benefits associated with receipt of ISP funding, including any 'quick wins' relating to high payback projects with short lead in times.

Complementary to the RGF consideration should be given on how the second Capital Investment Framework (CIF2)[6] can be used to encourage HEIs to spend a proportion of their capital funding on enhancing the sustainability performance of their new build and refurbishment projects, including whole building retrofits, which are currently too large for ISP funding. Such projects could be funded as transformational, if the criterion relating to innovation were elective.

Future funding – access to funds (recommendation 1)

It is recommended that HEFCE support mechanisms to encourage applications from institutions where lack of staff resource may have previously prevented application to the fund. Such a mechanism could involve pump priming funding clusters of smaller institutions to share energy expertise, the costs of which would eventually be met through savings achieved.

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[5] For more information see http://www.hefce.ac.uk/lgm/build/lgmfund/.

[6] The Capital Investment Framework is a methodology to assess higher education institutions' approaches to capital investment. Further information is available at www.hefce.ac.uk/finance/fundinghe/capital/cif.

Future funding – enhancements to the ISP strand of the fund (recommendations 3-5)

It is recommended that HEFCE and Salix revisit the project compliance requirements relating to increasing the payback to allow:

- The HEFCE contribution to be spent on projects which achieve the institution contribution requirement.
- The inclusion of metering projects even though they do not generate an overt carbon saving, they are a critical part of accessing that project savings are being achieved[7].
- An increase in the current maximum management charge[8] (15%), which is permitted to be funded from an individual ISP project on a project by project basis.

The above could be complemented by HEFCE encouraging institutions to apply for LGMF to look at behavioural change projects.

Where institutions specifically cannot provide the required 25% contribution, HEFCE should consider how they can take advantage of ISP funding.

Future funding – enhancements to the transformational strand of the fund (recommendations 6-8)

It is recommended that HEFCE consider making the innovation criterion an elective element of the transformational application and assessment process.

HEFCE should consider enhancing the transformational application process through:

- Increasing the notification period for receipt of transformational applications for funding to allow institutions a longer period to identify suitable projects.
- The implementation of an amended application process comprising the award of pump priming funding following an initial expression of interest stage allowing development of applications to be submitted for the second stage[9].
- Spreading transformational funding over several annual rounds, allowing those with more developed schemes to apply initially, and those who have ideas to develop these sufficiently for the subsequent rounds.

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[7] Whilst Salix do not specifically fund advanced metering as a standalone project it does allow metering to be included within the cost of a project, provided it still meets the project compliance criteria. In addition clients can add a management charge of up to 15% of each project, which can also be used to fund improvements in metering.

[8] The management charge can be used to finance resources to manage the fund, or to improve metering or fund energy/carbon audits to help identify future projects.

[9] This differs from the previous transformational two stage application process comprising an expression of interest stage, followed by the invitation to submit full applications from a shortlist.

4. Introduction

This section describes the context for and nature of the Revolving Green Fund (RGF) and provides a summary of the terms of reference for this evaluation. The remainder of the report is structured as follows:

- Sections 5 and 6 comprise an investigation of the progress to date demonstrated by each strand of the fund (Institutional Small Projects (ISP) and Transformational respectively).
- Section 7 gives details of the lessons learnt to date, including what has encouraged and discouraged application to the fund.
- Section 8 investigates and provides evidence relating to the case for additional RGF type funding.
- Section 9 considers and makes recommendations relating to the sharing of good practice arising from the RGF.
- In addition a series of appendices provide information on: consultees to the study (A); responses to the online questionnaire (B); detailed overview of the RGF (C); details of our terms of reference and approach to this evaluation (D); analysis of potential case-study format (E); and an analysis of ISP application values (F).
- A summary of findings and associated recommendations is provided at Annex A.

4.1. Policy context

This evaluation is set against a changing policy context which is likely to result in the reduction of greenhouse gas emissions being an increased priority for higher education institutions (HEIs).

The Climate Change Act 2008 has established legally binding targets for greenhouse gas emissions and the 2009 grant letter to the Higher Education Funding Council for England (HEFCE) from the Secretary of State for Innovation, Universities and Skills set out requirements in respect of climate change for higher education in England with specific targets for the reduction of carbon emissions.

HEFCE's strategic plan[10] for 2006-2011 (updated in 2009), contains a related key performance target: *'To develop during 2009-10 in consultation with stakeholders a realistic strategy and target for carbon reductions which are sufficient to ensure satisfactory progress towards the Government targets of reducing carbon emissions by 80% against 1990 levels by 2050 and at least 34% by 2020.'*

In May 2009 HEFCE embarked on a joint consultation with Universities UK (UUK) and GuildHE[11] on a carbon reduction target and strategy for higher education in

[10] http://www.hefce.ac.uk/aboutus/stratplan/

[11] UUK and GuildHE are the two formal representative bodies for higher education in the United Kingdom.

England[12]. The RGF is featured within this strategy as a potential further mechanism to fund carbon reduction projects within the English higher education sector. The RGF is a partnership fund between HEFCE and Salix Finance Ltd that aims to help HEIs in England reduce greenhouse emissions. Salix is an independent company funded by the Carbon Trust. It operates a number of schemes providing low cost finance to public sector organisations investing in energy saving capital expenditure including local authorities, NHS Foundation Trusts, central government departments and further education colleges.

This evaluation investigates the progress of the RGF and lessons learnt following previous funding rounds, and also considers the potential for additional RGF funding, and how good practice arising can best be disseminated.

4.2. Overview of the Revolving Green Fund

This section provides a brief overview of the RGF. More detail is provided at Appendix C.

The aims of the RGF are to:

- Reduce the sector's greenhouse gas emissions, in particular carbon dioxide.
- Achieve long-term financial savings from reduced energy consumption.
- Increase the implementation of energy efficient projects within the higher education sector.
- Promote the sector's leading role in reducing greenhouse gases emissions through projects that transform an HEI's approach to reducing its emissions.
- Work closely with Salix and in turn the Carbon Trust
- Use minimal accountability processes.

These aims are to be met through the provision of £30 million available to HEIs, with HEFCE contributing £20 million and Salix contributing £10 million. The fund has two distinct strands:

- The ISP fund totalling £20 million.
- The transformational fund totalling £10 million.

Transformational funding was allocated to three HEIs, for projects submitted by the University of East Anglia, Harper Adams University College and Lancaster University.

In total 57 institutions have received ISP funding.

4.3. This evaluation

The evaluation was specifically required to:

- Assess the progress of the funds to date.

[12] http://www.hefce.ac.uk/pubs/hefce/2009/09_27/

- Consider the lessons learnt from the process and, if appropriate, make recommendations for amending the process in case further funding is secured.
- Gather evidence, including unmet demand, to build a case for further funding.
- Consider and make recommendations on how the learning and good practice from both strands of the fund can be effectively captured and disseminated.

A number of methods were adopted to build up the evidence base for this evaluation, including initial interviews with the RGF advisory group members and other key stakeholder representatives; a desk-based review of existing documentation and evidential sources; an online questionnaire available to relevant practitioners across the sector; and telephone interviews with funding recipients, those who have applied unsuccessfully and representatives of institutions who had not applied to either strand. More information on the terms of reference and approach adopted is available at Appendix D.

5. Progress of the ISP strand

In this section we provide an overview of the progress to date of the ISP strand of the fund.

As the evaluation is being undertaken early in the fund's history, we do not fully assess the actual effectiveness of the fund in achieving carbon and cost savings. However, we do consider whether the fund is achieving, or likely to achieve, its aims. We also consider whether the fund is acting as an accelerator to carbon reduction within institutions and whether it is leading to additional projects being implemented.

We also identify the benefits to institutions of receiving funding from the RGF.

Below we consider:

- The number and types of projects that have been implemented as at the 31st October 2009, and associated carbon savings.
- Evidence that the ISP strand is acting as an accelerator to carbon reduction.
- Benefits identified by funded institutions.

5.1. Overview of ISP projects undertaken

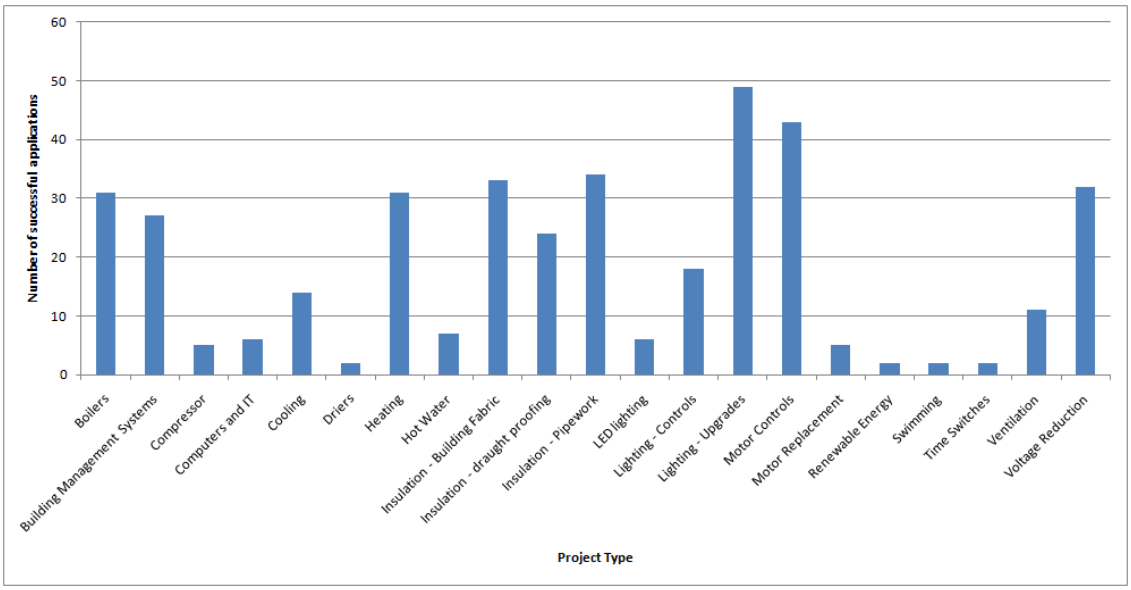
ISP projects have been funded at 57 institutions in the following proportions:

- Eleven HEIs had a funding relationship with Salix prior to the availability of the RGF ISP strand. These institutions subsequently transferred to the ISP model and are considered as having been awarded funding though the ISP round 1 application process.
- Thirty HEIs had no previous relationship with Salix and were awarded ISP funding following the round 1 application process.
- Sixteen HEIs were awarded ISP funding as a result of the round 2 application process.

Of note is that the earlier funding was awarded, the more likely projects are to have been implemented; i.e. those who received funding as a result of round 2 will have implemented fewer projects than earlier recipients.

Figure 1 gives a simple overview of the number of projects of each technology type implemented to 31st October 2009.

Figure 1: Number of each type of ISP[13]



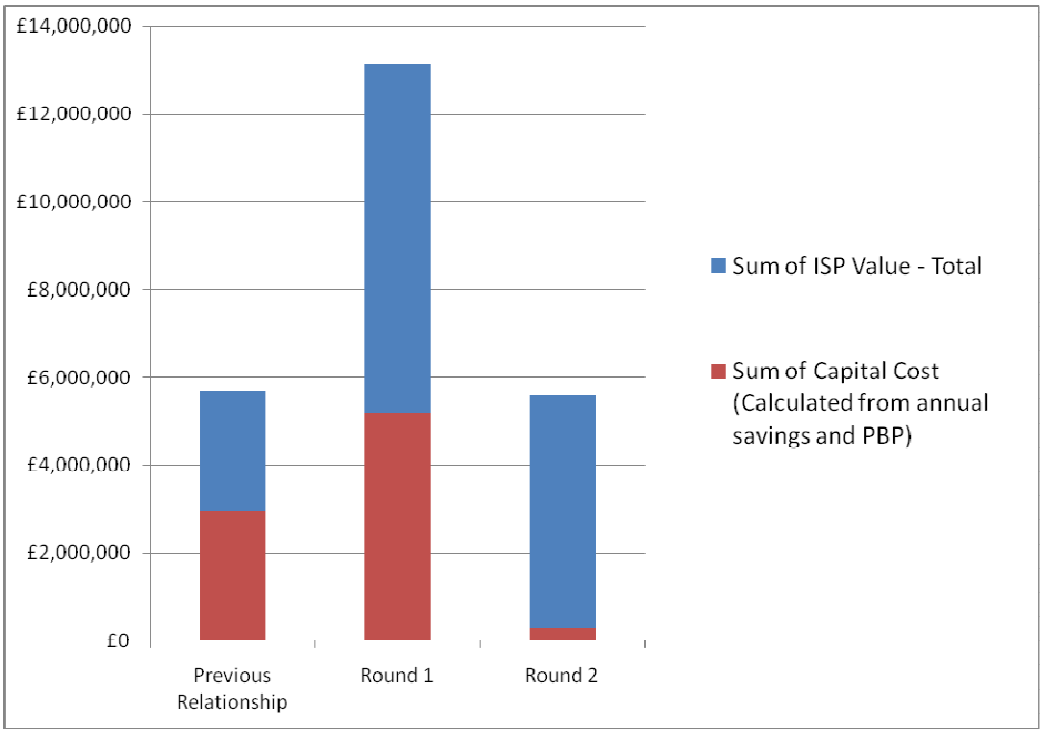
A total of 384 ISP projects have been committed. Lighting upgrades (13%) and motor controls (11%) are the most commonly undertaken projects, with insulation – pipework (9%); insulation – building fabric (9%); voltage reduction (8%); heating – boilers (8%); building management systems (7%); and draft proofing (6%) accounting for the majority of project technology types. The average size of a project is £21,965 with the least expensive costing £70 and most expensive being £380,000.

5.1.1. Extent to which funding has been used

A simple measure of progress is to consider the rate at which 'inputs' to the projects are being used – i.e. 'how quickly is the money being spent?' Figure 2 shows the sum of funds spent by institutions according to the round of funding they were allocated in. This confirms that significant funding has already been used by HEIs. In total £2.81 million has been spent on projects that are completed and currently operational. In addition £5.63 million worth of projects are in development. This means that 34.5% of the total ISP allocated funding is actively being spent on projects. The remainder of the funds are yet to be committed; however this is unsurprising giving the relatively recent timing of award, and that large numbers of projects are unlikely to be committed concurrently at any one instituion i.e. recipients do not use all the money at once. Note that the majority of round 1 recipients joined the fund in March 2009, and round 2 recipients in August 2009.

[13] Data derived from Salix SERS reporting system – 31st October 2009. This data is still subject to quality assurance by Salix.

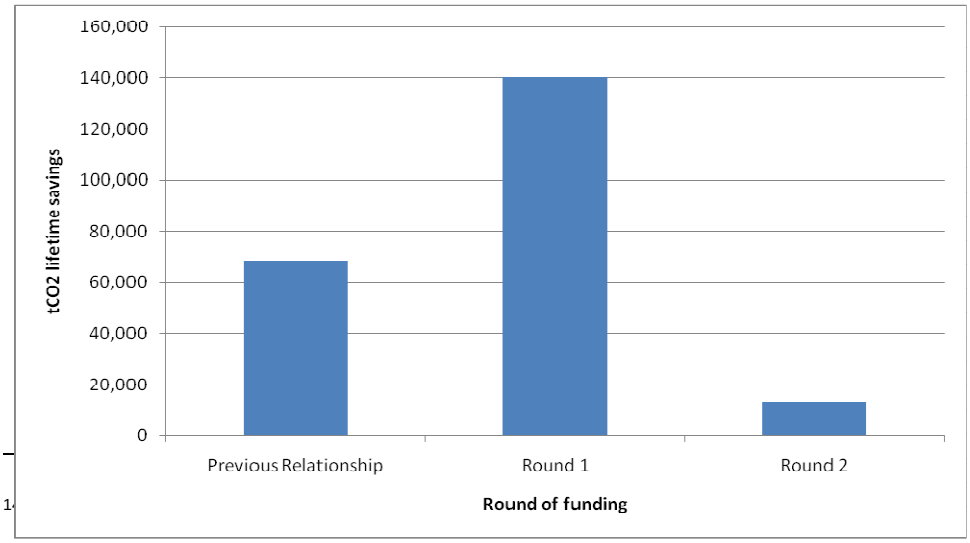
Figure 2: Extent to which ISP funding has been committed to 31st October 2009[14]



5.1.2. Reported carbon savings

It is also possible to use reporting data provided by project recipients to Salix to determine estimated lifetime carbon dioxide savings on projects implemented to 31st October 2009.

Figure 3: Reported carbon dioxide savings to 31st October 2009



- The numbers of HEIs receiving funding at each stage – and therefore represented in the graph is: previous relationship: 11; Round 1: 30; Round 2: 16.
- In these figures the term payback period (PBP) is abbreviated to aid visual interpretation.

Figure 3 shows the reported lifetime carbon savings in tonnes of CO_2, sorted by round of funding. In total, projects which will save 221,903 tonnes of CO_2 over their lifetime have been committed to or implemented so far. This represents 17,353 tonnes of CO_2 saved per annum for an expenditure of £8.43 million. This represents a 0.8% reduction in English HEI carbon emissions per annum and the total project lifetime carbon dioxide savings are 10% of current emissions[15].

Notably for both Figures 3 and 4 (section 5.3.1) there is a comparatively small commitment for round 2 so far, confirming that institutions that received funding for round 2 (August 2009) are less likely to have implemented their projects than those in round 1 (March 2009). HEIs that had a previous relationship with Salix have committed a higher proportion of their funding to projects than institutions in rounds 1 and 2.

Although hypothetical, if institutions who have been awarded funds as a consequence of round 2 proceed to implement projects at a comparable rate and scale to previous recipients, and all recipients continue to reinvest their cost savings in additional projects, then the current commitment of 221,903 tonnes of CO_2 lifetime savings to date should continue to increase significantly. If the total ISP funding of £25m is reinvested three times between now and 2020, and all the projects achieve the same £/tCO_2 as the existing £8.43m of projects, then the total annual CO_2 savings will represent a 7.3% reduction in current emissions of all English HEIs.

5.2. Evidence that ISP funding is acting as an accelerator of carbon reduction

5.2.1. The view of recipients

There is evidence that projects funded through the ISP strand of the fund have directly resulted in reduced carbon emissions. Just over half of successful ISP survey respondents report that they are able to quantify early evidence of CO_2 savings that can be directly attributed to ISP funding. Where it is possible to quantify savings, survey respondents have commonly stated they are able to identify this as a result of reduced energy consumption, with a number of respondents referring to specific metered evidence. Interview responses confirm that a number of implemented projects are delivering metered utility savings.

Where respondents are not able to identify CO_2 savings, this is commonly due to being in the early stages of project implementation. However savings from many projects cannot be individually quantified if the total energy demand of the building is very large.

These metered savings suggests that the ISP strand is meeting the aims of 'reducing the sector's greenhouse gas emissions, in particular carbon dioxide' and 'achieving long-term financial savings from reduced energy consumption.'

---

[15] Current emissions are all Scope 1 and 2 emissions from all English HEIs in 2006, which are calculated at 2.124 million tonnes of CO_2.

“A PC shut down saving scheme showed clear metered savings.”

ISP recipient interviewee

“Too early to measure as no projects supported by the fund have been fully completed as yet.”

“Detailed sub-metering of energy used in buildings allows verification of effectiveness of projects.”

ISP recipient survey responses

5.2.2. The impact of not receiving funding

In terms of acceleration of carbon reduction, this can be assessed through considering the impact of funding not having been available. The majority of ISP recipient survey respondents report that projects would not have happened, or would have happened over a longer period and been less comprehensive (only 2%, or one respondent, reporting that projects would have happened as planned).

Also of relevance to this point is that 67% of ISP funding recipient survey respondents identified ‘implementation of projects that would not otherwise have taken place’ as a significant benefit to having received funds.

Those who had applied for ISP funding unsuccessfully were also asked what impact this had made on the delivery of planned projects. The majority of unsuccessful ISP applicant survey respondents reported that the work will either take place over a longer period, be less comprehensive, or not happen at all. One respondent indicated that the projects would take place as planned, but that internal funding had been secured to enable this. Interview responses also confirm that unsuccessful ISP applicants have been unable to source equivalent alternative funding and have therefore undertaken fewer projects.

Of note is that several non-applicant interviewees did not apply for funding because they are currently using institutional funding sources to invest in energy efficiency projects of this type.

“Progress has not been at the same rate as if we'd received the funding. Many projects are on hold.”

“The major element of the application was enabled (replacing boilers), but the smaller elements of the application were put on hold because we did not receive funding.”

ISP applicant (unsuccessful) interviewees

These findings suggest that the ISP fund is acting as an accelerator to carbon reduction through the implementation of additional projects, and projects that are more effective than would otherwise have occurred to date. This suggests that the ISP strand is meeting the aim of ‘increasing the implementation of energy efficient projects within the higher education sector.’

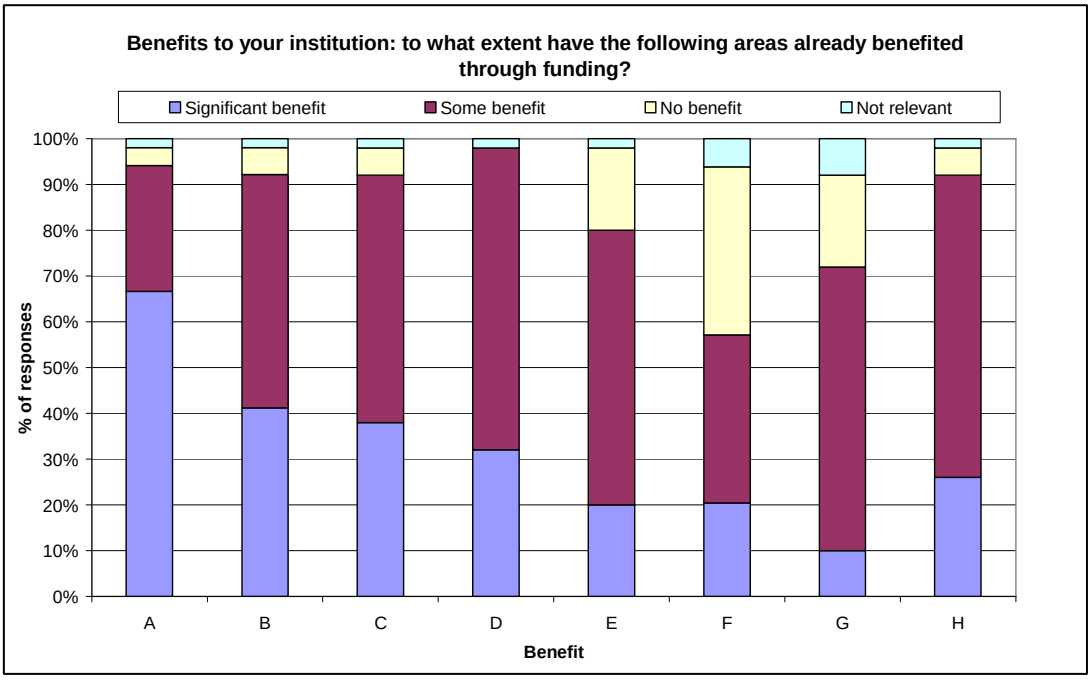
5.3. Benefits of ISP funding to recipient institutions

5.3.1. Reported benefits

Recipients of ISP funding were asked the extent to which a number of benefits had been achieved as a result of receiving ISP funding. Over 90% of successful ISP survey respondents report either some, or significant benefit has been achieved in relation to: 'implementation of projects that would not otherwise have taken place'; 'delivery of your institution's carbon management strategy'; 'delivery of your institution's carbon/sustainability policy/targets'; 'raising the profile of your institution's work in this area within the institution'; and 'reduction in utility spend'.

Of particular note is that 67% of respondents identified 'implementation of projects that would not otherwise have taken place' as a significant benefit. Figure 4 presents the response profile for this question.

Figure 4: Benefits to ISP recipient survey respondents[16]



[16] 51 responses.

Key	
A	Implementation of projects that would not otherwise have taken place
B	Delivery of your institution's carbon management strategy
C	Delivery of your institution's carbon/sustainability policy/targets
D	Raising the profile of your institution's work in this area within the institution
E	Raising the profile of your institution's work in this area within the higher education (HE) sector
F	Increase in internal capacity to deliver projects of this type (staff development)
G	Strengthening proposals for external funding for other sustainability projects (e.g. behavioural change)
H	Reduction in utility spend

The areas of highest benefit could be considered significant strategic objectives for institutions including reduction in utility spend (financial savings), and working towards strategic objectives and specific targets defined by the institution. The strong view that projects would not otherwise have taken place highlights that without funding, progress towards these other benefits may not have been achieved to this extent.

5.3.2. Recyclable nature of the fund

Interviews with ISP recipients have also highlighted that, due to the ring-fenced nature of the fund, and that savings are recycled, requests for central institution funding are not required on an ongoing basis, and the funding is secure.

> *"The ISP allows those in charge of energy management to have a specific budget that is ring fenced from other university budgets. This is very important for progressing energy efficiency projects without having to ask for central funding. This fund has been very important at our institution in progressing such projects."*
>
> *"ISP has been good in that it is driving HEIs to spend money. It has changed the dynamic in discussions with finance directors."*
>
> *"It was a lot of effort to get the funding. At my HEI it has helped drive forward the programme, because it is ring-fenced and has to be recycled and puts them under more pressure to deliver."*
>
> **ISP recipient interviewees**

5.3.3. Areas of least benefit

The areas of least benefit are, by comparison, somewhat opportunity dependent – 'raising the profile of your institution's work in this area within the HE sector' may not be a priority for those in receipt of ISP funding, as this is focused on the implementation of 'tested', low-risk projects. Similarly 'strengthening proposals for external funding for other sustainability projects (e.g. behavioural change)' is dependent on the need for, and opportunity to submit, such proposals. Of note is that the majority of respondents did report some level of benefit in both of these areas.

In terms of increasing internal capacity to deliver ISP type projects (staff development), again this is dependent on certain internal factors, for example the availability of appropriate internal resource to be trained. This finding supports the

recurring issue that, for some institutions, available staff resource to implement projects is an issue. Of note is that 50% of respondents did report some level of benefit in the area of staff development.

5.4. Summary of progress to date

5.4.1. Number and types of ISP projects undertake to date

A total of 384 ISP projects have been committed. Lighting upgrades (13%) and motor controls (11%) are the most commonly undertaken projects, with insulation – pipework (9%); insulation – building fabric (9%); voltage reduction (8%); heating boilers (8%); building management systems (7%); and draft proofing (6%) accounting for the majority of project technology types. The average size of a project is £21,965 with the least expensive costing £70 and most expensive being £380,000.

5.4.2. ISP carbon savings to date

There is evidence that ISP projects are leading to carbon savings with a number of institutions reporting meterable evidence of reduced energy consumption.

Analysis of Salix Energy Reporting System (SERS) reporting data shows that in total, projects which will save 221,903 tonnes of CO_2 over their lifetime have been committed to or implemented so far. This represents 17,353 tonnes of CO_2 saved per annum for an expenditure of £8.43 million. HEIs that had a previous relationship with Salix have committed a higher proportion of their funding to projects than round 1. There is a comparatively small commitment for round 2 so far, reflecting the later start of these institutions in award of funds and implementation of projects.

5.4.3. ISP funding as an accelerator to carbon reduction

The ISP fund is acting as an accelerator to carbon reduction. Recipients have the view that more projects have happened within the timeframe and that these are more effective than would otherwise have taken place (67% of ISP funding recipient survey respondents identified 'implementation of projects that would not otherwise have taken place' as a significant benefit to having received funds). The majority of unsuccessful ISP applicant survey respondents reported that the work will either take place over a longer period, be less comprehensive, or not happen at all.

5.4.4. Main benefits of ISP funding to recipient institutions

The areas of highest benefit to ISP recipient institutions include reduction in utility spend (financial savings), and working towards strategic objectives and specific targets defined by the institution. The strong view that projects would not otherwise have taken place[17] highlights that without funding, progress towards these other benefits may not have been achieved to this extent.

[17] In the hypothetical scenario where ISP funding had not been received 62% of ISP recipient survey respondents report that 'some of the work would have taken place, but this would have been less comprehensive and would have happened over a longer period' and 17% report that 'projects would not have happened at all without ISP funding'.

6. Progress of the transformational strand

In this section we provide an overview of the progress to date of the transformational strand of the fund.

Below we:

- Provide an overview of each transformational project, projected carbon savings and progress to date.
- Consider the evidence that the transformational strand is acting as an accelerator of carbon reduction.
- Consider the major benefits to transformational fund recipients.

6.1. Overview of the transformational projects undertaken

Transformational funding was allocated to three HEIs, for projects submitted by the University of East Anglia, Harper Adams University College and Lancaster University.

6.1.1. University of East Anglia

The University of East Anglia project will establish the first biomass (wood) gasification combined heat and power plant in England. The scheme will operate at 80% efficiency and savings are estimated at 6,719 tonnes of CO_2/year in offset grid electricity and reduced gas consumption in conventional heating plant arising from the 12,000 MWh of generated electricity and 20,000 MWh of heat energy to the district heating system. It is forecast that energy costs will be reduced by £1.7 million per year on a project cost of £8.6 million.

From the number of enquiries the University of East Anglia continues to receive and the interest being shown in the installation from across a wide spectrum of enterprises across the world, there is strong evidence to suggest the installation (with its good heat to power balance) is potentially a strong transformational candidate for international energy options. Built on an urban architecturally sensitive campus close to residential accommodation, the facility has demonstrated visual and environmental acceptability in the most sensitive locations – and therefore its potential for replication.

Existing university staff are project managing the delivery of the scheme, which will be operated by existing employees who will absorb the small amount of time at the biomass centre required for monitoring into their daily routines. The scheme achieved planning permission in 2008 and construction has been underway during 2009. Construction is now almost complete and commissioning has been started. The project has pretty much run to programme and the last few issues are being resolved.

6.1.2. Harper Adams University College

The Harper Adams University College project is a 400 kilowatts of electrical energy (KWe) waste to energy Anaerobic Digestion (AD) plant using college farm waste and food waste streams diverted from landfill to generate renewable power. The project, also known as the ENR-G (Energy & Nutrient Re-Generation) initiative, is forecast to be financially sustainable and will create ongoing equivalent savings of over 13,000

tonnes of CO_2/year. In addition, the college will fix electricity and heat prices for 10 years. It should enable Harper Adams to be largely self sufficient in electricity at the main college campus and will supply heat to the main building, generating income significantly in excess of £369k per annum (net of ROCs, but excluding significant income from the recently announced Feed in Tariff).

Whilst AD technology is not new and is widely adopted in Europe, it remains under-developed in the UK. Furthermore, the use of farm and food wastes in AD, diverting a feedstock that would otherwise be sent to landfill and allows the recycling of nutrients back to the farmland, is also under-developed and in need of wider understanding and promotion. It is therefore considered that this project is transformational and innovative in terms of its application and setting in a higher education environment.

The project has financial and technical support from a major energy company and technical and operational management input from BiogenGreenfinch, the UK's leading anaerobic digestion specialist. It is intended that the AD system will be developed and operated by a wholly owned subsidiary company of the college, which will lease land from the college, supply energy (electricity and heat) to the college at a fixed price over the initial project term of 10 years and will covenant profits (after the repayment of borrowing) back to the college. The project is also well resourced with an almost full-time in-house project manager.

Planning submission was made at the beginning of 2010 and the plant is expected to be on line in early 2011. The main challenge has been slippage in the programme caused by reviewing the commercial case and agreeing terms with partners in the light of the current economic climate. The original scheme was 350 KWe, and capacity has been increased by 50 KWe for an additional capital cost of only £90,000, which will result in significant additional carbon savings.

6.1.3. Lancaster University

The Lancaster University project aims to install two 2 MW wind turbines to significantly reduce CO_2 emissions from electricity consumption and reduce reliance on imported electricity. Consumption projections indicate the project will reduce CO_2 emissions from electricity consumption by 33% (or 6,600 tonnes of CO_2/year) in the first full year of operation (2011/2012) with energy costs reduced by £1.1 million per year on a project cost of £7.3 million. The scheme is predicted to have a simple payback period of approximately 5.7 years (including ROC benefits).

The turbines will be sited at the university's metrological station, which is a very rural location with high wind speeds, resulting in a capacity factor of 27%[18]. The scheme's innovation is to be the first HEI in the UK to deploy a commercial scale wind turbine larger than 1 MW. A further innovative aspect is the parallel redevelopment of Lancaster University's new Energy Centre and the linking of the electrical generation aspect of the new Energy Centre (the combined heat and power (CHP)) with the wind turbine project.

Planning and statutory approvals were submitted in early January and construction is scheduled to start later in 2010. It is anticipated that the two turbines will be

operational before the end of 2010. There have been a number of challenges which have been successfully overcome, including ecological issues associated with the site. The original specification for the scheme included 2 x 2.3 MW turbines, but with increased turbine efficiency and increased projected wind speeds the output will be similar to the original scheme.

6.2. Evidence that transformational funding is acting as an accelerator of carbon reduction

6.2.1. Project implementation stage

The three successful transformational applicants were announced in February 2009 and of note is that, due to the scale of transformational projects, all projects are still in the initial stages of implementation. This will have an obvious impact on the extent to which it is possible to comment on any early evidence of CO_2 savings, as there will not have been the opportunity for this to have occurred.

6.2.2. Projected savings

The predicted carbon savings for these three projects is nearly 28,000 tonnes of CO_2 per annum. For a total project expenditure of a little over £20 million these projects are predicted to save around 325,000 tonnes of CO_2 during their lifetime. This represents a 1.3% reduction in English HEI carbon emissions per annum and the total project lifetime carbon savings are 15.3% of current emissions[19]. If these targets are realised then the projects will be 'transformational' for the institutions involved as they will each significantly reduce their annual CO_2 emissions.

It is unsurprising that recipients of transformational funding have not reported any savings to date through survey responses. All three schemes are at varying stages of development. The main risk identified is programme slippage due to the scale and complexity of the projects and in one case the need to reassess the financials in the business plan.

6.2.3. Impact of funding on progress to date

All recipients indicated (via the survey) that projects would not have taken place without transformational funding. Also 54% of unsuccessful transformational applicant survey respondents have stated that their projects will not take place – the vast majority of other respondents stated that although some of the work will take place this will be less comprehensive and happen over a longer period.

6.3. Benefits of transformational funding to recipient institutions

6.3.1. Major benefits of transformational funding

Recipients of transformational funding were asked the extent to which a number of benefits had been achieved as a result of receiving this funding. All successful transformational applicants who responded to the survey report significant benefits relating to: 'delivery of your institution's carbon/sustainability policy/targets'; 'raising

[19] Current emissions are all Scope 1 and 2 emissions from all English HEIs in 2006, which are calculated at 2.124 million tonnes of CO_2.

the profile of your institution's work in this area within the institution'; 'raising the profile of your institution's work in this area within the higher education sector'; and 'raising the profile of your institution's work in this area within other (non-higher education) sectors'.

The finding that significant benefits have been achieved in raising the profile of this work within the institution, the higher education sector and beyond reflects the large-scale, high profile nature of transformational projects which is likely to generate a great deal of interest across the sector amongst relevant practitioners, within the institution and local community, and for any organisations considering the implementation of comparable projects.

Institutions are also likely to benefit financially from a reduction in utility spend, and lack of exposure of energy price fluctuations. Projected savings are detailed in sections 6.1 and 6.2.2.

6.4. Conclusions relating to the transformational strand of the fund

6.4.1. Predicted carbon dioxide savings

The three transformational projects are not yet operational and therefore would not have been expected to produce any carbon savings to date. However, the predicted carbon savings for these three projects are nearly 28,000 tonnes of CO_2 per annum. For a total project expenditure of a little over £20 million these projects are predicted to save around 325,000 tonnes of CO_2 during their lifetime. This represents a 1.3% reduction in all English HEI carbon emissions per annum and the total project lifetime carbon dioxide savings are 15.3% of current emissions. If these targets are realised then the projects will be 'transformational' for the institutions involved as they will each significantly reduce their annual CO_2 emissions.

6.4.2. Impact of funding on progress

Survey responses from transformational applicants suggest that projects which have not received funding will either not take place (54% of unsuccessful transformational applicant survey respondents), or that that although some of the work will take place this will be less comprehensive and happen over a longer period (vast majority of remainder).

6.4.3. Major benefits to funded institutions

The main benefits to date for transformational projects relate to raising the profile of the institution's work internally (within the institution), the higher education sector and beyond. This reflects the large-scale, high profile nature of transformational projects which is likely to generate a great deal of interest across the sector amongst relevant practitioners, within the institution and local community, and for any organisations considering the implementation of comparable projects.

7. Lessons learnt

This section considers the lessons learnt to date.

We have investigated the reasons why institutions did or did not apply to both strands of the fund.

Towards the end of this section (section 7.7) we consider the types of projects being undertaken, and ascertain whether experience has shown that these type of projects lead to the largest carbon cost savings.

A number of recommendations derived from lessons learnt are made at the end of this section, which should be considered in the event that additional RGF type funding is secured in the future.

In this section we investigate the most common motivating (prompting the need for application) and encouraging (what makes the fund attractive to recipients) factors.

We also consider any barriers (factors preventing application) and discouraging factors (what makes the fund less attractive to recipients).

7.1. ISP: Encouraging and motivating factors

We have ascertained that the main encouraging and motivating factors which have prompted institutions to apply for ISP funding are:

- The ability to identify potential projects to be funded supported by appropriate utility data.
- The production of a Carbon Management Plan for the institution.
- Advice and support in preparing applications.
- Broader institutional considerations (not related to the application process, or resource levels to prepare the application and manage the projects following funding) including ‘senior manager support for application to the fund’; ‘potential to meet HEI carbon/sustainability targets’; ‘potential to deliver carbon management strategy’; and ‘potential to reduce utility spend.’

7.1.1. Identification of potential projects

Survey responses from recipients of ISP funding suggest that factors prompting identification of the need for funding were the most encouraging, in particular: ‘pipeline of energy efficiency schemes to implement’ (62% responded that it encouraged or significantly encouraged application), and ‘availability of appropriate utility data for your institution’ (50% responded that it encouraged or significantly encouraged application). This suggests that the ability to identify appropriate projects which would qualify for funding, and the ability to generate appropriate supporting data eased application to the fund.

This is supported by the finding that successful ISP survey respondents most commonly used the 'pipeline of energy efficiency schemes to implement' to determine how much funding to apply for, suggesting that there was no lack of ‘oven ready’ projects which could be proposed, and data to support this.

7.1.2. Carbon management plans

The production of Carbon Management Plans has proved an important motivating factor, and has been useful in identifying potential projects and significantly helped inform institutions how much to bid for.

> *"We use our Carbon Management Plan as well as brainstorming potential projects with colleagues."*
>
> *"Our Carbon Management Plan identified a number of projects, and the Salix funding seemed like a good way of enabling them to be implemented."*
>
> **ISP applicant interviewees**

7.1.3. Advice and support

Applicants also valued 'the quality of advice and guidance in preparing applications' (37% of successful applicant survey respondents responded that it encouraged or significantly encouraged application).

> *"Salix encouraged us to apply for more funding than we were originally going to, as they thought our original request was low relative to our utility spend."*
>
> *"Although the Salix funding can only be allocated to a single HEI, issues with a joint campus were amicably resolved with Salix."*
>
> **ISP applicant interviewees**

7.1.4. Broader institution considerations

Interviews and survey responses suggest that for both successful and unsuccessful applicants, broader institution considerations (not related to the application process, or resource levels to prepare the application and manage the projects following funding) all encouraged application, including 'senior manager support for application to the fund'; 'potential to meet HEI carbon/sustainability targets'; 'potential to deliver carbon management strategy'; and 'potential to reduce utility spend.' None of the 51 ISP recipient survey respondents indicated that any of these factors discouraged application. This is similar for unsuccessful applicants with those responding to the survey almost entirely reporting that these factors all encouraged application.

7.1.5. Other motivating factors

Other motivations for making an application to the ISP strand reported through the survey include: being involved in a high profile initiative; the involvement of the funding council alongside Salix; the revolving element of the funding model or that funding would be available on an ongoing basis.

> *"High profile and opportunity to replace inefficient plant."*
>
> *"Given that the Salix funding had been available to HEIs previously, the link to HEFCE was crucial."*
>
> *"Found it very useful to have a ring fenced fund, something that's joint HEFCE so had a lot more high level institutional buy in."*
>
> **ISP recipient survey respondents**

7.2. ISP: Barriers and discouraging factors

Survey responses from and interviews with ISP recipients, unsuccessful applicants, and those who have not applied indicate that the main barriers and discouraging factors relating to the ISP fund include:

- Available staff resource to complete and submit applications for funding, and to manage projects following award of funds.
- Financial considerations.
- Post-award management and reporting requirements.
- Certain project compliance requirements.

Of particular note is that changes to the application process to streamline this have been recognised by applicants to round 2 who were unsuccessful at round 1, and that for those who did not reapply this appears to be due to barriers not linked to the application process itself.

7.2.1. Available staff resource

One of the major barriers which discouraged those who applied was the available staff resource required to produce and submit an application (23% of ISP recipient survey respondents identified that 'availability of staff resource required to produce and submit an application' discouraged or significantly discouraged application). Eight of nine survey respondents who had not applied to either strand indicated that 'available staff resource required to produce and submit an application' discouraged or significantly discouraged application, and four of six unsuccessful ISP applicants indicated the same.

Although ISP recipients were able to overcome this barrier, the work required to identify potential projects supported by appropriate data is a significant undertaking for some institutions, depending on the availability of suitably qualified staff to undertake this work. Interviews highlighted that where the production of Carbon Management Plans had been undertaken this often contributed significantly to the identification of appropriate projects.

The issue of available staff resource would appear to be particularly acute for smaller institutions where the number of relevant practitioners may be small in comparison to larger institutions – for example there may be no dedicated or even part-time energy, environment, or sustainability officer. Having said this there are also management resource issues at a range of HEIs i.e. even if a larger institution has dedicated relevant staff, they may have limited capacity to compile and submit the necessary number of applications, and to subsequently manage project implementation following award of funds.

Amongst unsuccessful applicants and those who did not apply, interviews revealed that specifically for smaller HEIs the lack of resource to complete the application and then implement the projects both stopped them applying or caused HEIs to fail in their applications because Salix did not believe that they had the resource to use the funding award. Analysis of the assessment documentation relating to unsuccessful applications highlights that these applications commonly score less well in relation to:

- Level of previous experience.
- Extent of compliant energy efficiency project pipeline.
- Level of energy management competency and planning and energy management resource sufficiency.

Each of these factors can be related to an ultimate lack of staff resource.

Two HEIs who were interviewed had recently appointed new members of staff with responsibility for reducing their institution's carbon footprint. One small HEI was currently appointing a new Energy Manager who would be shared between a number of other local small HEIs, which could potentially act as a model for other small HEIs.

7.2.2. Financial considerations – the nature of the ISP fund as a recoverable rather than a non-recoverable grant

Also reported through the survey and interviews is that for some institutions the recoverable grant nature of the ISP funding model, rather than a non-recoverable grant meant that significant internal discussions and negotiations were required to achieve the agreement of financial officers. This may have resulted in internal policy or process changes and did represent a significant discouraging factor to many.

> *"Our university financial accountants are struggling with how to manage the ISP and reflect it in the accounts."*
>
> *"Our finance director stopped our HEI accepting the money [from the ISP fund] as it would have been difficult to prove the savings. There was also concern that if savings had not been achieved then the money would have had to have been paid back."*
>
> *"From our HEI's perspective the amount of the Salix funding is not sufficiently material to be separately detailed on the balance sheet."*
>
> *"I think some good projects were not funded, because some HEIs did not have the institutional policies in place."*
>
> **ISP applicant interviewees**
>
> *"The unnecessarily complex legal contract and financial accounting requirements [discouraged application].*
>
> *"Management of the process required additional support and rethinking how we managed finances."*
>
> **ISP recipient survey respondents**
>
> *"Adding extra debt to the HEI, even with the benefits. Present risk averse culture in HEI's regarding revenue and capital spending"*
>
> **Non-applicant survey respondent**

7.2.3. Financial considerations – the requirement for 25% institution matched funding

This requirement, in general did not discourage successful applicants when considering whether to apply for funding (only four of 50 survey respondents, 8%, report that this discouraged application). However for those institutions who did not apply this was a more significant barrier. Four of eight survey respondents who had not applied commented that this element discouraged or significantly discouraged application.

Interviews highlight that at only two institutions had sourcing 25% internal funding contribution proved very challenging and did not allow them to make an application. However the interviewees also confirmed that they did not have the required staff resource to make an application or implement the projects.

In summary, although this requirement was discouraging for many non-applicants this did not generally prevent application, however in institutions where both financial and staff resources are most constrained this was a significant discouraging factor.

43% of survey respondents state that 'reducing the 25% institutional contribution' if additional funding were to become available would encourage them to apply. This has to be placed in the context that this would result in less funding available overall and might not necessarily result in additional smaller institutions applying.

7.2.4. Post-award management and reporting requirements

Survey responses indicate that both for those who actually chose to apply for ISP funding, and those who did not apply 'reporting requirements following award of funds' discouraged or significantly discouraged a proportion of applicants (as follows).

Four of the six unsuccessful ISP survey respondents indicated that 'reporting requirements following award of funds' discouraged application, while 13 of 52 (25%) of fund recipient respondents stated that this factor discouraged or significantly discouraged their application. Six of the eight survey respondents who did not apply for ISP funding report indicated that this factor discouraged or significantly discouraged application.

Interviews indicate that this perception endures amongst a minority who either applied unsuccessfully, or did not apply. In terms of those who applied successfully and have therefore needed to operate these post award reporting requirements through the Salix Energy Reporting System (SERS), there seems to be a difference in opinion as to the proportionality of the arrangements (of 50 respondents, 48% report the system as proportionate, 14% disproportionate, and 26% neither). Several recipients have commented that the reporting system itself has experienced technical issues.

The following comments indicate the differences in opinion:

"Although the scheme was a little bureaucratic, this has also given good rigour to the process..."

"In a small refurbishment project it has proved very complicated to account for savings for a number of small initiatives – such as upgrading lighting controls."

ISP recipient interviewees

"Understanding of the complexities of the operating of the fund [discouraged application]."

"The system of management has taken on an importance of its own, that seems to indicate that saving energy is less important than completing the process correctly. There have been some internal issues over how the funding is allocated."

ISP recipient survey respondent

We consider this issue more fully in section 7.6 relating to the administration of the fund where we consider the experiences of recipients more fully.

7.2.5. Project compliance requirements

While successful ISP survey respondents most commonly used the 'pipeline of energy efficiency schemes to implement' to determine how much funding to apply for, the smaller number of unsuccessful applicant survey respondents (6) report that the requirement for 25% institution matched funding, and the Salix criteria for project compliance were the major factors in this judgement. This tentatively suggests that these factors may have required substantial consideration by these institutions.

"The sum of the projects we had 'ready to go' [was used to determine how much to apply for]."

ISP recipient survey respondent

The criteria for project compliance do not appear to have been a particular issue for successful applicants with 51% indicating that this had no impact, and only 8% indicating that this discouraged application. During the interviews many HEIs thought that the project compliance criteria should be reviewed for any future RGF funding, however there were very few HEIs that felt that the criteria stopped them applying.

When asked what changes would encourage application if additional funding became available, 80% of survey respondents suggested 'increasing the range of eligible types of projects (e.g. behavioural change)' and 69% 'increase the 5/7.5 year payback period and £100 or £50/tCO_2 lifetime requirement for projects'. Only 8% of 102 survey respondents stated that keeping the same requirements would encourage application in the future.

"Opportunities should be given for "payback" from other saved resources such as reduction in paper towels by using hand dryers including disposal and landfill etc."

"Include the cost of purchasing CO_2 and include other efficiency gains in assessing the pay back."

"At these early stages I would focus on projects that will deliver. The behavioural change can result in significant cost without proportional benefit however it is significant enough to need funding."

"The increase in payback applies particularly to gas projects where the tariff is low and so it is difficult to get a gas project through the compliance tool."

"Make sub-metering and automatic meter reading (AMR) eligible please!"

Survey respondents and interviewees

Exclusions that were identified from the range of eligible types of projects were behavioural, some types of renewables and metering related. Currently a range of renewable projects are permissible, and over time new types of technology are being added. Metering is an important part of implementing a Carbon Management Plan and monitoring savings from energy efficiency projects and the lack of metering was explicitly cited by an interviewee as a reason that they could not apply for ISP funding. Whilst metering does not *per se* generate a carbon payback, HEIs should be allowed to invest a proportion of their or HEFCE's funding contribution on metering projects[20].

Although there was a desire amongst survey respondents to change the financial payback and lifetime carbon savings criteria, relatively few specific examples of how this should be done were provided. A few HEIs wanted to increase the current maximum management charge[21] (15%), which is permitted to be funded from an individual ISP project. Whilst others wanted to increase permitted payback periods to recognise low gas prices and the cost of retrofitting whole buildings with insulation. No respondents advocated a specific change in the payback or lifetime carbon savings criteria which was beyond the current 25% institutional contribution requirements of a 10 year payback period and less than £400/tCO_2 lifetime savings.

While institutions would clearly like to be able to fund projects which are currently not eligible, no interviewees commented that the requirements actually prevented application. This combined with the view that 83% of survey respondents agree or strongly agree that their institution has an adequate supply of ISP type projects which

[20] Whilst Salix do not specifically fund advanced metering as a standalone project they do allow metering to be included within the cost of a project, provided it still meets the project compliance criteria. In addition clients can add a management charge of up to 15% of each project, which can also be used to fund improvements in metering.

[21] The management charge can be used to finance resources to manage the fund, or to improve metering or fund energy/carbon audits to help identify future projects.

could be funded suggests that 'most people have something that would be compliant' – although this may not be the priority of the institution.

7.2.6. Reasons for not reapplying following unsuccessful application at round 1

One of the main reasons that ISP funding was allocated over two rounds, was that Salix (due to previously agreed funding allocation timing) was only able to allocate approximately half of its £10 million ISP contribution initially. This meant that following scoring of applications these were ranked and funding allocated until the available funds for round 1 were exhausted. As a consequence, a number of applications which would have been funded (if it were permissible to allocate more funds at this time) were unsuccessful. One learning point is that a small number of these unsuccessful institutions may not have reapplied because they had the impression that they would have not been successful upon reapplication when in fact they may have been.

In addition, feedback on the application process itself following round 1 was that this could be streamlined. Subsequently efforts were made to simplify the application process for round 2.

A small number of survey respondents re-applied successfully at ISP round 2[22] and comments suggest that the process is considered to have improved; this is supported by interviewee comments.

> *"The bidding process for round 1 was very problematic and laborious, but round 2 was better."*
>
> *"Round 1 was quite a drawn out process involving an application and then an audit, but I understand it has now changed."*
>
> **ISP applicant interviewees**
>
> *"Still a difficult process and resource intensive but the application process itself appeared more straightforward in the second round."*
>
> *"I wasn't involved in round 1 so I can't specifically comment. Though from discussing the process with colleagues that were involved in round 1 it seems to have improved."*
>
> **ISP recipient survey respondents**

Specific reasons for not re-applying at round 2 identified through the survey and interviews, and which tally closely with why HEIs failed to secure funding in round 1, include:

- A change in financial situation such that it was no longer possible to meet the 25% match-funding requirement of the ISP grant.

[22] 22 institutions applied unsuccessfully to ISP round 1, and only 6 of these institutions reapplied for funding at round 2, five being successful.

- A change in circumstances such that it was no longer possible to identify sufficient projects which would qualify for funding through the ISP model, or that the projects would not qualify for funding based on the criteria for award.
- That the effort required to identify potential projects was not considered possible during the application period.
- That internal funding had been secured to proceed with the proposed projects.
- Feedback from some colleagues in ISP recipient institutions that post-award reporting and administration is a significant overhead.

“Cash flow problems.”

“Funding requires a base level of activity that we had not then reached.”

“Time consuming to put together the list of projects and supporting evidence...”

“The university decided to create our own ring-fenced funding to be used for the implementation of those schemes which were rejected at round 1.”

“No significant changes in place to suggest a second round would be favourable.”

ISP applicant survey respondents

'We did not make an application in RGF2 as we simply cannot afford the 25% contribution.'

“I have only been in post 8 weeks. The whole structure of Estates has changed. I am not surprised that the R1 application was not successful and that we didn't apply for R2 as we didn't have the staff time to complete the application or to implement the projects.”

“We applied for round 1, but didn't apply for round 2 because we didn't think our application would meet the requirement that we have one member of energy related staff per £1m utility spend.”

ISP applicant interviewee

Of particular note is that changes to the application process to streamline this have been recognised by re-applicants, and that for those who didn’t reapply this appears to be due to barriers or discouraging factors not linked to the application process itself.

7.3. Transformational: Encouraging and motivating factors

We have ascertained that the main encouraging and motivating factors which have prompted institutions to apply for transformational funding are:

- The ability to identify adequately developed potential projects.
- Broader institution considerations e.g. senior manager support for application to the fund and financial savings.

- The timing of the fund availability (for those with sufficiently developed projects which could be funded).

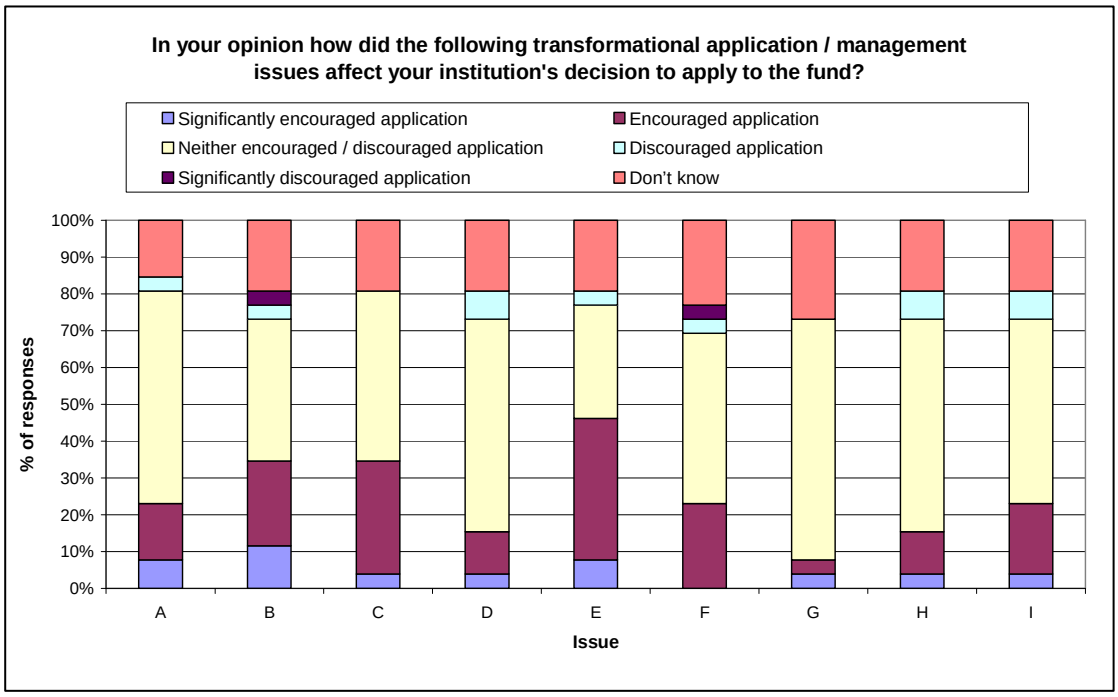
7.3.1. Identification of sufficiently developed projects

Survey responses from unsuccessful transformational applicants suggest that identification of sufficiently developed transformational projects was the most encouraging factor.

> *"We probably didn't spend enough time looking at this [sufficient development of project]. We hadn't got any projects that were ready to be implemented. The process of putting together a bid has to fit with the timescale for bidding for funding – you have to have a sweet-spot of this overlapping – which we didn't."*
>
> **Transformational applicant (unsuccessful) interviewee**

Of note is that many of the factors listed within the questionnaire commonly neither encouraged or discouraged application. Figure 5 presents the response profile from this group:

Figure 5: What encouraged application to the fund[23]



Key	
A	The effort required to complete the application and assessment process
B	The project selection criteria (including the need for innovation)
C	Availability of appropriate utility data for your institution
D	The duration of the application and assessment process
E	Sufficiently developed transformational type schemes to implement
F	The quality of advice and guidance in preparing applications
G	Reporting requirements following award of funds
H	Available staff resource required to produce and submit an application
I	Available staff resource to implement project if funding were to be received

7.3.2. Broader institution considerations

Broader institution considerations (not related to the application process, or resource levels to prepare the application and manage the projects following funding), including 'senior manager support for application to the fund'; 'potential to meet HEI carbon/sustainability targets'; 'potential to deliver carbon management strategy'; 'potential to reduce utility spend' were also seen as encouraging by the majority of applicants. This is similar for ISP applicants.

7.3.3. The timing of the fund availability

Where transformational recipient survey respondents were able to comment (one respondent was not involved in the decision to apply), the project selection criteria (including the need for innovation), and available staff resource to produce and

[23] 26 responses from unsuccessful applicants.

submit the application or implement projects all encouraged application, suggesting that for these institutions the application cycle was ‘well timed’.

7.3.4. Other motivating and encouraging factors

Other factors encouraging application noted through the survey include the lack of a requirement for planning permission – as this may have been specifically required by other funds. However for some applicants, having outline planning permission may have encouraged application. Where the institution has an existing sustainability research capability, the potential for academic research may also have encouraged application.

> *“...significant opportunity for academic colleagues to conduct research would be made possible by our project. Furthermore we wanted to reduce our exposure to price volatility in the utilities market...”*
>
> *“Outline planning permission had already been gained for the installation.”*
>
> *“It would have been a major catalyst for regional development around green energy technologies – the concept of energy independence on one campus was a very real objective of the application.”*
>
> *“The ability to cut our carbon emissions by 10% with this one project.”*
>
> **Transformational funding survey respondents**

7.4. Transformational: Barriers and discouraging factors

The criterion for potential transformation projects to demonstrate innovation has caused concern to some of those who applied unsuccessfully for funding. The other main reason for non-application is the lack of suitable potential projects.

7.4.1. The innovation criterion

A number of unsuccessful transformational applicants believe that good quality projects were marked down due to the innovation criterion. During the interviews three HEIs questioned the wisdom of encouraging innovative projects when there are so many 'tried and tested' projects with good pay-backs, which cannot currently be funded by HEIs. One respondent questioned the innovation of the three projects that were actually funded.

> *“The innovation criteria was not well defined and good quality schemes that were well tried and would deliver were not included in the bid. Those that were, were marked down on innovation inappropriately.”*
>
> *“Our application was based on implementing best practice, so innovation was not a priority for us.”*
>
> **Transformational applicant (unsuccessful) survey responses**
>
> *“If a project is too innovative then it would be too risky for many institutions to proceed with. Bids which were further advanced were treated preferentially. Maybe other bids which were less developed should have been funded – and then the money would have been additional.”*
>
> **Transformational applicant (unsuccessful) interviewee**

In terms of transformational funding, of 94 respondents, 60% suggest 'removing the requirement for innovation' would encourage application should future funding become available, and 31% suggest continuing with the existing requirements. Nineteen respondents made additional comments and their suggestions include comments relating to the innovation criterion – both that this should be removed, but also that this is valuable as it may prompt initial interest in application to the fund.

> *"Assume that more support would be gained from enhancing legacy solutions rather than continually seeking innovation."*
>
> *"I would hope the innovative requirement would be retained – that was what stirred my interest to approach resources and operations with an idea and suggest we apply."*
>
> **Survey responses**

7.4.2. Identifying potential projects

Comments made during interviews suggest that not having suitably developed transformational type project proposals was a particular reason for not applying to the fund, with two interviewees commenting that transformational schemes have a long lead time.

In order to develop a sufficiently detailed business case initial funding is usually required. Many HEIs would not commit to this preparatory work without some guarantee that funding might be available and because of the relatively short application period, many HEIs simply did not have sufficiently detailed schemes, so it would have been more risky for HEFCE to award funding to them.

There is of course the need to balance giving sufficient opportunity to respond, and fairly allocating a limited amount of funding. There is an argument that it would have been inappropriate to encourage institutions with no existing plans to develop these, as only a relatively small proportion of applications would have actually received funding.

There is a perception amongst a couple of interviewees that at least one of the schemes that received transformational funding would have been funded by the host institution even if the HEFCE funding had not been awarded, however this is not reflected in survey responses from funded institutions.

7.4.3. Potential changes relating to the transformational strand – application process

A couple of respondents and interviewees note that allowing additional resource for the development of applications and management of projects would also be beneficial – particularly if the innovation criterion were to be retained. It was suggested that two stage tendering could be of real benefit, with successful applicants at round 1 being given some seed funding to further develop their application.

> *"More technical support to develop projects from an early stage e.g. Our [location] is well suited for a large scale AD plant, however this is a very specific technology and a considerable sum would have to be spent in consultancy to get this project to a level suitable for an application. If there*

were resource at an early stage to help develop projects like this, more innovative projects could be developed."

Survey respondent

7.4.4. Large scale retrofit and refurbishment projects

Many of the interviewees expressed the difficulty in funding energy performance uplift (fabric and plant improvements) in large scale retrofit/refurbishment projects. This size of project would often have a payback over 7.5 years and would be too large for ISP funding. There were three transformational funding applications which focused on undertaking major improvements in the energy performance of existing buildings. There are some HEIs going beyond Building Regulations standards in their major retrofit projects, which they are funding from their capital programmes.

"We want proven technologies, which will definitely lead to savings."

"I think that there is scope for a transformational fund as well as a large project fund (for things like CHP and large scale retrofit)."

Interviewees

7.4.5. Potential changes relating to the transformational strand – Renewables Obligation Certificates (ROC)

A further concern was raised during the interviews that if HEIs with transformational schemes claimed ROCs they would not be able to include these carbon savings in their Carbon Management Plans. All three schemes are eligible to claim ROCs and two of them are planning to do so.

7.5. Why have some institutions not applied to either strand?

In this section we present our findings relating to the overarching reasons why institutions have not applied to either strand of the fund. Findings suggest that the most common reasons for non-application to either strand is available staff resource to produce applications and manage implementation of projects following receipt of funds.

We also consider awareness of the fund amongst relevant practitioners, and why some institutions may have applied to one strand of the fund, but not the other.

7.5.1. Staff resource requirements

Of the 130 institutions who could have applied for funding, 47 (36%) did not apply to either strand. 10 survey responses were received from this group as well as nine separate telephone interviews. The major barriers emerging from survey responses and through interviews relate to available internal resource: staff resource requirements to produce the application, and to implement the project if funding were to be received emerged as the major discouraging factors.

"We saw the on-going commitments as being unsustainable"

"At the moment there is not the internal capacity to be able to deliver an application, we would have to use a local consultant. A Carbon Management Plan is being produced with assistance from an external consultant, but we do

not have the financial resource to be able to do anything with this at the moment."

Not-applicant interviewees

"We have advertised for a full time Environment Manager, who will provide the necessary dedicated resource and will have responsibility for making these applications."

Non-applicant survey respondent

This links to the finding that the effort required to complete the application and assessment process discouraged application for the majority of survey respondents who had not applied to either strand of the fund.

"I didn't think it was worth the effort of applying. It was another process to go through. No resource to act as a bid provider."

Non-applicant interviewee

"We looked into the opportunity but decided the information required i.e. management of utility data and the technical information required didn't warrant the loan/Salix benefits."

"The detailed work and expertise required to assess potential savings [was a barrier]."

Non-applicant survey respondents

7.5.2. Awareness of the funding opportunity

Findings from the survey and interviews suggest that the fund is well known amongst relevant practitioners – and lack of knowledge of the fund is not a reason for non-application. Whilst a number of individuals completing the survey were not aware of the RGF this was a reflection of their role – these individuals commonly had a role that was not related to estates or energy management. Only one institution which had not applied to either strand of the RGF was identified where the estates practitioners interviewed were not aware of the fund.

7.5.3. Reasons for application to one strand of the fund, but not the other

In addition 21 individual survey respondents provided responses explaining why their institution had applied for ISP funding **but not** transformational funding. These commonly relate to either a lack of suitably developed transformational projects which could be implemented within the timeframe; a lack of available staff resource; or the consideration that ISP type projects were more appropriate for the institution at the time. Interviews also showed that a small number of HEIs while aware of ISP funding, they had not investigated the transformational funding initiative.

"No major transformational projects currently developed sufficiently to allow an application, plus lack of internal resources to dedicate to this."

"Because we did not have a large project in hand but will consider it in the future."

"We felt it was more appropriate to apply for ISP, given the level of projects."

ISP applicants, not applied for transformational funding

Three individuals provided responses explaining why their institution had applied for transformational funding **but not** ISP funding. These relate to existing funding sources for ISP type projects, and limited staff resource to apply to both strands concurrently. This finding was also supported through the interviews.

"Because the university was already in receipt of Salix funding."

"Funding for small shorter payback projects was available at the time internally. Management time would have been very stretched in applying for both concurrently."

"We had an obvious scheme for [transformational funding] and did not have the manpower to consider additional applications."

Transformational applicants, not applied for ISP funding

7.6. Administration of the fund

7.6.1. Transformational strand

Applications for transformational project funding were invited from all institutions in receipt of HEFCE funds during August 2008[24] with expressions of interest (EOIs) requested by mid-October 2008. These expressions of interest were then assessed by the RGF advisory group, using six selection criteria to score the applications:

- Predicted greenhouse gas savings calculated as carbon equivalents.
- Financial savings, payback period and lifetime cost of carbon.
- Benefits for the wider sector.
- Innovation.
- Risk management.
- Commitment from the institution.

The applications that scored most highly across the six criteria were invited to submit a stage two application by January 2009. Those who were not invited to submit detailed applications were provided with feedback on their application following the expression of interest stage.

[24] HEFCE Circular letter number 20/2008.

Recipients of transformational funding were announced in April 2009. These recipients report on progress to date through the Annual Monitoring Statement which forms part of the annual accountability returns submitted by institutions each autumn. Applicants that were unsuccessful following stage two were also provided feedback.

Transformational fund recipients have not reported any disproportionate accountability related activity. 48% of unsuccessful transformational applicant survey respondents describe the application and assessment process as proportionate, with only one individual considering this disproportionate. Three additional comments were provided.

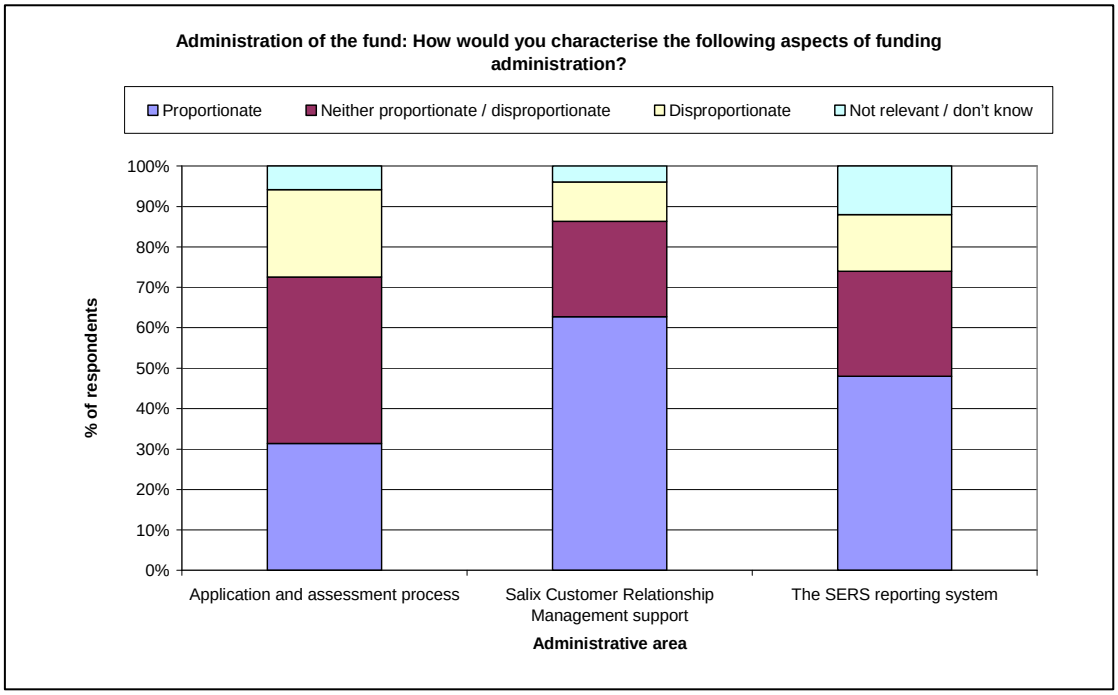
> *"Given the size of the shortlist (7 or 8) – an opportunity to present the project in person would have been useful – some issues... could have been easily communicated/clarified that way."*
>
> *"Our proposal was rejected seemingly out of hand and for reasons which suggested misunderstandings on the part of the assessors. It was disappointing that the decision was made without at least asking for clarification of the issues that seemed to go against the proposal."*
>
> *"The transformational fund did rely quite rightly on robust data and the administration was probably correct."*

Survey responses

7.6.2. ISP strand

Survey respondents and interviewees in receipt of ISP funding were specifically asked about the proportionality of elements of the funding administration including application and assessment, Salix Customer Relationship Management support, and the SERS reporting system. Figure 6 presents the survey responses relating to this.

Figure 6: Proportionality of ISP strand administration[25]

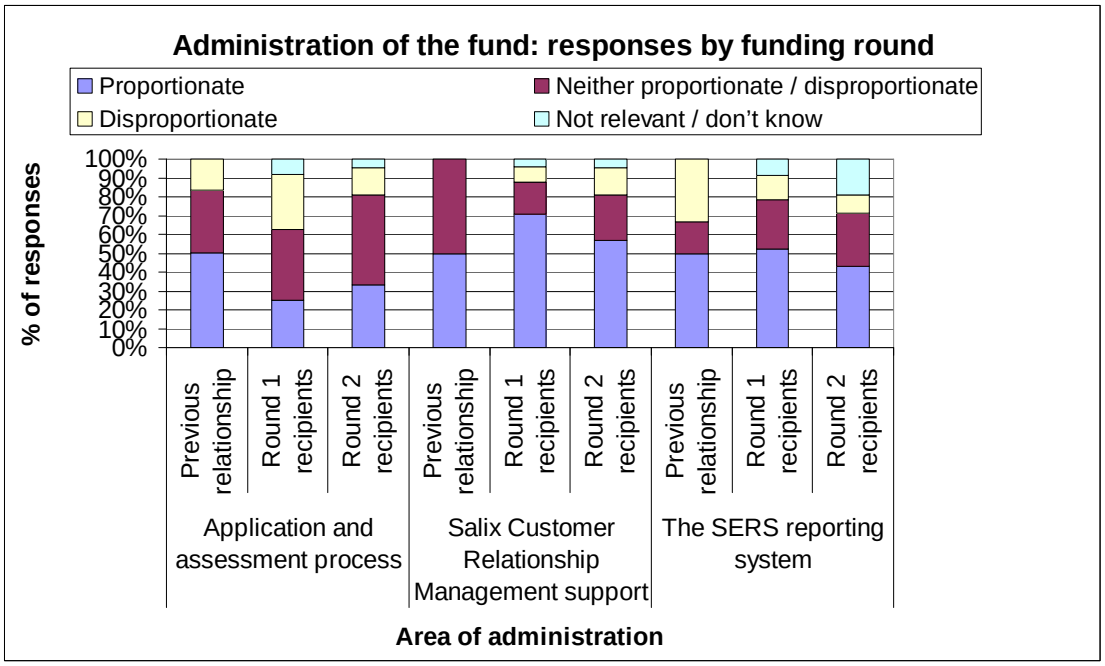


Further investigation indicates that there are some differences in perception depending on the round through which funding was awarded. Figure 7 presents responses of those awarded funding at each round.

Of note is that following the efforts made to enhance the application and assessment process (following round 1) the proportion of round 2 recipient respondents stating that the process was 'disproportionate' is less than round 1 recipient respondents.

[25] 51 responses from ISP funding recipients.

Figure 7: Proportionality of ISP strand administration: responses by round of funding[26]



Customer Relationship Management support

Five Customer Relationship Managers (CRMs) are currently employed by Salix to provide support to Salix clients, including HEIs receiving ISP funding. They are able to provide advice over the telephone and in person about the scheme, as well as the management of the ISP funds and the use of SERS. CRMs monitor clients' project spend via SERS and support clients in focusing their activity so the funding is used effectively. CRMs also organise regional meetings for Salix clients, which facilitate networking and the sharing of project knowledge.

Salix CRM support is considered proportionate by 63% of respondents, and disproportionate by only 10%. Comments suggest that the input from these individuals is valued highly by certain recipients.

> *"The dedicated Salix Customer Relationship Manager has been incredibly helpful and always prompt at dealing with my queries."*
>
> *"I have found the support from our Salix CRM excellent and very helpful."*

Survey responses

Overview of the application and assessment process

For round 1 the application process involved:

- An initial expression of interest (EOI), in which the applicant was asked to:

[26] 6 responses from ISP recipients who had a previous funding relationship with Salix; 24 responses from ISP round 1 recipients; and 21 from round 2 recipients.

    - State the amount they were applying for.
    - Confirm they would contribute an additional 25% over and above the amount funded by HEFCE/Salix.
    - Provide information on the size of the energy bill.
- Attendance at a seminar which comprised a presentation on the scheme and an interview.
- Following successful interview those HEIs that were successful were invited to submit a full application. The application was then assessed by Salix Customer Relationship Managers. This was followed by an independent assessment by Salix's technical contractors.

Following feedback that the process could be simplified, for round 2 this involved:

- Completion of a similar expression of interest form.
- Attendance at a seminar, with a more detailed interview, carried out by Salix's technical contractor, to determine suitability for the scheme. Completion of a full application form was not required.

Findings relating to the application and assessment process

Of the responses indicating that the application and assessment process is disproportionate, only three are from those who successfully applied at round 2, the remainder being from round 1 applicants or those who transferred from a previous relationship with Salix. This suggests that the efforts to streamline the process following round 1 have been recognised. It should be noted however that while the application process itself has been streamlined, there is still a requirement to provide supporting data which does represent a significant overhead for some institutions.

Of the unsuccessful ISP survey respondents, only one of six described the application process as disproportionate – the rest were neutral. There were no suggestions for how to improve the process.

7.6.3. Post award accountability and reporting – the SERS reporting system

SERS is the software platform that allows HEIs to manage their ISP projects. It acts as a reporting tool and only permits projects that fulfil the scheme compliance criteria to be entered. During the lifecycle of the project HEIs use SERS to commit funding and update details until the project is completed. It records payments going out of the fund and coming back in. Following client feedback, there have been a number of improvements to the system.

As highlighted in section 7.2.4 there is a perception amongst non-recipients that reporting requirements through SERS represent a significant overhead for institutions. Recipients of funding, who are actually operating these processes and using the system, are divided as to the proportionality of the requirements.

Of note is that just under half (24 of 50) recipient survey respondents consider the SERS system 'proportionate'. Seven consider this disproportionate however, with 13 of 50 considering the arrangements neither proportionate/disproportionate.

The reporting requirements for SERS are, by definition for a recoverable grant-based system, quite time consuming. It has been surprising for some HEIs how much management time they have needed to spend on this activity, particularly if with previous sources of funding there has not been the same requirement to account for carbon savings for each individual project. Inevitably there also has been a learning curve for HEIs in using the SERS system and setting necessary internal processes often across several departments, whilst preparing the first wave of projects to be implemented.

The maximum staff costs that can be charged to each compliant project is 15% of the total capital cost[27]. Interview responses suggest that this is not always sufficient to cover the actual staff time to manage the project. The only specific change to the SERS system, which was recommended, is for decimal places to be permitted to be included in financial data. Collectively these issues help explain the following spectrum of opinion.

> *"The administration is straightforward. [Relationship manager] at Salix is very helpful in making sure that I understand the system properly. My finance manager tells me that the financial side of the system is not great to use. However, the compliance tool is good and easy to use."*
>
> *"SERS is fine and [relationship manager] from Salix is brilliant, there are no issues there."*
>
> *"Communication from Salix was good and fair and that it is a sensible way of allocating funding to support carbon reduction projects. No negative feedback about the scheme."*
>
> **ISP recipient interviewees**

[27] The management charge can be used to finance resources to manage the fund, or to improve metering or fund energy/carbon audits to help identify future projects.

"There needs to be management of the process, totally agree, but some managers within the institution noted that at the level of funding, the process for application and continual management may not be worth it."

"Problems with the finance department and the accounting procedures required for RGF."

"Need to abort and re-create projects so that the final actual costs on SERS are correct is time consuming."

"SERS should be made to work properly! For one example, I have never before come across a software package used for financial accounting which rounds some of the numbers to the nearest pound... this is not helpful when it comes to reconciling with the university's accounts!"

"As I am responsible for the energy budget, the process is considerably simplified as each project is essentially an internal agreement & it is not necessary to get colleagues to repay the loans. I would imagine the process may be more arduous when this is the case."

ISP recipient survey respondents

It is arguably the case that, because the funding is a recoverable grant which does not need to be repaid whilst savings are being used for other energy efficiency projects, these savings and re-investment need to be demonstrated through a robust reporting system. This would appear to be accepted by around half of survey respondents.

7.7. Which ISP projects are leading to the highest carbon savings?

To help assess whether projects meet the ISP Fund criteria Salix provides a Project Compliance Tool**.** This is an excel based tool which, once clients input basic information (project costs, estimated savings, technology type and building life expectancy) automatically calculates whether the project is compliant. This section uses data available from the SERS system to consider the types of ISP projects being undertaken, and ascertain whether experience has shown that these type of projects lead to the largest carbon cost savings.

All ISP projects must deliver long-term CO_2 savings and financial savings. Projects must comply with either of the following criteria:

- A payback period of 5 years or less which costs less than £100 per tonne lifetime carbon saved or;
- A payback period of 7.5 years or less with a cost of less than £50 per tonne lifetime carbon saved.

To evaluate the cost of saving each tonne of carbon over the project or equipment lifetime (£/tCO_2 LT), a "persistence factor" is used to derive the lifetime CO_2 savings for different technology types. The persistence factor accounts for how long a technology will last, and when multiplied by the annual CO_2 savings derives the lifetime CO_2 savings i.e.

$£/tCO_2$ LT = Project Capital Cost

Annual CO_2 savings * Persistence Factor[28]

This is the measure which Salix use to prioritise projects.

For the HEI funded part of the fund (i.e. the 25% element), the compliancy rules have been relaxed to a 10 year or less, simple payback and less than $£400/tCO_2$ LT.

7.7.1. Number and types of projects undertaken

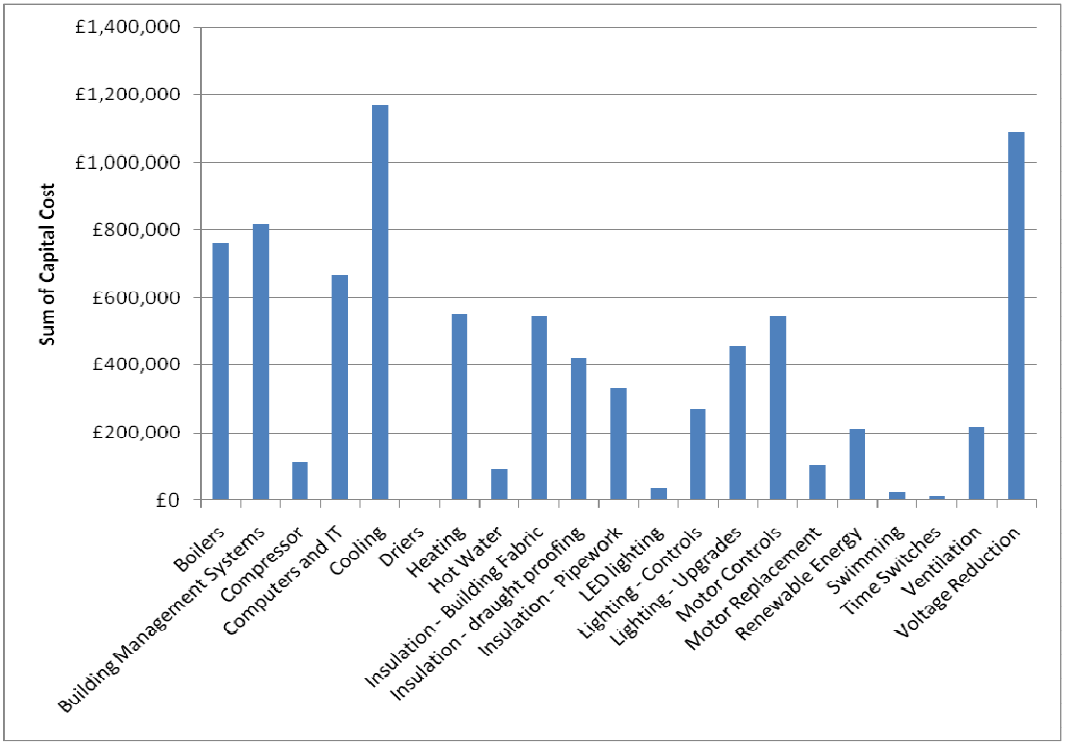
Figure 1 shows the number of ISP funded projects by each type of technology. A total of 384 ISP projects have been committed. Lighting upgrades (13%) and motor controls (11%) are the most commonly undertaken projects, with insulation – pipework (9%); insulation – building fabric (9%); voltage reduction (8%); heating : boilers (8%); building management systems (7%); and draft proofing (6%) accounting for the majority of project technology types.

[28] Salix uses persistence factors to calculate the lifetime energy savings that are being achieved by a technology or process. The methodology was changed in 2008 and is now based on a "useful life" which is adjusted to reflect deterioration by inherent degradation and operational degradation. The factors are applied cumulatively to the useful life to give the persistence factor.

7.7.2. Value invested in each technology type to date

Figure 8 shows that the most money has been invested in projects focusing on cooling, with there being relatively few, large projects funded. Over £750,000 has also already been invested in schemes relating to each of the following: boilers, building management systems and voltage reduction.

Figure 8: Sum of capital cost of funded projects



7.7.3. Effectiveness of funded projects

Figure 9 shows the average capital cost of each technology type against the average tCO_2 LT savings for all the projects types. Computers and cooling generally have a high capital cost but tCO_2 LT savings are also greater than other technology types. Likewise, renewable energy has a high capital cost but a correspondingly high lifetime CO_2 saving.

Using this analysis 'insulation – building fabric' is not the cheapest type of project. However this does not take account of the nearly 25 years that the capital cost will be spread over. Most other types of project generate saving over a much shorter period of time than 25 years, because the lifetime of the equipment is much shorter.

The same project data is shown in Figure 10 with £/t CO_2 LT against the capital cost of the projects. This shows the total carbon dioxide reduction of investing each £ of capital over the lifetime of the project. Although the capital cost is relatively high for 'computers and IT', 'cooling', and 'renewable energy', the average £/tCO_2 LT savings at between £50 and £75 per tonne are similar to lots of other types of technology. This is explained by the lifespan of the savings from each different type of project.

When measured by £/tCO_2 LT rather than just tCO_2 LT, 'insulation – building fabric' is arguably the most cost effective technology.

This analysis indicates that the ISP funding is being used cost effectively to fund carbon savings. The Salix compliance tool criteria ensure that only effective schemes are funded. Over £500,000 has been spent on the most cost effective type of project 'insulation – building fabric, but clearly this type of project is not appropriate for every institution.

It is of note that there are 76 ISP projects that will have cost less than £21/tCO_2 over their lifetime. So for an expenditure of £0.84 million, these projects will in total save £11.68 million and nearly 70,000 tonnes of CO_2 over their lifetime.

Figure 9: The effect of capital cost compared to tCO_2 LT

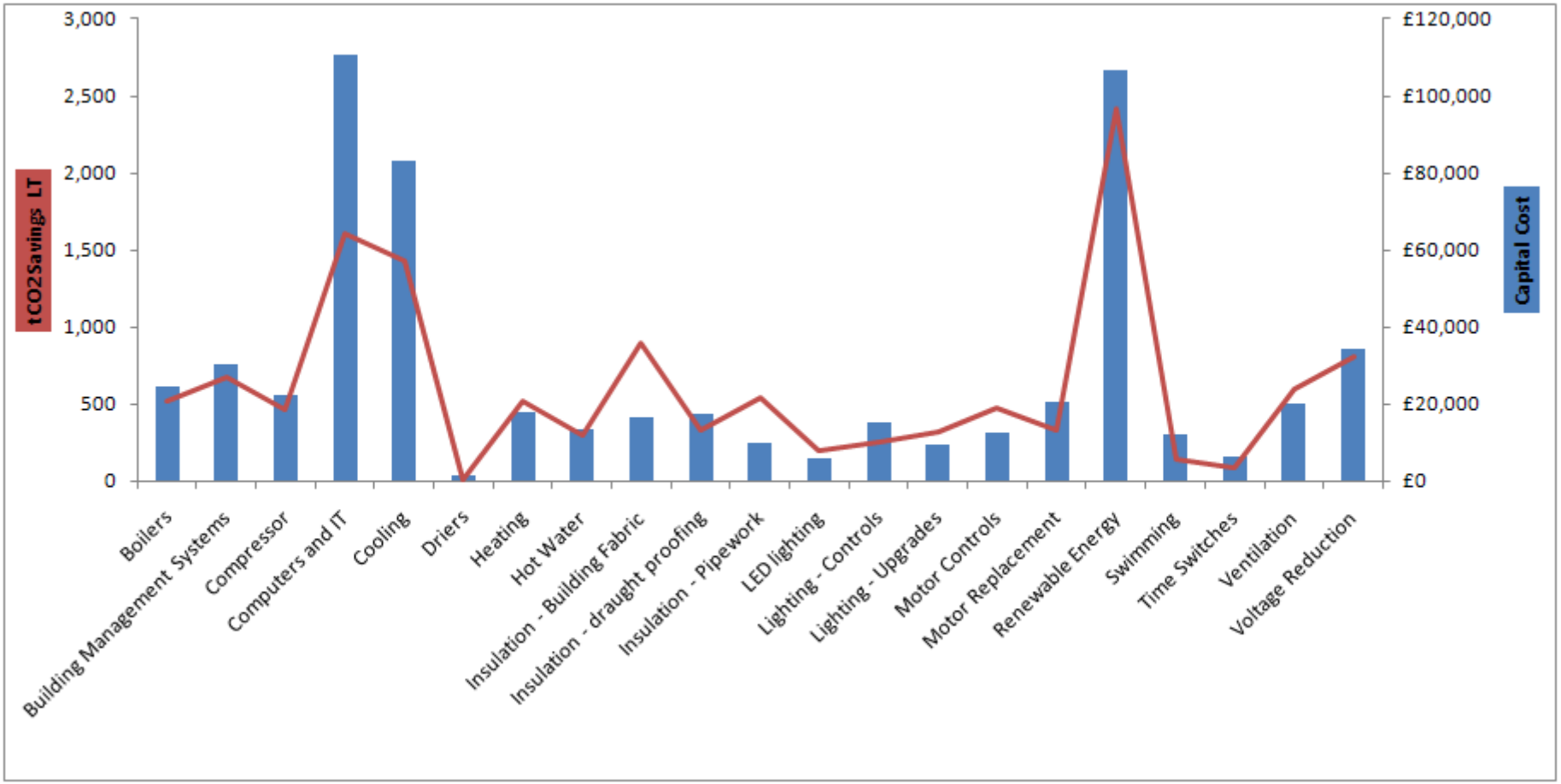
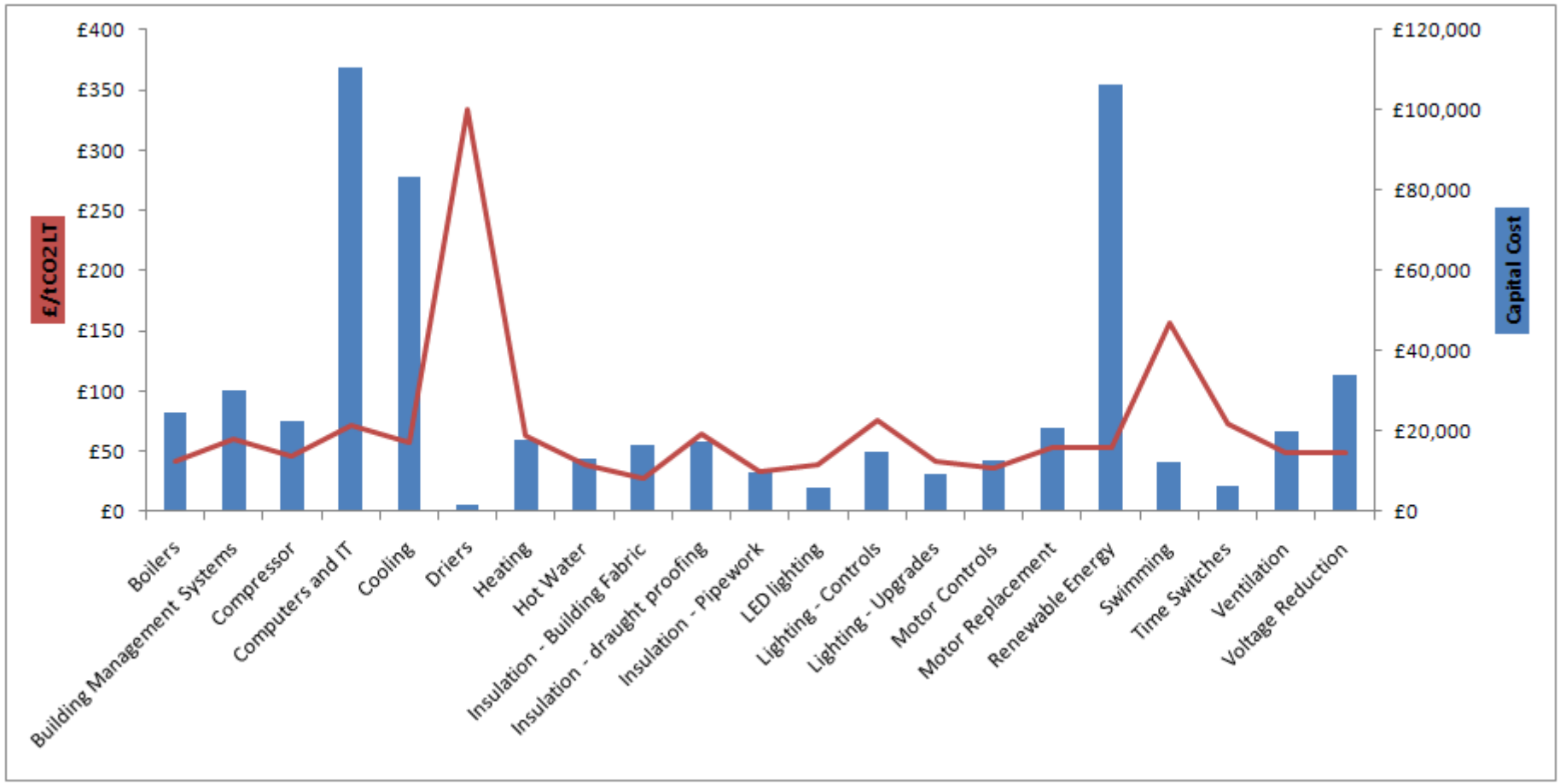


Figure 10: The effect of capital cost compared to £/tCO$_2$ LT



7.8. Conclusions and recommendations relating to both strands

7.8.1. Available staff resource

A notable proportion of institutions[29] are concerned that inadequate staff resource, both to produce applications and manage funding post-award, is a barrier to application. This is supported by the finding that a ready supply of identifiable projects and access to relevant data were the main encouraging factors for applicants – without the resource to identify projects and produce supporting data then application is less likely. Both the capacity and capability of staff to complete these activities may be barriers, with capacity particularly acute in institutions without dedicated energy/environmental managers, which tend to be smaller institutions.

We are aware of one instance of a cluster of institutions appointing a shared energy manager.

Recommendation 1: HEFCE should support mechanisms to encourage applications from smaller institutions. Such a mechanism could involve pump priming funding of clusters of smaller institutions to share energy expertise, the costs of which would eventually be met through savings achieved.

7.8.2. Linking capital funding to sustainability performance

A couple of interviewees believed that a proportion of any future capital funding awarded in CIF2 in 2011 should be spent on improving the sustainability performance of capital projects. They felt that this would send a clear message and further encourage HEIs to actively enhance the environmental performance of new build and refurbishment projects.

Many of the interviewees expressed the difficulty in funding energy performance uplift (fabric and plant improvements) in large scale retrofit/refurbishment projects. This size of project would often have a payback over 7.5 years and would be too large for ISP funding. There are some HEIs going beyond Building Regulations standards in their major retrofit projects, which they are funding from their capital programmes.

The mechanism for achieving this would have to be carefully managed, but could involve an element of matched funding from the HEI. HEFCE have agreed in their Carbon Reduction Strategy (January 2010)[30] that the CIF2 process will be remodelled with a greater focus on carbon. They are also currently consulting on the assessment for CIF2, where in order to achieve 100% funding every HEI will need to produce a Carbon Management Plan and satisfactorily show how it is tackling carbon reduction and non-carbon environmental performance. It is not proposed that there will be a minimum sustainability performance which individual building projects that are funded through CIF2 must achieve.

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[29] 15-20% of survey respondents indicated that (if additional funding was available) they disagreed or strongly disagreed that they would have adequate staff resource to develop applications and manage and deliver projects following receipt of funds.

[30] http://www.hefce.ac.uk/pubs/hefce/2010/10_01/.

Recommendation 2: Consideration should be given on how the CIF2 framework can be used to encourage HEIs to spend a proportion of their capital funding on enhancing the sustainability performance of their new build and refurbishment projects.

7.9. Conclusions and recommendations relating to the ISP strand

7.9.1. Reasons for applying for ISP funding

Application for ISP funding is most commonly encouraged by the ability to identify suitable projects, supported by the availability of suitable estates management data. The development of Carbon Management Plans has also contributed to the decision to apply for funding, and the support provided during the application process is commonly valued by those who have applied. Broader institution considerations (not relating to the application process or available staff resource), such as senior manager support and ability to reduce utility spend commonly encourage application.

7.9.2. Most effective ISP projects

Arguably the most effective measure for determining the efficacy of a project is the lifetime £/tCO_2. There are different ways of analysing this but ISP projects involving insulation measures show some of the cheapest lifetime £/tCO_2.

Analysis shows that on average the most effective technology/measure is insulation. However, no survey or interview respondents suggested that project compliance criteria should be tightened to restrict other currently allowable technologies. As each project is different and the current Salix model recognises this, it is not recommended that the list of permissible project technologies is reduced.

7.9.3. Criteria for ISP project compliance

At present projects may not be compliant if the payback period is too long (more than 5/7.5 years or £50/100 per tCO_2). This prevents a number of projects which may be a priority for institutions from qualifying for ISP funding. In addition, behavioural change type projects are not eligible for ISP funding. Although compliance criteria have not (in the main) deterred successful applicants, this did prove an issue for a minority of successful applicants and those who chose not to apply for funding. Only 8% of survey respondents suggested leaving the criteria unchanged.

Exclusions that were identified from the range of eligible types of projects were behavioural, certain types of renewable and metering related. Many more types of renewable project are now permissible in the compliance tool as new technologies are constantly being added as HEIs and other Salix customers ask for them. Metering related projects are an important part of delivering a Carbon Management Plan and it is logical for them to be included as an eligible ISP project. Metering could not be included in the compliance tool but could be allowed as a maximum percentage of the total fund allocation[31]. Behavioural change projects are an

[31] Whilst Salix does not specifically fund advanced metering as a standalone project it does allow metering to be included within the cost of a project, provided it still meets the project compliance criteria.

important source of carbon savings, which cannot currently be included in the RGF. They could be included in ISP funding using the same mechanism as metering, or HEIs could be encouraged to apply to HEFCE for LGMF funding (funding from the LGMF cannot be used for single institution energy efficiency projects, however behavioural change projects are likely to be very similar across institutions and would benefit from partnership working which can be supported by the LGMF). During an interview one HEI said that they are planning to make an application to the LGMF to explore how you deliver behavioural change for the whole university community.

Other suggested changes were spending a greater proportion of the funding on staff to manage the project and increasing permitted payback periods to recognise low gas prices and the cost of retrofitting whole buildings with insulation.

Recommendation 3: HEFCE and Salix to revisit the ISP project compliance requirements in the following areas:

- Increasing the payback to allow HEFCE contribution to be spent on projects which achieve the institution contribution requirement, namely a 10 year payback at £400/tCO_2LT.
- Include metering projects even though they do not generate an overt carbon saving, they are a critical part of accessing that project savings are being achieved.
- On a project by project basis to increase the current maximum management charge (15%), which is permitted to be funded from an individual ISP project.

Recommendation 4: HEFCE should encourage institutions to apply for LGMF funding to look at behavioural change projects. These projects may be very similar between institutions, and potentially offer the recipients the opportunity to undertake partnership working.

7.9.4. Financial considerations

Two interviewees commented that the requirement to contribute 25% matched ISP funding has prevented application. 43% of survey respondents indicated that reducing this would encourage application. Although reducing this requirement would be popular with a number of potential applicants and may allow some institutions who were previously unable to apply to do so, it should be noted that this would not necessarily result in any additional carbon savings across the sector as a whole.

Also of relevance is that we have had relatively few reports of institutions not actually applying for funding because of this requirement.

A couple of institutions have reported that the nature of the fund as a recoverable, rather than a non-recoverable, grant stopped them applying for or accepting RGF

In addition clients can add a management charge of up to 15% of each project, which can also be used to fund improvements in metering.

funding. They were concerned that it would have impacted on their borrowings limit or needed to be paid back at short notice if no more eligible projects were identified.

Recommendation 5: Where institutions specifically cannot provide the required 25% contribution, HEFCE should consider how they can take advantage of ISP funding. In practice this could involve HEIs on a case-by-case basis (based on their size) being allowed to provide only a 10% contribution, with a funding cap to ensure that other institutions are not adversely affected e.g. a total fund of £200,000. This could be linked to the requirement that these smaller HEIs have to provide at least some part-time dedicated resource to implement their projects.

7.9.5. Post award monitoring and reporting

There is an existing perception within the sector that ISP post-award reporting requirements involving the ongoing management of project funding and reporting through SERS represent a significant overhead. Of note is that many fund recipients consider the arrangements proportionate, however several do still maintain that the requirements are not proportionate to the level of funding received. This perception is a common contributing factor for non-application. It is not clear how the system could be substantially improved. Rather than producing a specific recommendation to amend SERS, it is recommended that HEIs can spend a greater proportion of the ISP funding (currently 15%) on staff resource to deal with the necessary task of maintaining SERS (part of Recommendation 3).

7.9.6. Sufficient internal financial and staff resource

Four interviewees stated their institutions have not applied to the ISP strand as they have sufficient internal financial resource to implement all projects identified. This is likely to be coupled with sufficient capacity to identify and undertake these projects. There is a view that many of these institutions will require additional external funding due to sector carbon-reduction targets and additional financial pressures on institutions.

7.9.7. Reasons for not reapplying

Although the ISP application process is perceived to have improved in terms of proportionality, a number of factors including capacity/capability, financial constrictions (not being able to match 25%), and that the criteria for funding have not changed mean that 16 of the 22 institutions who were unsuccessful at round 1 did not reapply at round 2.

7.10. Conclusions and recommendations relating to the transformational strand

7.10.1. Transformational application process

Having identified suitable projects to be funded which have sufficiently developed supporting documentation has been one of the major drivers for application to the transformational strand. This suggested that for those who applied for funding, the opportunity was ‘well timed’ in that potential projects were sufficiently developed by many applicants.

There is a long lead in time for development of transformational proposals – this means that the application timeframe can discourage application. Many HEIs would not commit to this preparatory work without some guarantee that funding might be available and because of the short application period, many HEIs stated that they simply did not have sufficiently detailed schemes, so it would have been more risky for HEFCE to award funding to them. A couple of interviewees perceived that at least one of the schemes that received transformational funding would have been funded by the host institution even if the HEFCE money had not been awarded; however survey responses from individuals at funded institutions indicate that the projects would not have happened without transformational RGF funding.

There is an argument that in order to accelerate the implementation of transformational type projects in the future, the funding should be allocated to the strongest applications in a timely manner, and that encouraging large numbers of applications to be developed when only a few could be funded (through limited funding) is unwise. However, if the types of projects that are submitted for transformational funding no longer have to be innovative, then unsuccessful HEIs are arguably more likely to self-fund schemes once they have prepared a bid.

Recommendation 6: Increase the notification period for receipt of transformational applications for funding to allow institutions a longer period to identify suitable projects, for example six months as a substantially longer period than the two months previously available. Consider the implementation of an amended application process comprising the award of pump priming funding following an initial expression of interest stage allowing development of applications to be submitted for the second stage.

Recommendation 7: HEFCE should consider spreading transformational funding over several annual rounds, allowing those with more developed schemes to apply initially, and those who have ideas to develop these sufficiently for the subsequent rounds. Whilst this may reduce the total number of projects which can be funded in each round, it will allow institutions to identify projects that could be funded from other sources.

7.10.2. Innovation criterion

It is clear that projects can be transformational without being innovative if the definition of transformational is that it delivers a step change in reducing an institution's carbon emissions.

The criteria for award of funds to transformational projects included an innovation theme. The inclusion of this innovation criterion was in part driven by the potential of transformation projects as a beacon of good practice. However this has caused issues relating to:

- Exactly what was meant by innovative – this caused some confusion for applicants.
- Questioning the level of innovation actually characterised by the funded projects.

- Whether ‘fundable’ projects that would have scored very well on other criteria were rejected on the grounds of lack of innovation.
- The 60% of survey respondents who reported that ‘removing the requirement for innovation’ would encourage them to apply if funding were available in the future.

Given these issues the innovation criterion, if retained, should arguably be optional.

Consideration should also be given as to how the energy efficiency of whole building retrofit projects can be improved. These are too large for ISP funding and are likely to deliver more cost effective carbon savings than transformational renewable projects. These could potentially be funded through the transformational strand if the innovation criterion was elective.

Recommendation 8: HEFCE to consider making the innovation criterion an elective element of the transformational application and assessment process.

8. Potential for additional funding

In this section we present evidence relating to a number of indicators of the requirement for future RGF type funding, including:

- The availability of other sources of funding which could be used to implement projects of either strand type.
- The value of unfunded applications to both strands.
- The proportion of the English higher education estate represented by institutions that have received some ISP funding to date (through reference to EMS data).
- The amount of funding that survey respondents consider could be spent on projects of each fund strand type; again in relation to the scale of the English higher education estate.

We also consider the potential split of funding between ISP type and transformational type funding. Findings are presented throughout the remainder of this section.

8.1. Other sustainability related funding sources available to HEIs

When considering the requirement for any additional funding it is important to consider whether alternative sources of funding are available which could be used to meet the aims of the RGF. The following sources of funding have been identified which are of relevance to either sustainability or energy efficiency within the higher education sector. These are the main sources of funding that have been identified by consultees, however there are likely to be some other sources.

8.1.1. Carbon Trust – Higher Education Carbon Management programme

85 English institutions have or currently are participating in the Higher Education Carbon Management (HECM) programme. During the 10 month programme each HEI has to provide a minimum two days of staff time per week, whilst Carbon Trust consultants systematically guide them, helping them to analyse their carbon footprint, calculate the value-at-stake and strategically identify opportunities to reduce carbon emissions. The outcome is a fully costed plan to make the business case for cutting carbon. It has been really important in supporting the development of Carbon Management Plans. These have proved an important source of projects and significantly helped inform institutions how much ISP funding to bid for.

8.1.2. Salix Finance Ltd – Energy Efficiency Loan Scheme

Salix is an independent social enterprise, a not for profit company limited by guarantee. Salix provide funding to UK public sector organisations through a mixture of loans and grants for the implementation of energy efficiency projects. The ISP strand of the RGF is a partnership between HEFCE and Salix.

The Salix Energy Efficiency Loan Scheme provides an interest free loan to recipients to implement energy efficiency projects. This has historically been a 50% matched fund, however under the current round a 100% loan is available. As this scheme has been available for some years, there are a number of HEIs who will have previously

received funds. Some these institutions transferred to the ISP strand of the RGF when this became available.

There have been three previous calls for applications, with the current call open to the 5th February 2010 and any decision concerning whether a further call is necessary not anticipated until this call is completed.

Survey responses indicate that practitioners are more positive towards application to future rounds of the RGF ISP strand (should these be available) with 41% indicating that in their opinion their institution would probably apply, compared to 25% responding that their institution would probably apply for the Energy Efficiency Loan Scheme.

8.1.3. HEFCE – Leadership, Governance and Management Fund (LGMF)[32]

The aims of the fund relate to encouraging the development and embedding of recognised good practice in the areas of leadership, governance and management.

A total of £10 million over three years is available from August 2007, and applications can be made at any point to August 2010 under the current round. The continuation of the fund beyond this timeframe is dependent on HEFCE securing funds for an additional round. Funded projects include circa 15 related to sustainability, including

- HEEPI, which runs courses and events, collates benchmarking data, and publishes case studies, guidance documents, and online materials.
- Development of an AUDE Estates Management Good Practice Self Assessment Tool – This project will add qualitative information to the existing quantitative data collected through EMS.

Funding is focussed on leadership, governance and management outcomes and has not been used to directly fund implementation of energy efficiency projects.

8.1.4. HEFCE – Centres for Excellence in Teaching and Learning[33]

The Centres for Excellence in Teaching and Learning (CETL) initiative has two main aims: to reward excellent teaching practice, and to further invest in that practice so that CETLs funding delivers substantial benefits to students, teachers and institutions.

Funding of CETLs will total £315 million over five years from 2005-06 to 2009-10. Each CETL will receive recurrent funding, ranging from £200,000 to £500,000 per annum for five years, and a capital sum ranging from £0.8 million to £2.35 million. Competitive applications can no longer be submitted for CETL funding.

There are two sustainability related centres:

- Centre for Sustainable Futures[34].

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[32] Further information on the LGMF is available at http://www.hefce.ac.uk/lgm/build/lgmfund/

[33] http://www.hefce.ac.uk/learning/tinits/cetl/

- Centre for Sustainable Communities Achieved through Integrated Professional Education (C-SCAIPE)[35].

Funding is focussed on the enhancement of learning and teaching and has not been used to directly implement energy efficiency projects.

8.1.5. HEFCE – Higher Education Innovation Fund[36]

The Higher Education Innovation Fund (HEIF) supports institutions to engage in a broad range of knowledge transfer activities with business, public sector and community partners, for direct or indirect economic benefit. HEIF is a partnership between HEFCE and the Department for Business, Innovation and Skills (BIS).

Two sustainability related projects have been funded:

- Carbon Connections: which aims to tackle reliance on fossil fuels, with the aim of exploiting low carbon technologies and encouraging behavioural change for environmental, social and economic benefit. An international network of academic and commercial partners will use the Carbon Connections project to turn innovative ideas into commercial reality. Sustainable building and renewable energy are two areas of particular interest to the project.

- Building sustainable communities: To establish an innovative knowledge exchange programme which will create a network of professionals, practitioners and academics. They will work together on projects which will bring evidence-based, participative processes and new knowledge to bear on the delivery of sustainable communities.

The current round of HEIF funding (round 4) was allocated in October 2008 over the three years 2008-09 to 2010-11. Funding is allocated through a formula model. Funding is not intended for the direct implementation of energy efficiency projects.

8.1.6. HEFCE – Strategic Development Fund[37]

The Strategic Development Fund (SDF) supports change and innovation in the higher education sector with reference to HEFCE's strategic plan.

Projects are typically expected to demonstrate significant collaboration between institutions; build on institutional strengths and/or provide benefits to the wider HE sector; and where the scale or degree of risk would be too great for a single institution to undertake, but where the outcomes would provide significant benefits to the sector and meet HEFCE's strategic priorities. There is no deadline for submitting proposals to the SDF which will be considered at any time through an ongoing approvals process.

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[34] http://www.csf.plymouth.ac.uk/

[35] http://www.c-scaipe.rroom.net/

[36] http://www.hefce.ac.uk/econsoc/buscom/heif/

[37] http://www.hefce.ac.uk/finance/fundinghe/sdf/

Four sustainability related projects have been funded to date including 'Ultimate Campus for the 21st Century'[38]. The funding includes £3.5 million for Keele's environment and sustainability element of the project. A sustainability 'hub' is being established for teaching and research to help develop partnerships with other HEIs and act as a demonstrator for the HE sector. The hub will test innovative estates and management solutions for the sector, including piloting the use of coal-bed methane and carbon capture, ground source heat, wind power, geothermal energy and water power. The new building to house the hub will provide state of the art, flexible learning and teaching space suitable for all types of educational delivery, including short courses and continuing professional development (CPD).

Keele aims to generate 50% of its own energy by 2013 and to become carbon neutral in terms of energy by 2018.

This project could be considered comparable to elements of the three transformational projects in that the project is large-scale and will transform the institution's energy usage.

8.1.7. Institution internal funding

Depending on the financial standing, strategic, and operational priorities of the institution, differing levels of funding relating to the implementation of sustainable estates management may be available.

As well as a number of large institutions using internal funding, others who have not applied but still invested have cited a strong cash balance or a concern about accepting further balance sheet debt. This has led some institutions to not apply for RGF funding – particularly ISP related funding.

8.1.8. Other funding sources

Some HEIs have also made applications to the Low Carbon Buildings Programme (LCBP)[39] fund, and Department for Environment, Food and Rural Affairs (DEFRA) Bio round 3 grant[40].

There were also several examples of HEIs who successfully received a LCBP grant, often using consultants to complete the application, but did not even apply to the RGF as they would not have had the resource to manage the projects if they had received the funding.

8.1.9. Summary

There are a number of sources of sustainability related funding which are available to HEIs to meet related objectives. However these funding sources commonly do not have the primary aim of reducing the sector's greenhouse gas emissions; or assisting institutions in directly implementing carbon reduction infrastructure – characterised by

[38] http://www.ultimatekeele.co.uk/

[39] http://www.lowcarbonbuildings.org.uk/

[40] http://www.bioenergycapitalgrants.org.uk/

the RGF. A small number of institutions have been able to access internal funding sources to meet these, or similar objectives.

8.2. Evidence relating to additional ISP funding

In this section we present evidence of the requirement for additional ISP type funding through reference to a number of indicators:

- The views of survey respondents and consultees in relation to the extent of potential projects which could be implemented; the likelihood of application for funding should this be available; whether there would be senior manager support for this, and other institution specific measures.
- The value of ISP funding requested unsuccessfully, i.e. the value of unsuccessful applications.
- Using EMS data to consider the proportion of the English higher education estate which has not received any ISP funding to date.
- The value of funding which survey respondents consider could be spent on ISP type projects at their institution, approximated to represent the whole sector.

Findings in relation to each of these indicators are presented in the following sections.

8.2.1. Extent to which the sector identifies demand for additional funding

Supply of potential projects

There is a high level of potential ISP type projects which could be funded through further ISP rounds. 83% of respondents to the survey agree or strongly agree that the institution has an adequate supply of projects which could be funded, only 1% disagree.

Broader institution considerations

The vast majority of survey respondents consider funding implementation of additional ISP type projects would complement broader institution objectives with over 90% agreeing or strongly agreeing that this would contribute to the institution's carbon management strategy, and that there would be senior management support for receipt of funds.

> *"We have a list of projects we would like to carry out that would make the [institution] safer, more comfortable, more energy efficient and 'fit for purpose'."*
>
> **Survey respondent**

Likelihood of application

Approximately 90% of survey respondents indicated that in their opinion their institution would either probably apply or explore the possibility of application. Approximately 40% indicated their institution would probably apply (50% indicating that this would be explored).

These findings suggest that there is a strong view amongst relevant sector practitioners that there is potential for additional funding.

These survey responses complement the comments made by five non-applicants or applicants which were unsuccessful during interview, that although they have been able to fund ISP type projects internally to date, the availability of future internal funds for this purpose is less certain, and future application to the RGF is much more likely to be considered.

> *"Looking at the targets that HEFCE are setting, we are going to have to use future funding."*
>
> *"Won't be able to say no to future RGF if there is a next time..."*
>
> **Non-applicant interviewees**

8.2.2. Evidence relating to unfunded applications

In this section we summarise an analysis of the ranges in HEFCE-Salix funding requested at each round, and the total value of applications which remain unfunded through the ISP strand of the RGF. The full analysis is included at Appendix F.

In summary 16 institutions applied for funding unsuccessfully at round 1 and did not reapply, one institution applied unsuccessfully at both rounds, and one additional institution applied unsuccessfully at round 2 giving a total of 18 institutions who applied but were not awarded funding.

Values for HEFCE-Salix funding requested unsuccessfully are available for 17 of these institutions to a total of £5,478,750[41]. This is one indicator of the potential need for additional funding.

8.2.3. Mapping funding distributed to date to the whole sector

In this section we consider the proportion of the English higher education estate represented by institutions which have received some ISP funding to date, and the proportion of the estate which has not received any funding through the ISP strand of the RGF.

Distribution of ISP funding to date

To date ISP funding has been accepted by 57 institutions, around 44% of the 130 institutions in receipt of HEFCE funds who could have been awarded funding following successful application. To date a total of just under £20 million combined Salix-HEFCE funding has been allocated for the implementation of ISP type projects by these 57 institutions (in addition to a minimum 25% institution contribution). The combined total utility bill for these HEIs is £170 million, which gives an average Salix-HEFCE funding % of energy bill of 8% for each one.

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[41] For the institution which applied unsuccessfully at both rounds, the value applied for in the most recent round (round 2) has been used.

Modelling funding to date across the whole sector

It is possible to 'scale up' the £20 million distributed to date to determine how much additional funding would be required to replicate progress to date across the whole sector (institutions which have not received ISP funding to date).

Publicly available data through Estates Management Statistics[42] can be used to consider the 'coverage' of ISP funding to date in terms of the total proportion[43] of:

- The English higher education non-residential estate[44] (in m^2) represented by the 57 funded institutions.
- The energy consumption[45] (in kWh) of English higher education institutions.

Figure 11: Proportion of the English estate funded to date through the ISP strand

Measure	English sector total	ISP recipient total	Proportion to total represented by ISP institutions
Gross internal non-residential area (m^2)	15,755,448	10,009,433	63.5%
Energy consumption (kWh)	6,100,020,184	4,130,206,808	67.7%

The proportion of the total English higher education estate (in terms of size and energy consumption) which has received some ISP funding to date is around 65% of the sector. This suggests that an additional 35% has not received any ISP funding at all.

Summary

Approximately 35% of the English higher education estate has not received any ISP funding to date.

Although institutions representing approximately 65% of the English estate have received ISP funds, this funding will only have impacted the energy consumption of a

[42] http://www.opdems.ac.uk/default.asp

[43] Data for the 2007-08 return has been used. Note that data relating to area is not available for five of the 130 institutions considered as eligible to have applied for RGF funding; and energy data is not available for nine institutions. These institutions all have relatively small estates, and as this data return is optional it has been identified as particularly burdensome for these very small institutions.

[44] Item 'D11 Gross internal area C13 Total' non-residential has been used

[45] Item 'D38A Energy consumption C1 Total' has been used.

proportion of this estate i.e. it is very likely there are more projects that can be implemented.

It is important to note that energy efficiency projects can be considered as an ongoing activity. When money is saved, there are likely to be additional projects which require funding, reflected in the 'revolving' nature of the fund. Although a proportion of institutions have already received funding, these same institutions may benefit from additional funding, particularly as for many large HEIs the Salix-HEFCE funding is less than 5% of their energy bills.

> *"We have recently had our fund increased by [value], which is fantastic. We could easily accommodate a further increase in our fund size as we have a significant number of pipeline projects."*
>
> **Survey respondent**

This is further supported by the finding that 90% of survey respondents working at institutions that received ISP funding said that they would either explore the possibility of applying or probably apply for more ISP funding. Of these nearly half said that they would probably apply for more funding.

8.2.4. Perceived value of additional funding required

In this section we draw on responses to the survey which indicate the value of additional ISP funding which survey respondents considered could be used by their institution. The resulting range in value is then approximated to represent the whole sector (to include those institutions where a member of staff did not respond to the survey) through reference to EMS data.

Survey responses

Survey respondents were asked how much additional money could be spent at their institution on ISP type projects over the next three years with a payback of five years or less. 90 responses were received from individuals representing 70 institutions; to increase the accuracy of analysis, where multiple responses have been received from a single institution the lowest or highest response has been used to create a lower and upper range (respectively) of additional funding required. The following two figures present survey responses and the upper and lower values derived.

Figure 12: Upper value of ISP funding suggested by survey respondents

Questionnaire options	Value used in calculation (£million)	Number of institutions making this response[46]	Total value indicated by respondents (£million)
No additional funding required	0	3	NA
£0.1 million – £0.25 million	0.25	18	4.5
£0.25 million – £0.5 million	0.5	18	9
£0.5 million – £1 million	1	15	15
£1 million – £2 million	2	8	16
£2 million – £5 million	5	3	15
£5 million plus	5	5	25
Total		**70**	**84.50**

Figure 13: Lower value of ISP funding suggested by survey respondents

Questionnaire options	Value used in calculation (£million)	Number of institutions making this response[47]	Total value indicated by respondents (£million)
No additional funding required	0	3	NA
£0.1 million – £0.25 million	0.1	23	2.3
£0.25 million – £0.5 million	0.25	21	5.25
£0.5 million – £1 million	0.5	14	7
£1 million – £2 million	1	5	5
£2 million – £5 million	2	3	6
£5 million plus	5	1	5
Total		**70**	**30.55**

This gives an upper value of £84.5 million and a lower value of £30.55 million which could be spent on ISP type projects over the next three years with a payback of five years or less.

Approximation to the whole sector

This total has been provided by 70 institutions of the 130 who would have been eligible to apply for funding in previous rounds. Estates data can be used to understand the proportion of the sector represented by these 70 institutions in terms of:

- The English higher education non-residential estate[48] (in m^2).
- The energy consumption[49] (in kWh) of English higher education institutions.

[46] Where more than 1 response has been received, the highest option has been used i.e. only 1 response per institution has been counted.

[47] Where more than 1 response has been received, the lowest option has been used i.e. only 1 response per institution has been counted.

[48] Item 'D11 Gross internal area C13 Total' non-residential has been used

Figure 14 presents the proportion of the English higher education estate represented by the survey respondents in this case.

Figure 14: Proportion of the English estate represented by survey responses (ISP)

Measure	English sector total	Survey respondent total	Proportion of total represented by responding institutions
Gross internal non-residential area (m^2)	15,755,448	10,952,830	70%
Energy consumption (kWh)	6,100,020,184	4,425,411,458	73%

This indicates that survey responses represent approximately 71.5% of the sector. 100% of the sector would be represented by a range of £42.71 million - £118.18 million indicating that there is significant ongoing demand for additional ISP type funding.

8.3. Evidence relating to additional transformational type funding

In this section we present evidence of the requirement for additional transformational type funding through reference to a number of indicators:

- The views of survey respondents and consultees in relation to the extent of potential projects which could be implemented; the likelihood of application for funding should this be available; whether there would be senior manager support for this, and other institution specific measures.
- The value of transformational funding requested unsuccessfully, i.e. the value of unsuccessful applications.
- The value of funding which survey respondents consider could be spent on transformational type projects at their institution, approximated to represent the whole sector.

Findings in relation to each of these indicators are presented in the following sections.

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[49] Item 'D38A Energy consumption C1 Total' has been used.

8.3.1. Extent to which the sector identifies demand for additional funding

Supply of potential projects

A large proportion of survey respondents (66%) agree or strongly agree that their institution has an adequate supply of projects which could be funded, 12% disagree or strongly disagree.

A lack of potential at some institutions may be due to the reoccurring themes relating to the effort and resource required to identify and develop proposals; the nature of the estate (listed buildings etc.); a concern that the innovation criterion would prevent success; and that smaller projects may be more appropriate to 'get the basics right first'.

> *"There is a huge volume of re-glazing and other initiatives that could be carried out if funding were available."*
>
> *"If the innovation criteria were removed then we could deliver strong robust projects that will reduce carbon."*
>
> **Survey respondents**

Broader institution considerations

Over 80% of survey respondents agree or strongly agree that if additional funding was available, potential transformational projects would contribute to the institution's carbon management strategy, and that there would be senior management support; only a small number disagree.

Likelihood of application

Approximately 90% of respondents indicated that in their opinion their institution would either probably apply or explore the possibility of application. Approximately 40% indicated their institution would probably apply.

8.3.2. Evidence relating to unfunded applications

The potential for implementation of additional transformation projects is demonstrated by a simple analysis of the proportion of 'fundable' project applications that were not successful. Thirty-nine expressions of interest were received requesting funding from HEFCE of £85 million. Of those, 21 were considered fundable (i.e. they passed the primary selection criteria). The total project costs of these 21 EOIs was £160,699,925 with £53,883,000 being requested from HEFCE.

This indicates that there are 'fundable' projects which have not received transformational RGF funding to date within the sector.

8.3.3. Perceived value of additional funding required

In this section we draw on responses to the survey which indicate the value of additional transformational funding which survey respondents considered could be used by their institution. The resulting range in value is then approximated to represent the whole sector (to include those institutions where a member of staff did not respond to the survey) through reference to EMS data.

Survey responses

Survey respondents were also asked approximately how much additional money would be required to implement all transformational type projects at their institution. 84 responses were received from individuals representing 64 institutions; to increase the accuracy of this range if multiple responses have been received from a single institution the lowest/highest response can be used, and the others discounted so that institutions are not 'counted more than once' in the estimation. Figures 15 and 16 present survey responses and the upper and lower values derived.

Figure 15: Upper value of transformational funding suggested by survey respondents

Questionnaire options	Value used in calculation (£million)	Number of institutions making this response[50]	Total value indicated by respondents (£million)
No additional funding required	0	7	NA
Less than £0.5 million	0.5	4	2
£0.5 million - £1 million	1	12	12
£1 million – £2 million	2	8	16
£2 million – £5 million	5	17	85
£5 million - £10 million	10	13	130
£10 million plus	10	3	30
Total		**64**	**275**

Figure 16: Lower value of transformational funding suggested by survey respondents

Questionnaire options	Value used (£million)	Number of institutions making this response[51]	Total value indicated by respondents (£million)
No additional funding required	0	8	0
Less than £0.5 million	0.5	6	3
£0.5 million - £1 million	0.5	11	5.5
£1 million – £2 million	1	12	12
£2 million – £5 million	2	15	30
£5 million - £10 million	5	9	45
£10 million plus	10	3	30
Total		**64**	**125.50**

[50] Where more than one response has been received, the highest option has been used i.e. only one response per institution has been counted.

[51] Where more than one response has been received, the lowest option has been used i.e. only one response per institution has been counted.

This gives an upper value of £275 million and a lower value of £125.5 million which these 64 institutions could potentially use to implement all transformational type projects.

A number of respondents did clarify that proposals would require significant development before any application could be made, and that additional resource may be required to achieve this.

> *"But these are not developed sufficiently yet and we may not have the resource to allow this."*
>
> *"We are exploring the possibility of biomass heating/CHP, but this is at the very early stages of development at the moment."*
>
> *"We have a number of ideas but these are not yet fully costed."*
>
> *"With more resource and an Environment Manager we expect to identify costed proposals."*
>
> *"We could produce a list of transformational projects that would be more than £10m however we have not completed all of the studies. We believe that we could however deliver projects within the £5 to 10 million within the next year if we had the funds."*

Survey respondents

Approximation to the whole sector

The above range has been derived from survey responses made by at least one individual representing 64 institutions of the 130 who would have been eligible to apply for funding in previous rounds. Estates data can be used to understand the proportion of the sector represented by these 64 institutions in terms of:

- The English higher education non-residential estate[52] (in m^2).
- The energy consumption[53] (in kWh) of English higher education institutions.

Figure 17 presents the proportion of the English higher education estate represented by the survey respondents in this case.

[52] Item 'D11 Gross internal area C13 Total' non-residential has been used

[53] Item 'D38A Energy consumption C1 Total' has been used.

Figure 17: Proportion of the English estate represented by survey responses (transformational)

Measure	English sector total	Survey respondent total	Proportion to total represented by responding institutions
Gross internal non-residential area (m^2)	15,755,448	10,312,472	65%
Energy consumption (kWh)	6,100,020,184	4,194,666,464	69%

This indicates that survey responses represent approximately 67% of the sector. 100% of the sector would be represented by a range of £187.31 million - £410.45 million indicating that there is significant ongoing demand for additional transformational type funding.

8.4. Evidence relating to the potential split of funding

In this section we have considered the options for how any additional RGF funding, should this be available at a future point, could be split between ISP type and transformational type funding.

We list a number of options for how funding could be split which have been identified through consideration of how funding has been allocated to date, and the suggestions of consultees. We then draw on other findings to consider which of these options may be most appropriate in the future, including:

- The proportion of potential projects which survey respondents consider could be funded in future.
- The relative progress of projects to date which have resulted from each strand of the fund.
- The view of survey respondents when asked how future funding could be split.

Findings in each of these areas are presented below.

Should additional funding be available through the RGF this could be:

- Directed solely at ISP projects.
- Directed solely at transformational projects.
- Split equally between each strand; or in varying proportions.
- Based on the most worthy applications to each strand.
- Allocated pro-rata to each HEI.

8.4.1. Proportion of potential projects which could be funded

One major consideration is the extent to which the sector is able to identify potential projects which could be funded. Survey respondents were asked the extent to which they have an adequate supply of projects which could be funded through either strand of the fund (ISP or transformational). In response to the statement 'we have an adequate supply of projects which could be funded' 83% agree or strongly agree for ISP, compared to 66% for transformational. 1% disagree for ISP, with 12% disagreeing or strongly disagreeing for transformational.

This suggests that practitioners are more able overall to identify potential ISP type projects, and that the number of institutions where funding of this type could be implemented is higher.

8.4.2. Progress to date

One of the aims of the fund is to *'increase the implementation of energy efficient projects within the higher education sector'* which suggests that acceleration in implementation of projects is an important outcome of the fund. Due to the extended nature of transformational projects in terms of development of proposals and implementation of these, compared to the relatively short implementation period for ISP type projects, the savings associated with ISP type projects are likely to be realised much sooner after award of funding in comparison to transformational projects. Already £2.8 million has been spent on operational ISP projects, whilst the transformational projects are all still in the development stage.

The projected lifetime cost of carbon (£/tCO_2 LT) saved with each of the three transformational projects is 119, 47 and 40 tonnes respectively, which compares relatively favourably with the ISP projects. One of the three projects would fulfil Salix's strict compliance tool criteria of payback and lifetime cost of carbon saved, while the other two would meet the more relaxed compliance criteria.

8.4.3. View of the sector

Survey responses indicate that in the event that further funding were available this should be for both ISP and transformational projects i.e. both strands should continue to be available in the future; only 5% of survey respondents consider additional funding should be purely ISP, and 6% purely transformational.

Nearly 80% of respondents consider that the split should be purely based on the most worthy applications. 7% suggested 'allocate prorata to each HEI'.

There were also other suggestions during the interviews, such as broadly keeping the same proportions as previously, namely 2/3 ISP (excluding institution contribution) and 1/3 transformational.

"25% ISP 75% transformational."

"40% ISP 60% transformational."

"75% ISP 25% transformational."

"Base funding on maximum $C0_2$ saved per £ spent! And rank all projects, allocating until funds expired."

"Condition and age of the buildings."

Survey respondents

8.4.4. Summary

Responses to the survey suggest a preference for 'basing the split on the most worthy applications', suggesting that the split could be determined following some form of initial receipt of expressions of interest from institutions.

In terms of the potential for projects to be undertaken at individual institutions, responses from the survey suggest that that a higher number of individual institutions are likely to be able to identify ISP-type projects. ISP projects also lead to the 'quickest' carbon savings, albeit that transformational projects lead to much larger savings for each individual project.

8.5. Conclusions and recommendations relating to both strands of the fund

8.5.1. Indicators relating to the requirement for additional funding

A number of indicators relating to the requirement for additional RGF type funding have been used, all indicating that additional funding could be used by institutions, including:

- The value of unfunded applications to both strands (approximately £5.5 million for ISP HEFCE-Salix funding and £53.8 million for transformational HEFCE funding).
- The proportion of the total English higher education estate (in terms of size and energy consumption) which has received some ISP funding to date; indicating that the 'coverage' of the recipient institutions is around 65% of the sector in terms of size and energy consumption. This suggests that an additional 35% has not received any ISP funding at all. Although institutions representing approximately 65% of the English estate have received ISP funds, this funding will only have impacted the energy consumption of a proportion of this estate i.e. it is very likely there are more projects that can be implemented. This is supported by the finding that 90% of survey respondents working at institutions that received ISP funding said that they would either explore the possibility of applying or probably apply for more ISP funding. Of these nearly half said that they would probably apply for more funding.
- The estimated amount of funding that survey respondents consider could be spent on projects of each fund strand type; again in relation to the scale of the English higher education estate (£42.71 million - £118.18 million for ISP

projects and £187.31 million - £410.45 million for transformational type projects).

- The availability of other sources of funding which could be used to implement projects of either strand type.

In addition there is a strong validation from the sector that additional RGF type funding could be used. In relation to both strands, approximately 90% of survey respondents indicated that in their opinion their institution would either probably apply or explore the possibility of application. Approximately 40% indicated their institution would probably apply, and 50% indicated they would explore the possibility of application.

Recommendation 9: HEFCE should take forward measures to secure additional funding for both ISP and transformational type projects.

8.5.2. Division of future funding between ISP and transformational strands

In terms of the split of any future funding, there is a view from the sector that potential ISP projects are more easily identifiable. This combined with the relative speed at which carbon savings can be achieved suggests that the largest proportion of any future funding should be directed towards ISP-type projects. However there is also evidence supporting the case for additional transformational funding, with many practitioners suggesting the split of any future funding should be based on the merit of applications.

Recommendation 10: The largest proportion of future funding should be directed towards ISP type projects, however there is potential to adjust the split following assessment of the strength of transformational applications.

8.5.3. Other sources of funding available to HEIs

Although a number of other sustainability related funding sources are available, we have not been able to identify any other sources on the scale of the RGF that are specifically for the implementation of projects to reduced greenhouse gas emissions.

8.6. Conclusions and recommendations relating to the ISP strand

8.6.1. Extent of potential projects

83% of respondents to the survey agree or strongly agree that the institution has an adequate supply of projects which could be funded, while only 1% disagree.

8.6.2. The value of unfunded applications

The value of HEFCE-Salix funding requested unsuccessfully is available for 17 institutions to a total of £5.48 million.

8.6.3. Proportion of the sector which has not received funding to date

Analysis (through reference to EMS data) suggests that the ‘coverage’ of the recipient institutions is around 65% of the sector in terms of size and energy consumption. This suggests that an additional 35% has not received any ISP funding

at all. Although institutions representing approximately 65% of the English estate have received ISP funds, this funding will only have impacted the energy consumption of a proportion of this estate i.e. it is very likely there are more projects that can be implemented. This is supported by the finding that 90% of survey respondents working at institutions that received ISP funding said that they would either explore the possibility of applying or probably apply for more ISP funding. Of these nearly half said that they would probably apply for more funding.

8.6.4. What the sector thinks can be spent

Survey responses from 70 institutions suggest that between £84.5 million and £30.55 million could be spent on ISP type projects over the next three years with a payback of five years or less. Assuming responses received represent 71.5% of the sector this value rises to between £118.18 to £42.71 million for the whole.

8.6.5. Amount of funding applied for relative to institution utility costs

The average Salix-HEFCE funding percentage of an HEI's energy bill is 8%. For many large research intensive institutions their ISP funding represents a much lower percentage of their utility costs than this, as they applied for the similar amounts of funding to much smaller HEIs.

There are a number of large HEIs with high utility spends due to the research intensive activity, which despite having received ISP funding, are still spending a relatively small proportion of their energy bill on energy efficiency measures.

Recommendation 11: HEFCE should ensure that senior managers in institutions are fully informed as to the benefits associated with receipt of ISP funding, including any 'quick wins' relating to high payback projects with short lead in times. This should allow senior managers to actively consider the merits of investing further institutional funding into ISP type projects and also increasing the associated staffing resource to manage these projects.

8.7. Conclusions and recommendations relating to the transformational strand

8.7.1. Extent of potential projects

66% of survey respondents agree or strongly agree that their institution has an adequate supply of projects which could be funded, 12% disagree or strongly disagree.

8.7.2. The value of unfunded applications

21 applications were considered fundable (i.e. they passed the primary selection criteria). These 21 EOIs totalled £160.70 million with a total of £53.88 million being requested from HEFCE.

8.7.3. What the sector thinks can be spent

Survey responses from 64 institutions suggest that between £275 million and £125.5 million could be used to implement all transformational type projects at these

institutions. Assuming responses received represent 67% of the sector this value rises to between £410.45 and £187.31 million for the whole.

9. Capture and dissemination of good practice

In this section we consider and make recommendations on how the learning and good practice from both strands of the fund can be effectively captured and disseminated.

We investigate how experiences are currently shared and establish whether institutions require additional support to disseminate work and share good practice. We particularly consider requirements relating to:

- Production of materials.
- Methods of distribution.
- Format of materials.
- Content of materials.

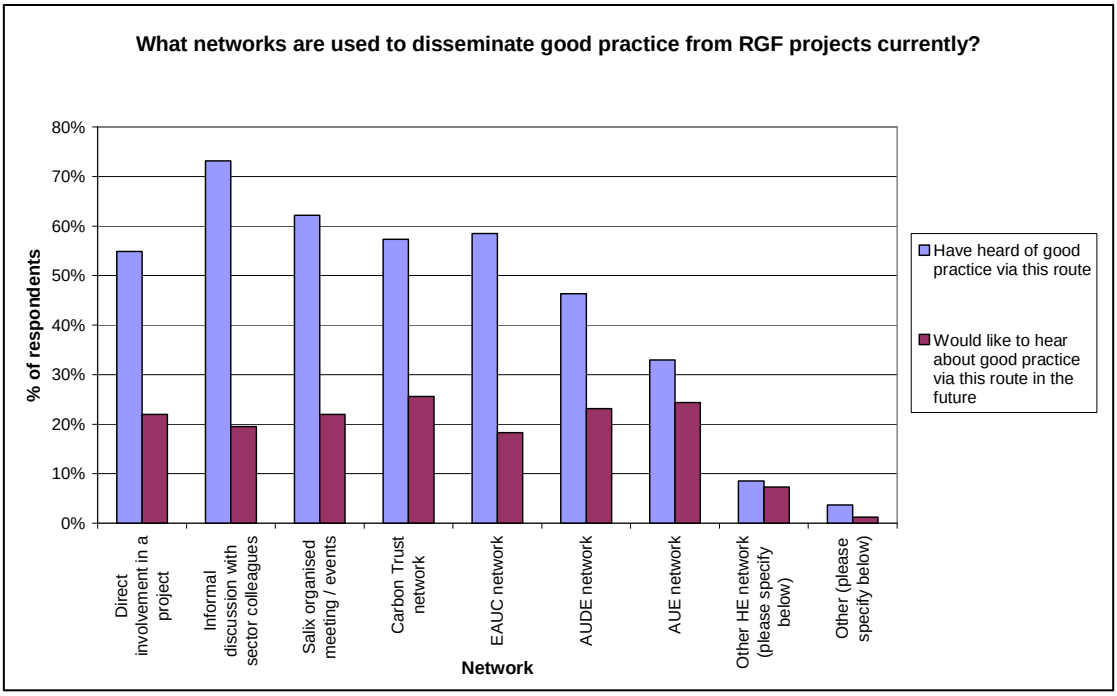
9.1. Current sharing of good practice

Where survey respondents had previously heard of the RGF before completing the survey questionnaire, they were directed to questions on knowledge of the fund and sharing of good practice. 73% of 82 survey respondents have heard of good practice through informal discussion with sector colleagues, making this the most common route. Salix organised meetings and events are also commonly used with 62% of respondents having accessed these. Of note is that many respondents to this question are current ISP recipients; access to Salix case studies and meetings is for existing Salix clients only.

In addition ‘direct involvement in a project’, ‘Carbon Trust network’, and ‘EAUC network’ have all been used to hear about RGF good practice by over 50% of respondents. 46% have heard of good practice via AUDE, reflecting the smaller proportion of Estates Directors who responded to the survey.

Figure 18 summarises the extent to which dissemination routes are currently used, and future requirements.

Figure 18: Current sharing of good practice and future requirements[54]



9.1.1. Regional fora

Regional fora have emerged as a popular method for sharing good practice about RGF type projects. Interviews and comments made through the survey suggest that these are favoured because it is easier to get to know people; and attendees do not need to spend a whole day at the seminar as there is less travel time than to a national event.

In addition it is easier for senior staff to do due diligence on comparison projects if they are at local HEIs. These regional fora also help support institutions that are less 'advanced' than others. It was suggested by one interviewee that HEIs that support other HEIs in submitting or delivering RGF projects should get preferential treatment in the funding allocation.

Through survey responses and interviews we have been made aware of the following regional fora – however there are likely to be others:

- A sub-group of the London Universities Environment Group
- CO_2 Sense (Formerly called Carbon Action Yorkshire)
- Northwest University network
- East Midlands Universities Association (EMUA)

In addition, national membership organisations and professional bodies also have regional meetings.

[54] 82 responses.

In the following sections we provide a brief overview of how good practice sharing currently operates through the activities of a number of organisations.

9.1.2. Salix approach

Salix regional meeting networks are used to invite clients to provide examples of good practice projects. These are provided in a particularly concise presentation slide template format of just two or three slides. Three slide case studies are only used when an old in-efficient product is to be directly replaced by a new one, otherwise the more concise two-slide version is used. The format is essentially one or two slides on such measures as energy consumption and CO_2 production before and after implementation, and one slide for comments including lessons learnt.

The slide pack case studies are held and accessible on a password protected platform accessible to existing Salix clients only. These clients will first have to contribute case study material to enable them to use the facility. Once a case study is submitted then Salix will work through a process to get it approved and on the platform.

The secure database is searchable, and there are approximately 80 - 100 slide sets covering projects from all client types, with 28 case studies specifically about projects at English and Scottish universities.

Although there are no direct costs associated with this approach, overheads will include fund recipient time to construct the slide information; and Salix staff time to verify the information and post the slide on the secure platform.

9.1.3. Carbon Trust approach

As part of the HECM programme several national and regional events are held each year which both provide HEIs with opportunities to network with each other and share good practice on cutting carbon, and to listen to formal presentations from universities that have already taken action on carbon and energy. They also run an annual alumni event, inviting representatives of all the universities that have participated on the HECM programme.

Currently there are three university specific case-studies available to all on the Carbon Trust's web site, which are all quite detailed and several pages in length. They are produced by the Carbon Trust, who interview the relevant HEI. The final document is then approved by the HEI before being published on the web site. They are working to produce more written case studies, but it is very much a case of doing this as and when they have the budget. They would like to produce a lot more, but lack the resources to do so.

9.1.4. EAUC approach

EAUC will generally approach an HEI (or further education learning provider) when they hear of an interesting project. It is far less common for an HEI to volunteer a case study. One of the EAUC team will in discussion with the HEI identify the specific focus of the case study and then appoint a specialist journalist to actually produce the material. It is then reviewed by EAUC to ensure that it is sufficiently user friendly, before it is finally edited and approved and formatted. It is then signed off by the HEI to ensure that it is fair and representative.

There are over 10 HE case studies which focus on energy and carbon reduction projects. All of the case studies are two sides of A4 in length and follow a standard format, which includes an EAUC comment. They are hosted on the EAUC website (on a part which is publically accessible) and new case studies are flagged on the main website and members' newsletters.

No specific funding has been provided for the production of HEI case studies, which is currently met out of membership subscriptions.

9.1.5. HEEPI approach

HEEPI is now focusing on three difficult areas within the HE sector which require technical understanding and the ability to facilitate interaction between different specialists, and stakeholders:

- High performance buildings (HiPerBuild)[55]
- Sustainable information and communication technologies (SusteIT)[56]
- Sustainable laboratories (S-Lab)[57].

These initiatives have all produced publications which are freely available on the internet and contain examples of good practice within the sector. They are not stand-alone case studies and are designed to support the overall publication.

9.1.6. AUDE approach

AUDE produces written case studies in connection with specific projects, rather than as a matter of course. A recent example is an LGM project AUDE led, 'The legacy of the 1960s university estate', which considers how to deal with the large proportion of the property portfolio that was built in the 1960s. Using case studies and research into how other sectors address similar issues, this project provides a toolkit and advice to assist institutions in making the 'replace or refurbish?' decision[58].

9.1.7. ISP projects – specific sharing of good practice and current issues

Good practice in relation to ISP projects is formally shared through the Salix case study approach and associated regional meetings. This is a popular approach with ISP recipients, however these meeting and case study materials are only available to existing Salix clients.

9.1.8. Transformational projects – specific sharing of good practice and current issues

Interviewees described how HEIs will need support in producing case-studies and disseminating information, particularly transformational funded schemes. There is already a lot of interest in the three schemes and although there is a specific

[55] For more information see http://www.goodcampus.org under hiperbuild.

[56] For more information see http://www.goodcampus.org under s-lab.

[57] For more information see http://www.goodcampus.org under susteit.

[58] The full report is available at http://www.aude.ac.uk under Info centre/1960s estate project.

obligation on the HEIs to disseminate learning from the schemes, in some cases this is proving challenging.

All of the three transformational projects are at different stages of development. The biomass project at the University of East Anglia (UEA) is almost complete and they have produced a series of Youtube videos about the project. These were produced by students and have collectively had over a thousand hits. All three institutions plan to allow site visits once the project is complete, although UEA has already hosted quite a number of visits. Both the Harper Adams University College and Lancaster University have a number of ideas about how can they can disseminate the learning from these projects across the sector, beyond a simple case study.

The University of Lancaster is planning to apply for LGMF funding to produce a guide for other HEIs on how to install a commercial scale wind project. Harper Adams University College is looking for funding to be able to offer a day long site based course about anaerobic digestion. They are also planning to apply for LGMF funding to explore renewables options for HEIs that have a large rural land holding. Staffing to support interest in these projects, which is often international in scope, has already proved quite time consuming for UEA. At least one of the HEIs with transformational funding wanted greater clarification from HEFCE on what is a reasonable level of support to provide sector colleagues.

9.2. Requirement for additional support in this area

In this section we particularly consider requirements relating to:

- Production of materials.
- Methods of distribution.
- Format of materials.
- Content of materials.

At the start of the section we summarise the idea of the need for future promotion of the RGF as distinct from dissemination of good practice.

9.2.1. Promotion of benefits vs dissemination of good practice

A number of consultees identified the potential to promote the benefits of receiving RGF funding as distinct from dissemination of learning and good practice. The audience for promotional materials would include those senior managers who will ultimately make decisions around whether an application to the fund is desirable for the institution and are likely to include senior managers with an estates/sustainability portfolio, and Finance Directors.

Such promotional materials could take the form of a very concise written summary highlighting those projects which can be implemented quickly, cheaply, and lead to the largest savings (for example through projects which have a 3.5 year payback period or less).

Learning and good practice materials are likely to be of most use to practitioners who would be actively involved in managing or overseeing the fund and implementing the

projects – the information needs of this group are considered more fully throughout the remainder of this section.

9.2.2. Production of good practice materials

Apart from the Salix approach there is currently no specific process and associated dedicated resource to produce ISP related materials. While these Salix materials are valued by users, they are only available to existing Salix clients.

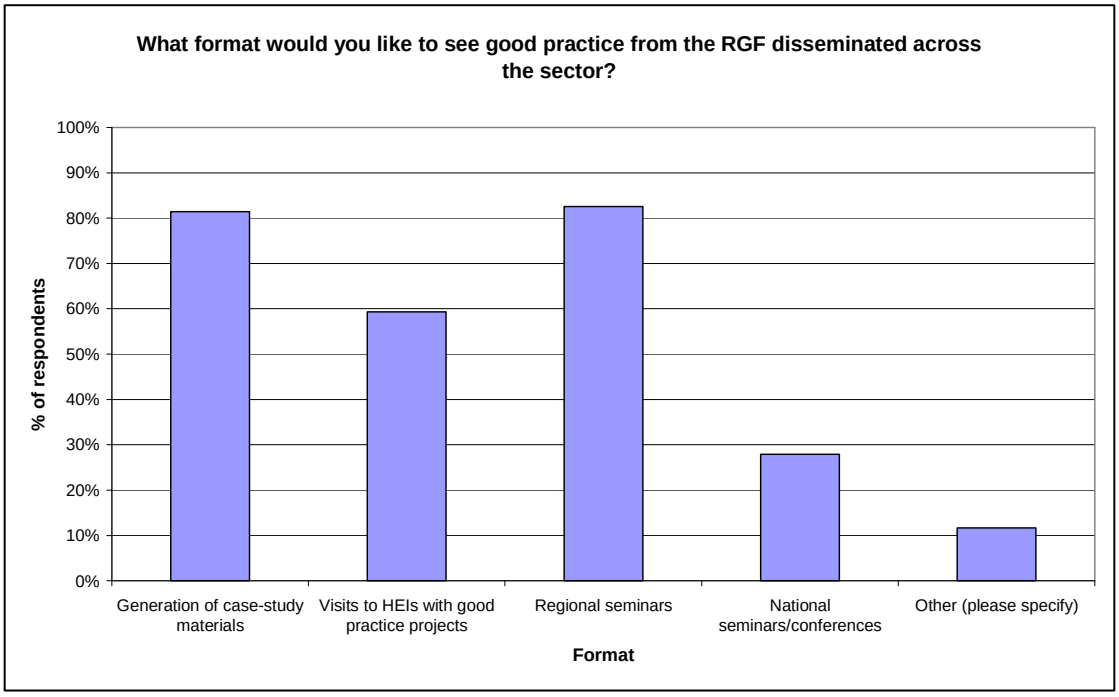
In addition, transformational projects are required to share good practice and have done so through various means including videos and site visits. However there have been issues stemming from the level of interest in the projects and the associated demands on the time of project managers, for example to host site visits and respond to enquiries.

Although there are a number of professional bodies and initiatives within the sector the production of good practice case-studies is fragmented. With the exception of the Salix approach, all of the formal approaches include direct support to HEIs in producing their case studies, so they tend to only be produced as part of a specific initiative or programme. There is therefore a strong case for a dedicated resource to actually produce case study materials for both strands, and to make these widely available. This could potentially be funded via an application to HEFCE's LGMF.

9.2.3. Distribution of good practice materials

Visits to HEIs with good practice projects was selected by approximately 60% of respondents as the best means of disseminating good practice. Just under 30% of respondents indicated that they would like to see dissemination through national conferences. A small number of institutions wanted a very light touch with improved communication between HEIs as the way to disseminate information. Figure 19 presents a summary of survey responses.

Figure 19: Preferences for future media used for dissemination of good practice[59]



Additional networks not needed

In the region of 20% of respondents indicated they would like to hear about good practice via each network listed in Figure 18. This shows that individuals would like to hear about good practice via the professional body/network that they normally use for information dissemination and that there is arguably no need to 'reinvent the wheel' in terms of creating additional networks.

However it is important to note that many institutions will not have multiple relevant staff who are members of these bodies. Also to be considered is that case studies produced as a result of the ISP projects through the Salix approach cannot be accessed by individuals working at institutions who are not Salix clients.

Access to networks for those working at small institutions

Access to networks is often linked to a professional role within an institution. Survey responses and interviews suggest the following arrangements are common.

[59] 86 responses.

Figure 20: Common links with roles and professional bodies/networks

Role	Commonly used networks
Energy and Environmental Managers	EAUC and AUE to access good practice information about RGF type projects within the sector. They will also use the Carbon Trust, Salix or HEEPI if their HEI is participating in the CMP or HEEPI projects respectively. Separate local or regional networks are also an important source of support for some Energy and Environmental Managers.
Directors of Estates	AUDE or AMHEC for their good practice information.
Senior Managers	Tend to use their own specific networks, such as BUFDG for Finance Directors.

This arrangement is challenging for individuals at institutions without multiple dedicated energy or environmental staff who, if they are not participating in the Carbon Trust or RGF initiatives, cannot easily access a network of relevant professionals working on similar carbon reduction initiatives. To address this lack of resources the Association of Managers in Higher Education Colleges (AMHEC) is planning to submit a proposal to HEFCE to carry out a feasibility study on behalf of AMHEC HEIs for shared carbon services. This would be in liaison with GuildHE and on the basis that findings will be disseminated across the sector.

Online distribution

The need for additional dissemination mechanisms was also identified by a couple of respondents, suggestions include a database of technical resources, and the creation of an email contact list for those in receipt of RGF funding. The internet provides the ideal medium for hosting good practice information, as it is so easy to access. However, current information is quite fragmented and Salix case studies cannot be accessed by HEIs who did not receive ISP funding.

Events

Survey responses indicate that regional events are preferable to national conferences as a future dissemination method, although national events offer an opportunity to network with a large number of attendees, representing a broad range of projects, required time 'out of the office' and that attendees may find it harder to meet personal learning objectives due to large number of attendees counter this.

In terms of relative cost for a national conference[60] venue hire, initial refreshments and lunch for 100 people in likely to cost on the region of:

- ½ day: approximately £28 - £70 per delegate: £2,800 - £7,000 in total
- 1 day: approximately £35 - £70 per delegate: £3,500 - £7,000 in total

[60] Conference/meeting costs represent a range of approximate quotes from three 3* Birmingham hotels. Costs may be negotiable and vary depending on equipment requirements.

- 2 day: approximately £105 - £165 per delegate: £10,500 - £16,500 in total

For a regional meeting venue hire, initial refreshments and lunch for 10 people is likely to cost in the region of:

- 1 day approximately £28 - £70 per delegate: £280 - £700 in total

These costs relate to the hire of private meeting facilities. However institutions commonly host meetings of this scale and type on a rotational basis, so the only chargeable costs are refreshments.

In summary there does not appear to be the demand for an RGF-specific national conference/seminar however there is potential for RGF related good practice to feature in relevant regular national conferences and events arranged by the relevant representative professional bodies such as AUDE or EAUC. Regional conferences/seminars are a popular method for future dissemination of good practice. There is potential for institutions to host such events on a rotational basis, reducing direct costs, making use of existing regional networks.

Site visits

Just under 50% of survey respondents indicated that they would like to access site visits. In relation to ISP projects, there is potential to use regional networks, and regional meetings of national membership organisations to arrange site visits between regional partners. All three transformational schemes are planning to offer site visits, but as the experience of UEA shows, it can be quite time consuming for the host institution.

Summary

There is a strong argument to distribute case studies through the existing national networks, however it is important to make provision for this material to be accessed through both existing and innovative routes – for example through shared services between HEIs, or through sector awards. This strengthens the argument for the independent production of the case studies which all HEIs will be able to access directly, or through their professional network.

Regional networks and regional meetings of national membership organisations can be used to share good practice in relation to both strands of the fund in case study format, and potentially arrange site visits between regional partners. Site visits on a national scale would appear to be most appropriate for the transformational projects however the demand placed on project staff at these institutions means that any visits of this type should be carefully managed.

9.2.4. Format of good practice sharing opportunities

In terms of the format of future good practice material, 80% of respondents identified that generation of case study materials would be useful.

A summary of the relative merits of different types of cases study format follows:

Case studies

Existing groups use different types of case study format. Both the survey and interview responses indicated that different case study formats need to be generated

for different audiences based on the individual's role and the size and type of HEI. Good practice is not necessarily transferable from a large Russell Group HEI to a small specialist university.

A summation of the costs and considerations of main methods of disseminating good practice via case studies is shown in Appendix E. This describes the main merits and issues with concise/detailed case studies, and film case studies.

In summary:

- Concise written case studies may be most appropriate to ISP type projects, where those managing the projects may have the capacity to provide sufficient concise material in a standard template.
- More detailed written case studies require more resource to produce but are also highly valued as they are able to provide more context and 'tell the story'.
- Due to the significant level of direct and indirect costs associated with production of a film, this would appear to be most suitable for transformational projects. There is a great deal of interest in these projects from within the higher education sector and beyond, and UEA's experience suggests that film is potentially an effective medium to share good practice to date without the ongoing daily input of project leaders.

9.2.5. Good practice – content of materials

In this section we discuss some of the particular priorities for good practice content.

Content of case studies

There are clearly a range of different case study approaches and formats. Salix adopt a concise approach which makes it easier for institutions to produce them directly. These are useful for individuals who are relatively knowledgeable and want to learn more about the detail of a project. Longer case studies allow a story to be told which gives more context about why the project was undertaken, as well as exploring what decisions were made during the process, including what options were investigated but then not progressed. This type of case study is useful for individuals who are less experienced about a particular technology or type of project.

Technical guidance information

There is a need for some technical guidance information materials which are both basic and advanced (for different audiences). They should take advantage of the latest academic research, but also focus on tried and tested technologies as well as cutting edge ones. The guidance needs to take account of how competent the audience is and how suitable the technology is for many HEIs. It has been suggested that this could take the form of a portal.

"I am not sure how easy is it disseminate the learning from a number of the [transformational] schemes, simply because they are not easy to replicate."

"I like the ideas of portals, there is an anaerobic portal, but there should be an HEI specific one. The portal should be able to accommodate a range of different technologies."

"It would be good if there was a recommended products list (i.e. light fittings, timers etc) which have been fully costed to give people an idea of potential carbon savings in relation to cost."

Survey respondents and interviewees

Training requirements

There is a significant amount of generic training and course material available for carbon saving related information. Much of this is provided through commercial arrangements or through professional bodies, and the EAUC and at least one HEI also run courses in this area. As has been discussed, the desire is for specific information in a case-study and seminar/network format.

9.2.6. Other suggestions for sharing good practice or resources

A number of suggestions were made in the questionnaire and during interviews for other ways of sharing good practice or resources. One respondent suggested developing a framework agreement for large projects that would normally have to be procured through the Official Journal of the European Union (OJEU), which would cut the administrative burden and the timescale for delivering projects. It was also suggested that there could be a list of recommended products which HEIs could source. Whilst both of these proposals are potentially effective, they would potentially be quite time-consuming to develop and would need to be kept up to date.

It was also suggested by one respondent that the size of regional groups should be increased to include more institutions, which would appear to be something that regional groups are already empowered to consider.

The final point was from a consultee who would like to see Salix case studies presented in person by HEIs on the day of future funding interviews, which seems a good way of allowing current non-participants to hear about existing ISP projects.

"It takes a lot of time to write up what we did [in a case study], almost as much time as doing it."

"Using a story board approach gave me more confidence that the approach that they did could work at my HEI."

"All options are good but need a strong system of database to share the information in an accessible way, with ability to access a detailed presentation of the successful technologies."

"Concise electronic reports in standard template."

"Regional groups are quite small, I believe there would be more interaction and sharing if they covered a wider area."

Survey respondents and interviewees

9.3. Conclusions and recommendations relating to both strands

9.3.1. Current sharing of good practice

Eighty-six survey respondents had heard of the RGF before completing the survey and were therefore asked questions on current sharing of good practice. 73% of survey respondents have heard of good practice through informal discussion with sector colleagues, making this the most common route. Salix organised meetings and events available to Salix clients have been accessed by 62% of respondents.

Good practice relating to ISP projects is currently formally shared through Salix regional meetings. The approach adopted involves the production of a concise slide pack by project managers. However these meetings and case-study resources are only available to existing Salix clients. There is a need to expand dissemination of learning from ISP projects to HEIs who are not currently involved in the programme.

Overall across the sector, sharing is fragmented and there is no one organisation coordinating and driving the sharing of good practice arising from the RGF.

9.3.2. Future dissemination media

In terms of future forms of media, generation of case study materials and regional seminars are the two most popular choices, with approximately 80% of respondents identifying each option.

9.3.3. Technical guidance materials

The need has been expressed for some technical guidance materials which provide both an overview of different technologies and more in depth information for each technology. They should take advantage of the latest academic research, but also focus on tried and tested technologies as well as cutting edge ones. The guidance needs to take account of how experienced the audience is and the suitability of the technology for many HEIs.

Recommendation 12: It is recommended that both concise and in depth case studies should be produced. There is also the potential to use film in relation to the transformational projects in particular as exemplified by the popular UEA videos available on http://www.youtube.com.

Recommendation 13: HEFCE and Salix should consider a mechanism to make ISP case study material available to all HEIs. This would allow learning from HEIs with ISP funding to be better disseminated across the sector.

Recommendation 14: The LGMF should be used to fund any applications from an institution/consortia or sector organisation bidding to act as a centre for the production of case study material for the sector. Such proposals should include consideration of reaching a broad audience of relevant practitioners, through both existing and innovative routes.

Recommendation 15: The LGMF should be used to fund proposals from an institution/consortia or sector organisation to act as a repository of technical guidance material for all relevant technologies for the sector. Expert staff resource could also be funded to provide specific advice to HEIs.

9.3.4. Access to appropriate networks

Survey responses and interviews suggest that practitioners want to continue to hear about good practice through the membership networks they currently use and want to continue to use them for good practice dissemination. However, this is challenging for individuals at institutions without multiple dedicated energy or environmental staff who, if they are not participating in the Carbon Trust or RGF initiatives, cannot easily access a wide range of good practice resources.

Smaller specialist institutions have particular needs and would find it valuable to refer to good practice from comparable institutions (rather than large institutions with several relevant practitioners). AMHEC is planning to submit a proposal to HEFCE to carry out a feasibility study on behalf of AMHEC HEIs for shared carbon services in liaison with GuildHE and on the basis that findings will be disseminated across the sector.

Recommendation 16: The work of the Association of Managers in Higher Education Colleges (AMHEC) in developing a shared service to provide carbon expertise to small institutions should be strongly supported.

9.3.5. Sharing through events

There does not appear to be the demand for an RGF-specific national conference/seminar however there is potential for RGF related good practice to feature in relevant regular national conferences and events arranged by the relevant representative professional bodies. Regional conferences/seminars are a popular

method for future dissemination of good practice. There is potential for institutions to host such events on a rotational basis, reducing direct costs.

There may be the opportunity to feature good practice arising from both the transformational projects and ISP projects in existing professional and representative body national conferences in either keynote or elective workshop sessions which commonly feature in such events. Such organisations include: AUDE; AMHEC; EAUC, AUE, BUFDG; GuildHE; UUK.

Recommendation 17: Existing professional networks and representative organisations (particularly: AUDE; AMHEC; EAUC, AUE, BUFDG; GuildHE; UUK) should consider how RGF good practice can feature in existing regular regional or national conferences. They should also consider new ways of collaborating between members, including making greater use of regional networking.

9.3.6. Audience needs

Both the survey and interview responses conveyed that case studies needed to be generated for different audiences based on the individual's role and the size and type of HEI. Good practice is not necessarily transferable from a large Russell Group institution to a small specialist university, which would be addressed by Recommendation 14.

9.4. Conclusions and recommendations relating to the ISP strand

9.4.1. Access to ISP good practice

Good practice relating to ISP projects is currently shared through Salix regional meetings. The approach adopted involves the production of a concise slide pack by project managers. However these meetings and case-study resources are only available to existing Salix clients. There is a need to expand dissemination of learning from ISP projects to HEIs who are not currently involved in the programme (refer to recommendation 13).

9.5. Conclusions and recommendations relating to the transformational strand

9.5.1. Intense level of interest in transformational projects

Currently the time demand of delivering advice and support of some of the institutions delivering transformational projects is quite significant. The approach by which learning and good practice derived from the transformational projects is disseminated has not been finalised. This is a good opportunity to consider a sector wide dissemination approach.

Recommendation 18: The requirement for dissemination of the three transformational projects needs to be specifically defined by HEFCE, possibly through consultation with existing professional bodies to determine the most suitable type of dissemination.

Appendix A. Consultees

Initial consultees

Revolving Green Funding Advisory Group Chair

- Steve Egan, Deputy Chief Executive, HEFCE

Revolving Green Funding Advisory Group Members

- Gill Ball, Director of Finance, University of Birmingham; British Universities Finance Directors' Group
- Tim Bevan, Senior Consultant, Building Research Establishment
- Derry Caleb, Director of Estates and Facilities, University of Surrey; Association of University Directors of Estates
- Tommy Geddes, Deputy Vice-Chancellor, University of Winchester
- Alastair Keir, Chief Executive, Salix Finance Ltd
- Martyn Newton, Risk and Sustainability Manager, University of East Anglia, Association of University Engineers
- Iain Patton, Executive Director, Environmental Association of Universities and Colleges
- Tim Pryce, Public Sector Manager, The Carbon Trust
- Professor Elaine Thomas, Vice-Chancellor, University for the Creative Arts
- Nigel Wichall, Director of Estates, University of Gloucestershire

Other initial consultees

- Peter James, HEEPI
- David O'Gorman, DECC
- Andrew Battarbee, BIS

Institutions interviewed

Recipients of transformational funding

- Harper Adams University College
- University of East Anglia
- Lancaster University

Recipients of ISP funding

- University of Warwick (Round 1)
- Nottingham Trent University (Round 1)

- University of Bristol (Round 1)
- University College Falmouth (Round 2)
- Kingston University (Round 2)
- Aston University (Round 2)
- The Open University (Previous relationship with Salix – transferred to ISP)

Applied but not subsequently awarded funding

- University of Hull
- York St John University
- University of Leeds
- Liverpool Hope University
- Bath Spa University

Not applied to either strand

- London Metropolitan University
- De Montfort University
- Arts University College at Bournemouth
- St George's Hospital Medical School
- Imperial College London
- Sheffield Hallam University
- School of Oriental and African Studies
- University College Birmingham
- Coventry University

Institutions employing survey respondents

More than one individual may have responded working at each of the listed institutions. Institutions are listed even if a partial response only was received.

Anglia Ruskin University

Birkbeck College

Birmingham City University

Bishop Grosseteste University College, Lincoln

Bournemouth University

Brunel University

Canterbury Christ Church University

City University, London

Courtauld Institute of Art

Coventry University

Cranfield University

De Montfort University

Edge Hill University

Harper Adams University College

Keele University

King's College London

Kingston University

Lancaster University

Leeds Metropolitan University

Leeds Trinity & All Saints

Liverpool Hope University

London Metropolitan University

London School of Economics and Political Science

London South Bank University

Loughborough University

Manchester Metropolitan University

Middlesex University

Open University

Oxford Brookes University

Ravensbourne College of Design and Communication

Roehampton University

Rose Bruford College

Royal Agricultural College

Royal College of Art

Royal Holloway, University of London

Royal Veterinary College

Southampton Solent University

St George's Hospital Medical School

Staffordshire University

Trinity Laban Conservatoire of Music and Dance

University College Falmouth

University College London

University of Bath

University of Birmingham

University of Bradford

University of Bristol

University of Cambridge

University of Central Lancashire

University of Chichester

University of Cumbria

University of Durham

University of East Anglia

University of Essex

University of Gloucestershire

University of Greenwich

University of Hertfordshire

University of Hull

University of Kent

University of Leicester

University of Lincoln

University of Liverpool

University of London

University of Manchester

University of Northampton

University of Nottingham

University of Oxford

University of Plymouth

University of Reading

University of Salford

University of Sheffield

University of Southampton

University of Surrey

University of Sussex

University of the West of England, Bristol

University of Warwick

University of Winchester

University of Wolverhampton

University of Worcester

University of York

York St John University

Appendix B. Online questionnaire results

Introduction

The survey questionnaire was designed to accommodate responses from individual practitioners who are likely to have experience or knowledge of the RGF, or views on the sharing of related good practice and potential for additional RGF type funding. In particular: energy or environmental managers; directors of estates or finance, senior managers responsible for estates/sustainability; and any other related roles. As such this is a survey of **individuals rather than institutions** and responses need to be viewed in this context. However by asking respondents to specify their employing institution we have been able to contextualise responses during analysis.

The questionnaire was specifically structured to contain questions aimed at:

- Successful ISP applicants
- Unsuccessful ISP applicants
- Successful transformational fund applicants
- Unsuccessful transformational fund applicants
- Those who have not applied to either strand of the fund
- Those who have views on the sharing of good practice relating to the RGF
- Those who have views on the potential for additional RGF type funding

Respondents were automatically directed to the most appropriate sections based on their responses to a number of filtering questions.

The questionnaire was made available online for just over three weeks between the 12th November and 4th December 2009. A notification email was circulated to relevant practitioners within the English higher education sector through mailing lists associated with: AUDE; EAUC; AUE; AMHEC; BUFDG, and also to individuals named on applications for transformational and ISP RGF funding.

Response rates

The survey was designed as a survey of individuals rather than institutions, however responses are made within an institution specific context e.g. applied for funding successfully, unsuccessfully or not applied.

The population of individuals who could have responded is hard to estimate as this could include all relevant practitioners within all English HEIs.

For these reasons we report the number of individuals who responded to each section of the survey alongside the number of institutions they represent, giving a response rate in terms of institutions represented.

Responses to the questionnaire are presented in the following sections.

Responses from successful ISP applicants

Contextualising responses

- Responses were received from 54 individuals representing 42 of the 57 institutions who have been awarded and accepted ISP funding. This gives an institution response rate of 74% for this group.
- Q2: 63% of responses are from energy or environmental managers. Directors of estates and senior managers responsible for estates/sustainability are also represented. A number of specific roles are represented, including financial management officers.
- Q5: Responses received reflect the approximate proportions of those funded, with most responses received from round 1 successful applicants, then round 2 successful applicants, and those who had a previous relationship with Salix. Those who were unsuccessful at round 1, but successful at round 2 are also represented.
- Q6: 65% of responses are from the proposal author/co-author. With other reposes from senior sponsors, financial officers, reviewers, and project leaders/managers.
- Of note is that not all respondents left responses to all questions in this section. Responses to some questions are therefore lower than 54.

Summary of findings

Q7: How would you describe the application and assessment process for round 2 in comparison to round 1? *Only shown to respondents who had successfully reapplied at round 2.*

- Very few respondents had been unsuccessful at round 1 and successful at round 2, and of these only 1 had been involved in the process. Comments suggest that the process has improved.

  "Still a difficult process and resource intensive but the application process itself appeared more straightforward in the second round."

  "I wasn't involved in round 1 so I can't specifically comment. Though from discussing the process with colleagues that were involved in round 1 it seems to have improved."

Q8: Are you able to quantify any early evidence of CO_2 savings that can be directly attributed to funding received through the RGF?

- Just over half of respondents are able to quantify early evidence of CO_2 savings that can be directly attributed to funding received through the RGF. Where it is not possible to report savings this is largely because respondents consider it too early to comment. Where it is possible to quantify savings, respondents have stated that this is commonly through reduced energy consumption. A number of respondents provide specific information.

"Reduced energy consumption."

"Detailed sub-metering of energy used in buildings allows verification of effectiveness of projects."

"Reduced energy consumption from high performance computer. Predicted payback of 13 months on £85k is currently paying back faster..."

Q9: Supposing that ISP funding had not been received, which of the following statements most closely characterises the impact of this over the next 5 years?

- In the hypothetical scenario where ISP funding had not been received 62% report that *'some of the work would have taken place, but this would have been less comprehensive and would have happened over a longer period'* and 17% report that *'projects would not have happened at all without ISP funding'*. This suggests that the ISP fund is acting as an accelerator to carbon reduction through the implementation of more effective projects than would have otherwise happened within the timeframe.

- Respondents were also asked that hypothetically, if funding had not been received, which other source of funding would have been pursued. Common responses include competing for internal funding; the 'Low Carbon Buildings Programme'; and application to the Carbon Trust.

  "Internal project approval, but success chances are slim in current climate.

  "Carbon Trust assistance would have been sought, but not a specific funding stream."

Q10: In your opinion how did the following ISP application/management issues affect your institution's decision to apply to the fund?

- Respondents were asked which of a number of factors relating to the application process and funding requirements had encouraged or discouraged their application for ISP funding. Responses indicate that factors highlighting a need for funding were the most encouraging, in particular: 'pipeline of energy efficiency schemes to implement' (62% responded encouraged or significantly encouraged application), and 'availability of appropriate utility data for your institution' (50% responded encouraged or significantly encouraged application). Successful ISP recipients also value 'the quality of advice and guidance in preparing applications' (37% responded encouraged or significantly encouraged application).

- The most common issues which discouraged application to the fund are 'reporting requirements following award of funds' and 'available staff resource required to produce and submit an application' (25% and 23% respectively discouraged or significantly discouraged application).

- Respondents are divided over the impact of 'the effort required to complete the application and assessment process' with 35% indicating this encouraged application, and 21% indicating that this discouraged application. Also of note is that the criteria for project compliance do not appear to have been a particular issue for successful applicants with 51% indicating that this had no

impact, and only 8% indicating that this discouraged application.

- Additional comments provided clarity of some of the responses, including that the post award reporting requirements in particular may have discouraged application.

  "Feel that the effort to compile and submit the application was more than made up for by the funds received (round 1)."

  "Financial reporting requirements were unclear and appeared complicated (round 1)."

  "Generally it was felt within the institution the application process and on going admin is somewhat burdensome (round 2)."

  "Some smaller institutions may find the 25% match funding and staff resource difficult to manage (round 2)."

Q11: In your opinion how did the following issues within your institution affect its decision to apply to the fund?

- For successful ISPs it would appear that internal issues within the institution all encouraged application, including 'senior manager support for application to the fund'; 'potential to meet HEI carbon/sustainability targets'; 'potential to deliver carbon management strategy'; 'potential to reduce utility spend.' None of the 51 respondents to this question indicated that any of these factors discouraged application.

- Comments of clarification relating to this question include two comments noting that participation has led on from participation in the Education Carbon Management Programme.

  "Application to Salix arose directly out of participation in the Carbon Trust's Higher Education Carbon Management Programme."

Q12: How did your institution determine how much ISP funding to apply for? (tick all that apply)

- In terms of identifying how much funding to apply for, respondents most commonly considered the 'pipeline of energy efficiency schemes to implement' (58%), however all the factors listed were considered. Responses provided through the 'other' category include:

  "Conservative approach to managing risk of not achieving the savings anticipated and consequently impacting on the institutions ability to revolve fund."

  "Five year pay back limited size of fund requested."

  "The sum of the projects we had 'ready to go'."

Q13: Are there any other factors that motivated your application? *(free text)*

- In terms of motivations for application to the fund, of the 24 responses

received themes include:

- Being involved in a high profile initiative.

  "A need to be 'seen to be involved' in a new initiative."

  "High profile and opportunity to replace inefficient plant."

- The involvement of HEFCE alongside Salix in provision of the fund.

  "...joint HEFCE so had a lot more high level institutional buy-in."

  "Given that the Salix funding had been available to HEIs previously, the link to HEFCE was crucial."

- Meeting strategic sustainability objectives.

  "Our carbon management strategy."

  "...delivery of the environmental sustainability strategy."

- The revolving aspect of the funding model or that funding would be available on an ongoing basis.

  "Found it very useful to have a ring fenced fund, something that's joint HEFCE so had a lot more high level institutional buy-in."

  "Given that the Salix funding had been available to HEIs previously, the link to HEFCE was crucial."

Q14: Are there any other factors that you would consider barriers to your application? *(free text)*

- In terms of barriers to application to the fund, of the 19 responses received, themes include:

  - Issues relating to some of the requirements relating to spending the fund.

    "The system of management has taken on an importance of its own, that seems to indicate that saving energy is less important than completing the process correctly. There have been some internal issues over how the funding is allocated."

    "Some of the Salix methodology/criteria was fairly stringent – not taking into account the many variables that can occur (e.g. utilities spend changes) over the course of the project payback period."

    "The unnecessarily complex legal contract and financial accounting requirements."

    "Understanding of the complexities of the operating of the fund."

  - Resourcing the implementation of projects, particularly at smaller institutions.

"Internal resource to manage fund in a small institution."

- Of note is that six of 19 respondents commented that there were no barriers.

Q15: If you identified any significant barriers to application – how were these overcome? *(free text)*

- Q15: In terms of overcoming any barriers identified, 17 responses were received, of these a number of themes emerge including:
  - Recruitment of additional staff.
  - Changes to the institutions policies and processes, potentially involving the input of senior staff.

    "The financial regulations of the university, senior management overruling these conditions."

    "Lengthy negotiations with Chief Financial Officer."

    "Management of the process required additional support and rethinking how we managed finances."

Q16: Benefits to your institution: to what extent have the following areas already benefited through funding?

- Respondents were asked to comment on the benefits to their institution as a result of receiving RGF ISP funding. With the exception of 'increase in internal capacity to deliver projects of this type (staff development)', over 70% of respondents indicated that some or significant benefit had been achieved. This is over 90% for:
  - Implementation of projects that would not otherwise have taken place.
  - Delivery of your institution's carbon management strategy.
  - Delivery of your institution's carbon/sustainability policy/targets.
  - Raising the profile of your institution's work in this area within the institution.
  - Reduction in utility spend.
- Of particular note is that 67% of respondents give 'implementation of projects that would not otherwise have taken place' as a significant benefit.
- Respondents were also asked if they could identify any other benefits or negatives relating to the RGF, of the nine responses received two relate to additional benefits, and seven to negatives.
  - Benefits include:

    "Involvement with other HEIs in the scheme through regional and national meetings and the consequential knowledge transfer of best

practice and experiences."

- Negatives include elements of the reporting accountability process; and workload pressures on staff:

  "The problems with SERS are a huge frustration. Also, it should be easier to use Salix money to finance behaviour change and sub-metering. The fact that I have a guaranteed source of funds for energy conservation work in the long term is wonderful."

  "Problems with the finance department and the accounting procedures required for RGF."

  "Extra workload placed on staff."

Q17: Administration of the fund: How would you characterise the following aspects of funding administration?

- Respondents were specifically asked about the proportionality of elements of the funding administration including application and assessment, Salix Customer Relationship Management support, and The SERS reporting system. Of note is that respondents are quite divided as to whether they consider these element proportionate or disproportionate, however 'Salix Customer Relationship Management support' is considered proportionate by 63% of respondents, and disproportionate by only 10%.

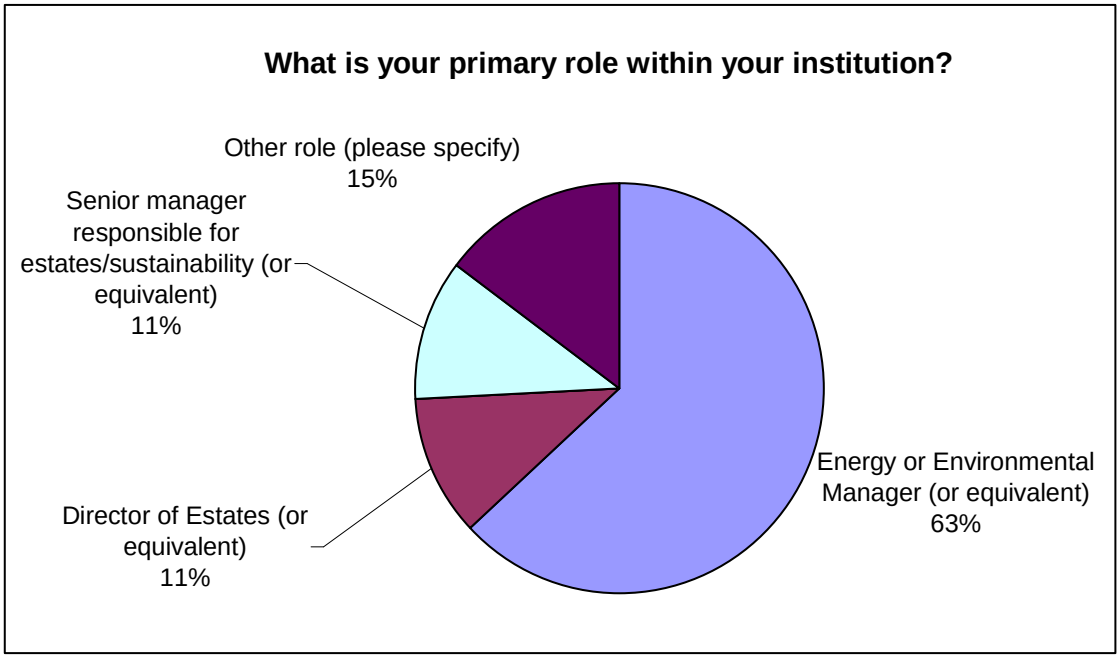
- Comments in this area include:

  "SERS is not intuitive to use especially when making changes to project details."

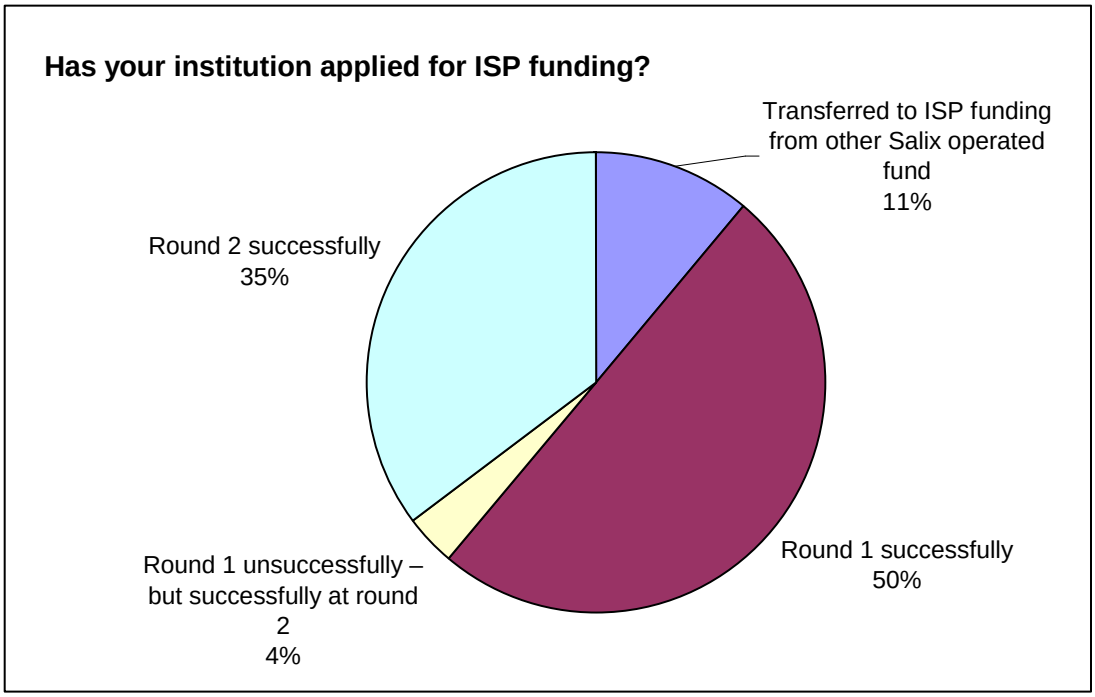
  "The dedicated Salix Customer Relationship Manager has been incredibly helpful and always prompt at dealing with my queries."

  "There needs to be management of the process, totally agree, but some managers within the institution noted that at the level of funding, the process for application and continual management may not be worth it."

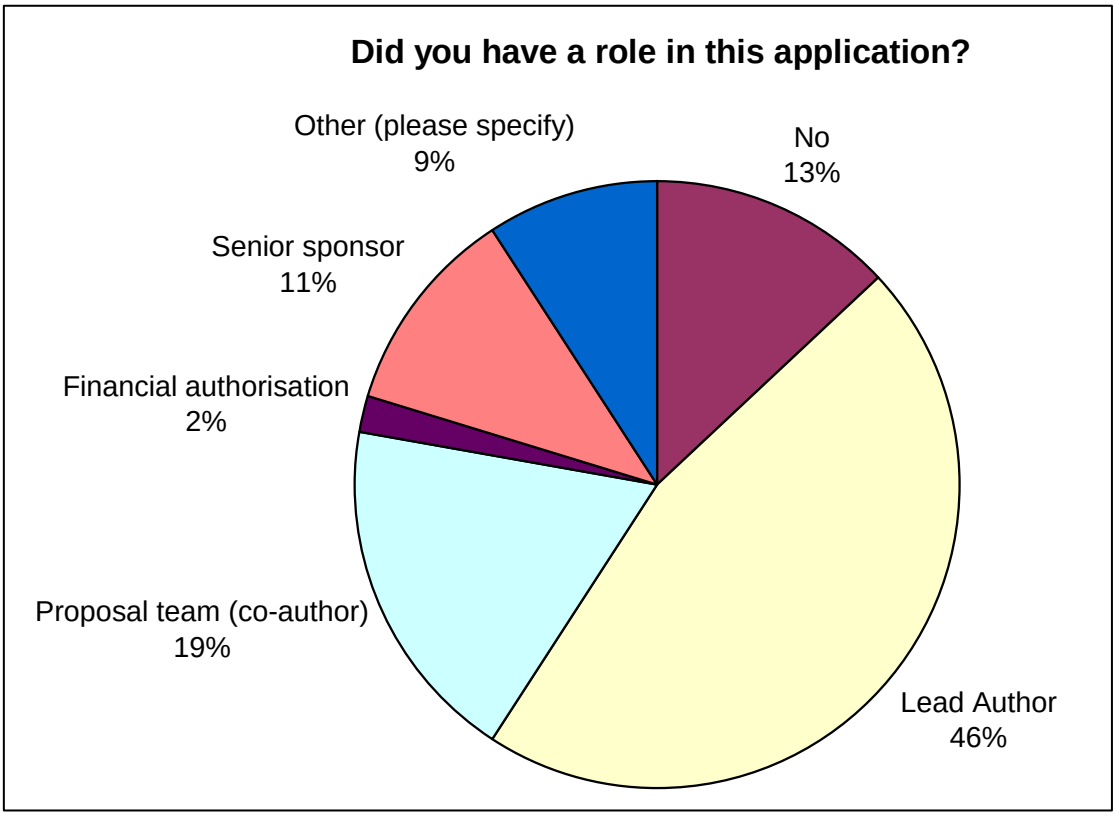
Question 2: 54 responses



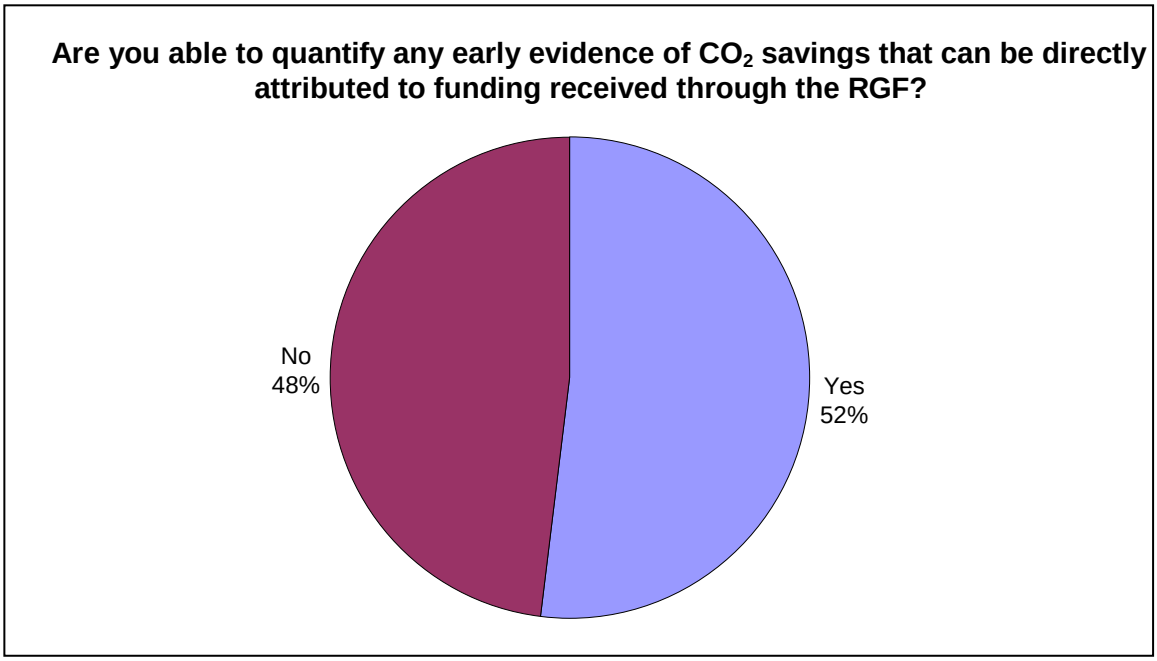
Question 5: 54 responses



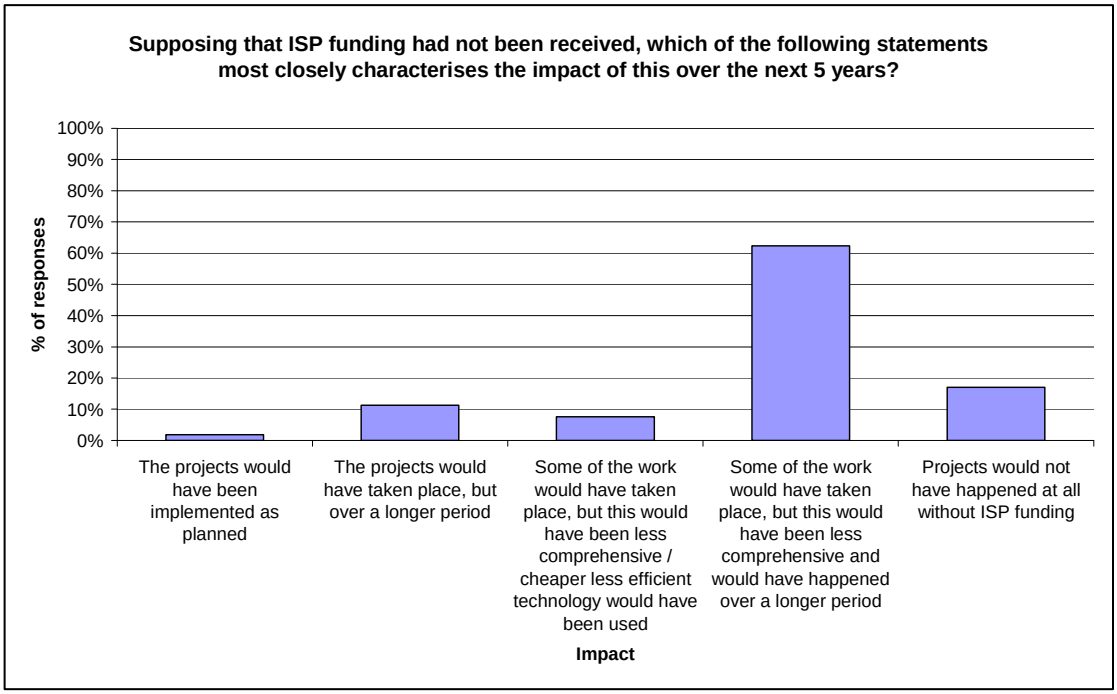
Question 6: 54 responses



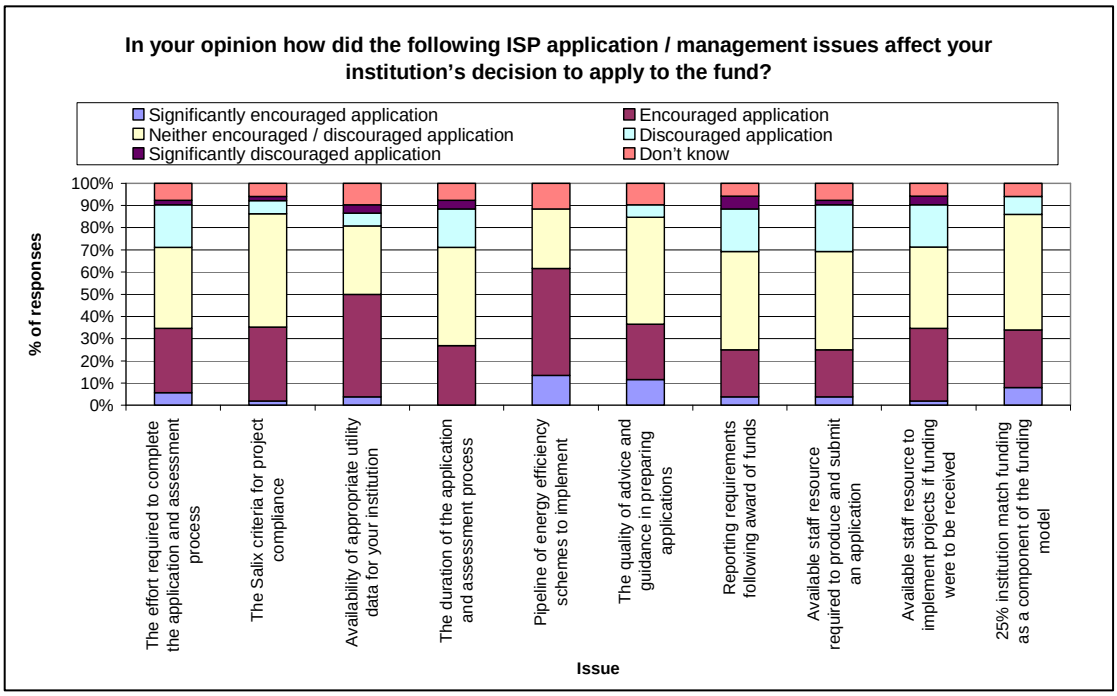
Question 8: 53 responses



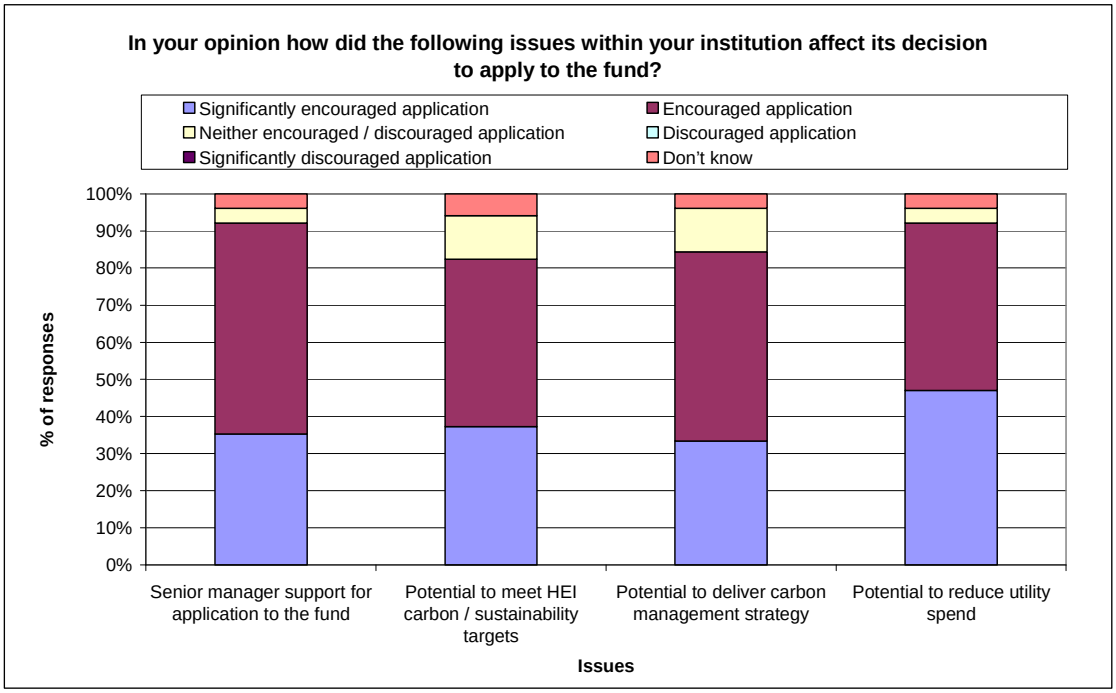
Question 9: 53 responses



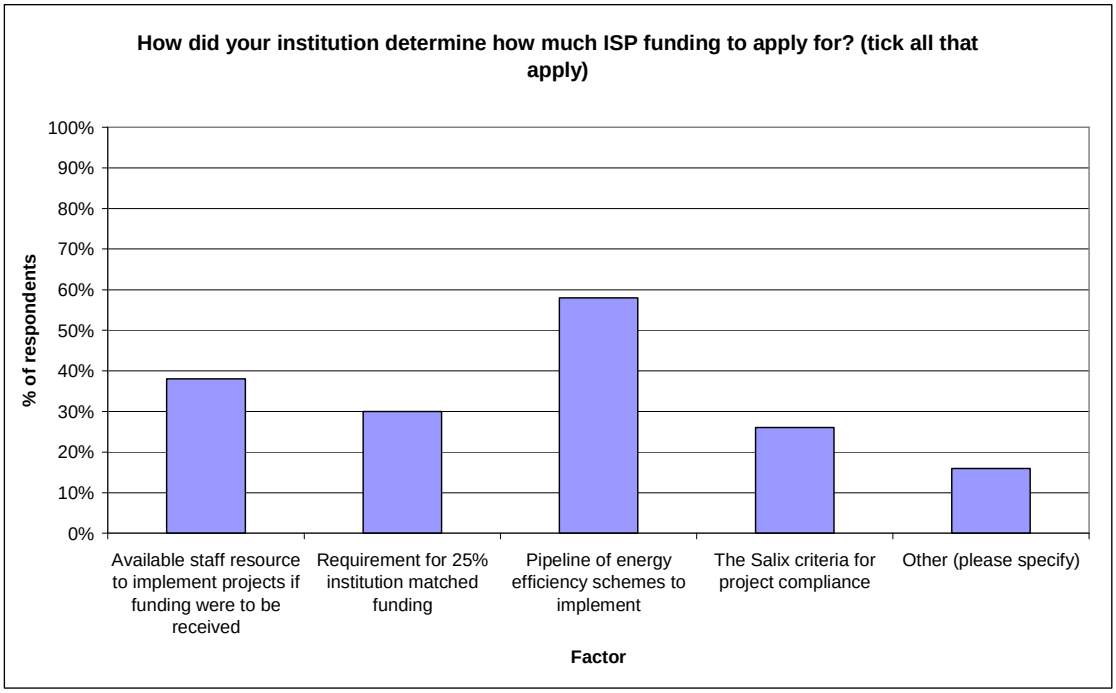
Question 10: 52 responses



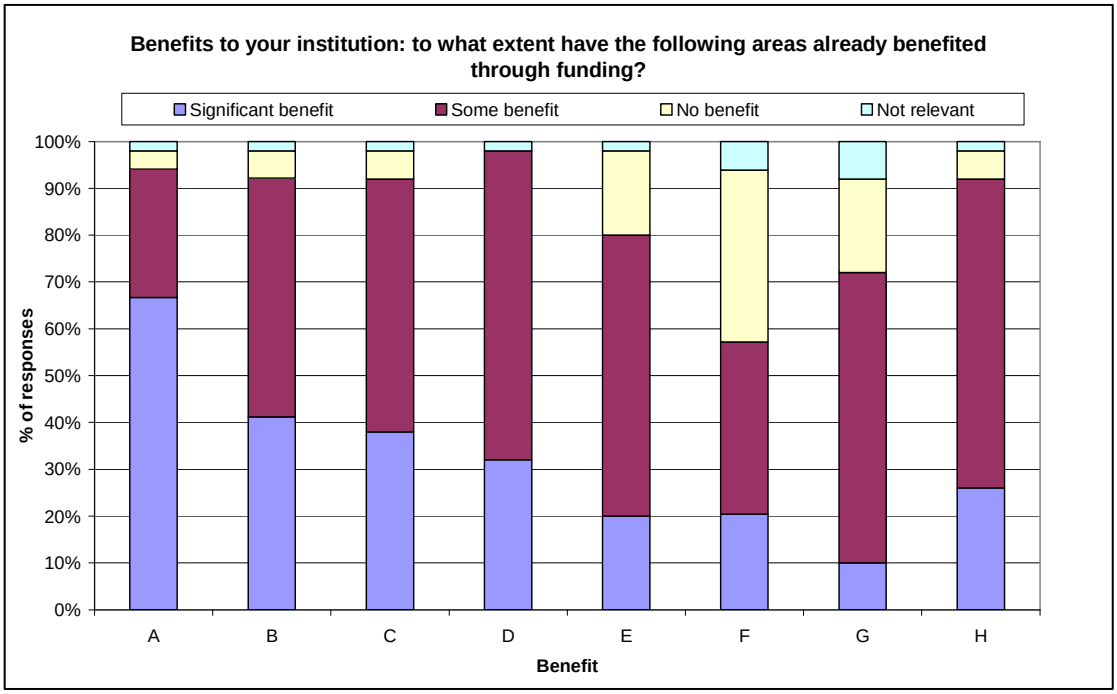
Question 11: 51 responses



Question 12: 50 responses

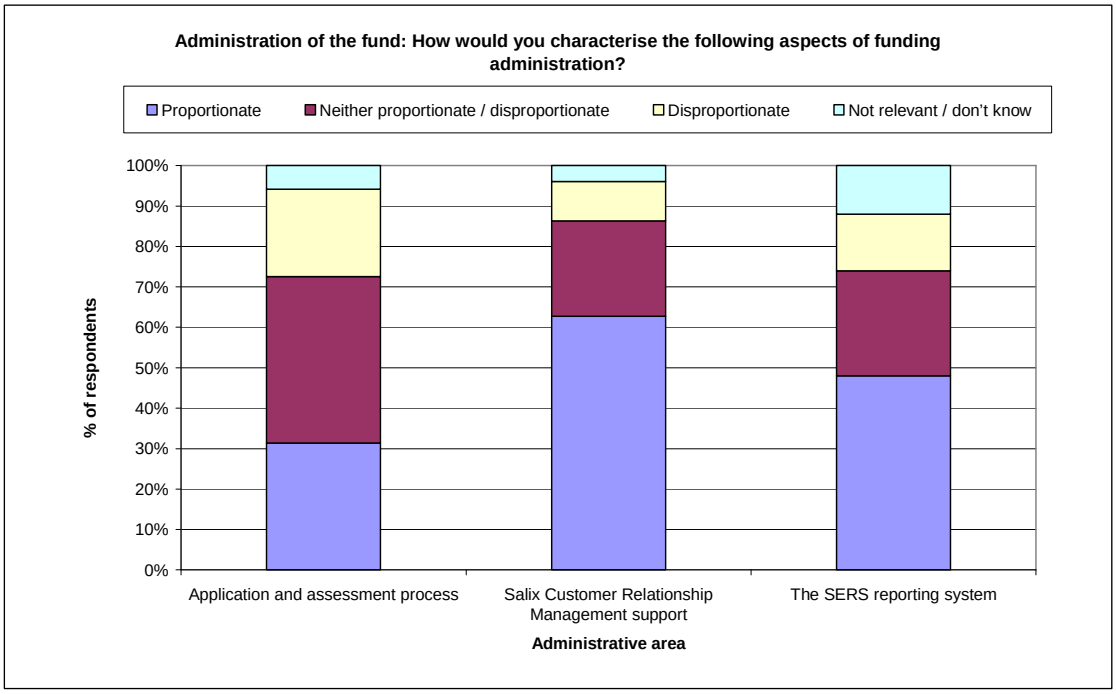


Question 16: 51 responses



Key	
A	Implementation of projects that would not otherwise have taken place
B	Delivery of your institution's carbon management strategy
C	Delivery of your institution's carbon/sustainability policy/targets
D	Raising the profile of your institution's work in this area within the institution
E	Raising the profile of your institution's work in this area within the HE sector
F	Increase in internal capacity to deliver projects of this type (staff development)
G	Strengthening proposals for external funding for other sustainability projects (e.g. behavioural change)
H	Reduction in utility spend

Question 17: 51 responses



Responses from unsuccessful ISP applicants

Contextualising responses

- Responses were received from six individuals representing six of the 18 institutions who have applied unsuccessfully for ISP funding (and not subsequently been successful at a later point). This gives an institution response rate of 33% for this group.
- Although 33% is a fair sample, this is only six responses, and therefore can only be treated as indicative. Response levels to particular questions are not described as percentages.
- Five responses are from those who were unsuccessful at round 1 and did not reapply, while only one response is from an unsuccessful round 2 applicant. This in not surprising as only two institutions who applied at round 2 were unsuccessful, compared to 16 unsuccessful at round 1 who did not reapply.
- Responses have been received from a range of roles

Summary of findings

Q18: How would you characterise the round 1 application and assessment process? *Only shown to unsuccessful round 1 applicants who didn't reapply.*

- 2/5 response indicate that the application process was disproportionate, while 3/5 have a neutral view.

Q19: In your opinion, why did your institution not reapply for funding at round 2, following unsuccessful application at round 1? *Only shown to unsuccessful round 1 applicants who didn't reapply (free text).*

Five responses were received as follows:

"Cash flow problems."

"Funding requires a base level of activity that we had not then reached."

"Time consuming to put together the list of projects and supporting evidence. Plus wanted to put one large bid in under the current phase."

"The university decided to create our own ring-fenced funding to be used for the implementation of those schemes which were rejected at round 1."

"No significant changes in place to suggest a second round would be favourable."

- These responses suggest a number of factors including: inability to meet the 25% match-funding requirement; lack of potential projects; securing internal funding; perception that potential project would fail to qualify; and effort required to identify potential projects.

Q20: What has been the impact of not receiving ISP funding? Which of the following statements most closely characterises the impact of this over the next 5 years?

- Responses vary greatly, with one respondent indicating that projects will be implemented as planned (due to securing internal funding), with the remaining five respondents indicating that the work will either take place over a longer period, or be less comprehensive, or not happen at all.
- Applications for additional funding have been made internally, to Business, Enterprise and Regulatory Reform (BERR) and Low Carbon Buildings Programme (LCBP) fund.

Q21: In your opinion how did the following ISP application/management issues affect your institution's decision to apply to the fund?

- Of relevance to this question is the fact that five of the six respondents had been unsuccessful at round 1 and decided not to reapply. This is reflected in the most commonly reported discouraging factors:
    - The effort required to complete the application and assessment process (discouraged 3/6).
    - Reporting requirements following award of funds (discouraged 4/6).
    - Available staff resource required to produce and submit an application (discouraged three, significantly discouraged one).
- This last finding is supported by the additional comment:

  "The [institution] is a tiny institution. There are three people running the whole estate and we do not have the capacity to dwell on these issues."

Q22: In your opinion how did the following issues within your institution affect its decision to apply to the fund?

- Respondents (almost entirely) reported the factors presented in this section encouraged application to the fund (senior manager support for application to the fund; potential to meet HEI carbon/sustainability targets; potential to deliver carbon management strategy; potential to reduce utility spend).

Q23: How did your institution determine how much ISP funding to apply for? (tick all that apply)

- The most commonly considered factor was 'requirement for 25% institution matched funding' (5/6 used this), and 'the Salix criteria for project compliance' (4/6). This is in contrast to those successful ISP applicants who responded to the survey, who most commonly considered the 'pipeline of energy efficiency schemes to implement'.

Q24: Are there any other factors that motivated your application? *(free text)*

- A single response was received:

"A strong desire within the team to improve our sustainability."

Q25: Are there any other factors that you would consider barriers to your application? *(free text)*

- Three responses were received suggesting that financial performance of the institution; accountability requirements; and staff resource have been issues:

  "Financial performance of university hampers objectives."

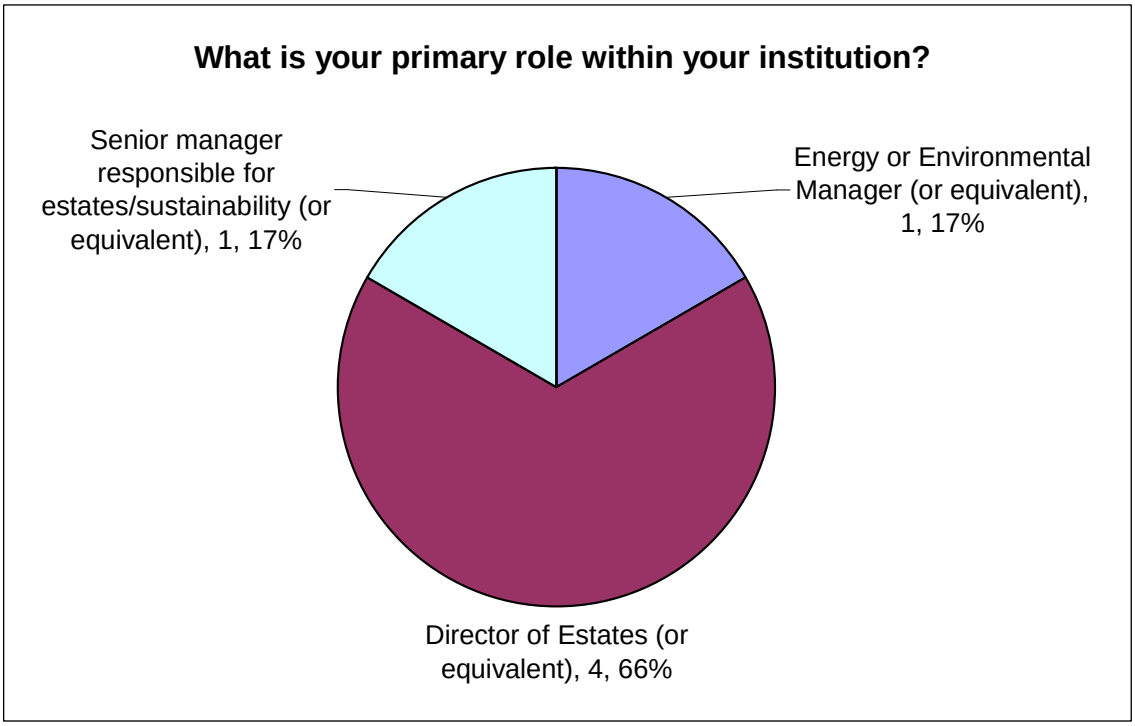
  "General reporting and monitoring requirements appeared to be over bearing for the duration of projects (they may not be!)."

  "Manpower."

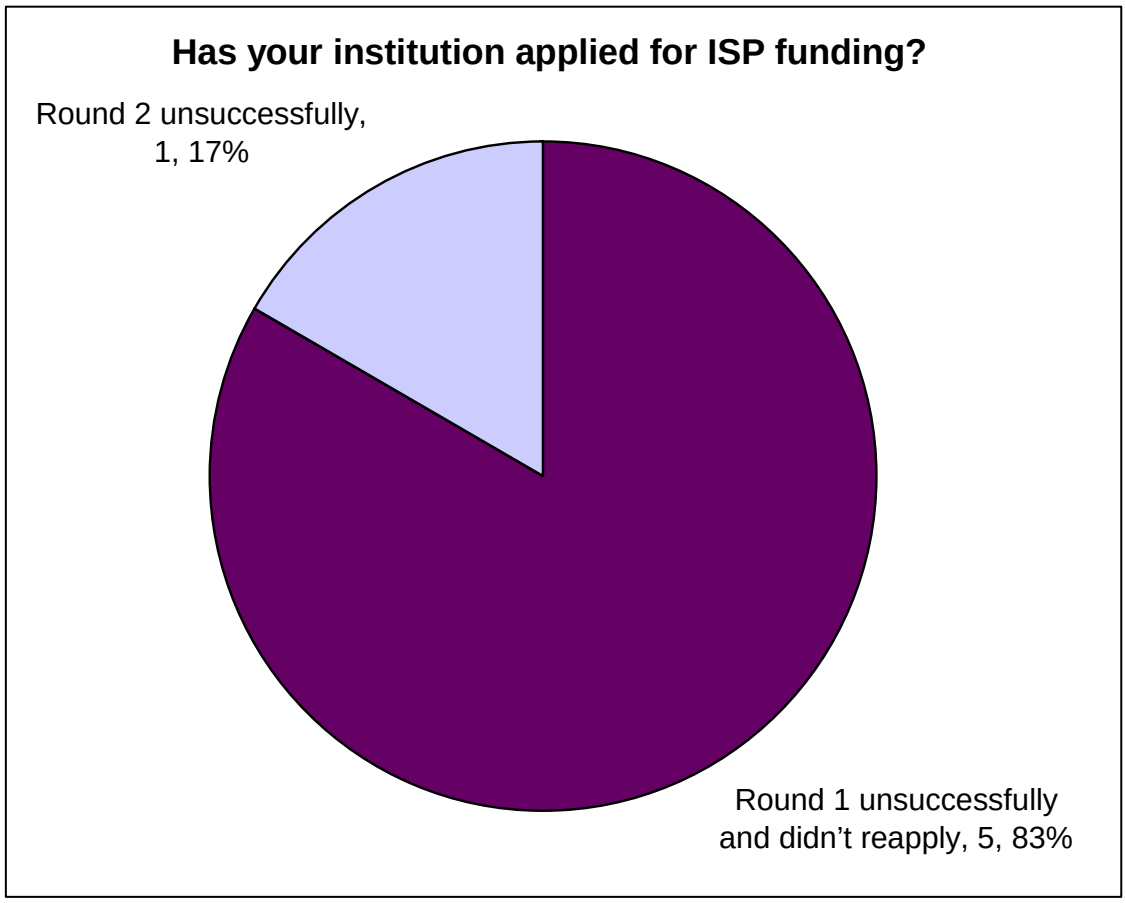
Q26: Administration of the fund: How would you characterise the application and assessment process?

- Only one of six respondents described the application process as disproportionate, the other respondents were neutral. There were no suggestions relating to the improvement of the process.

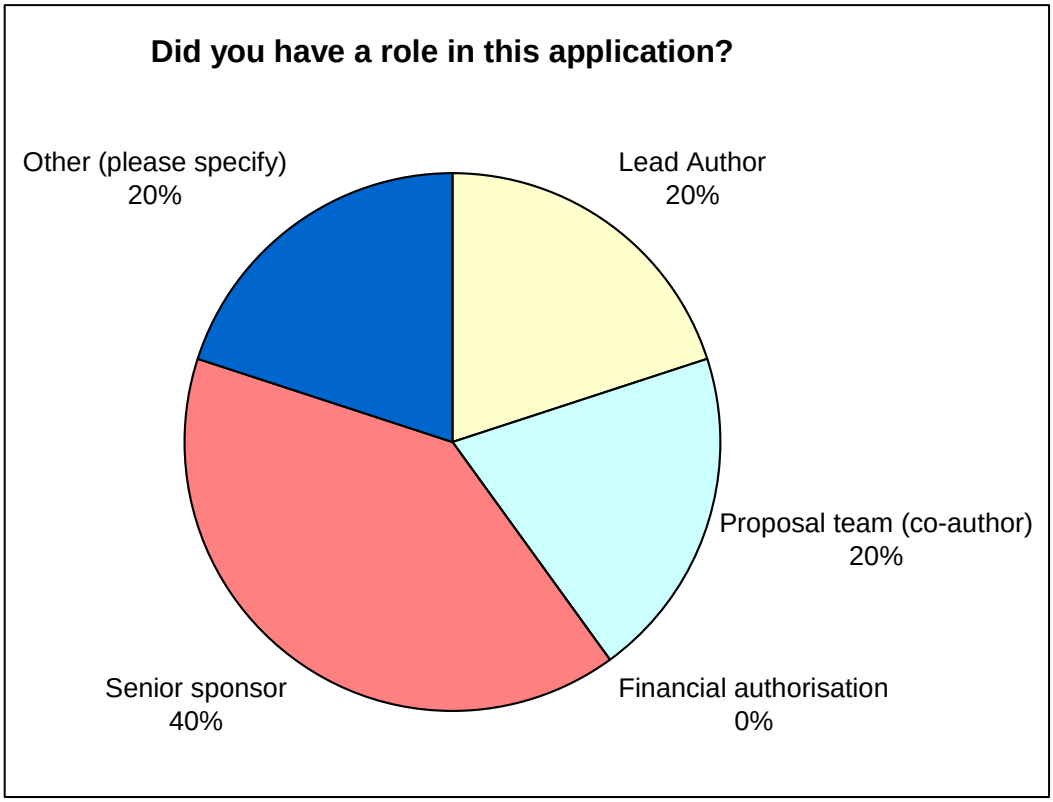
Question 2: 6 responses



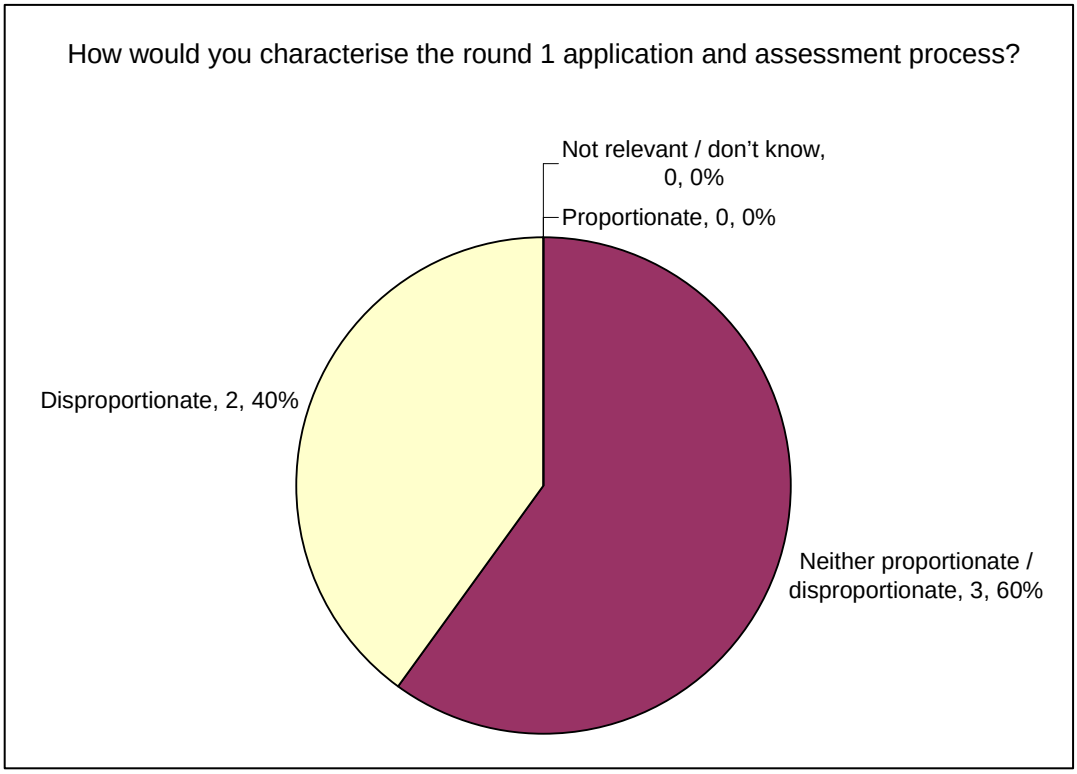
Question 5: 6 responses



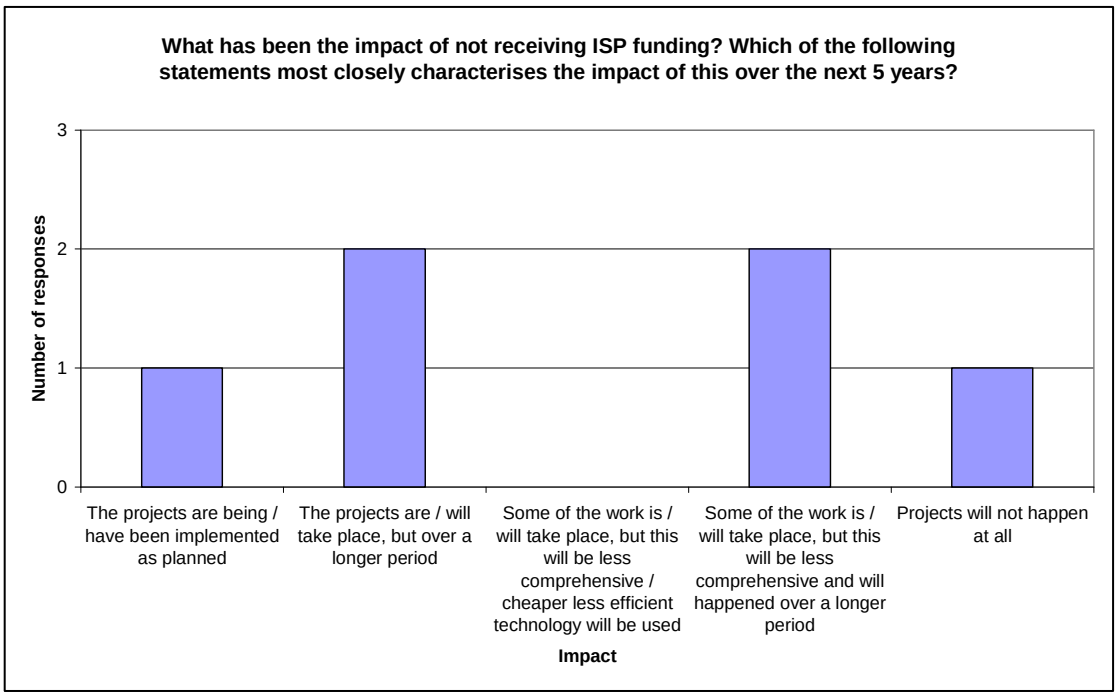
Question 6: 5 responses



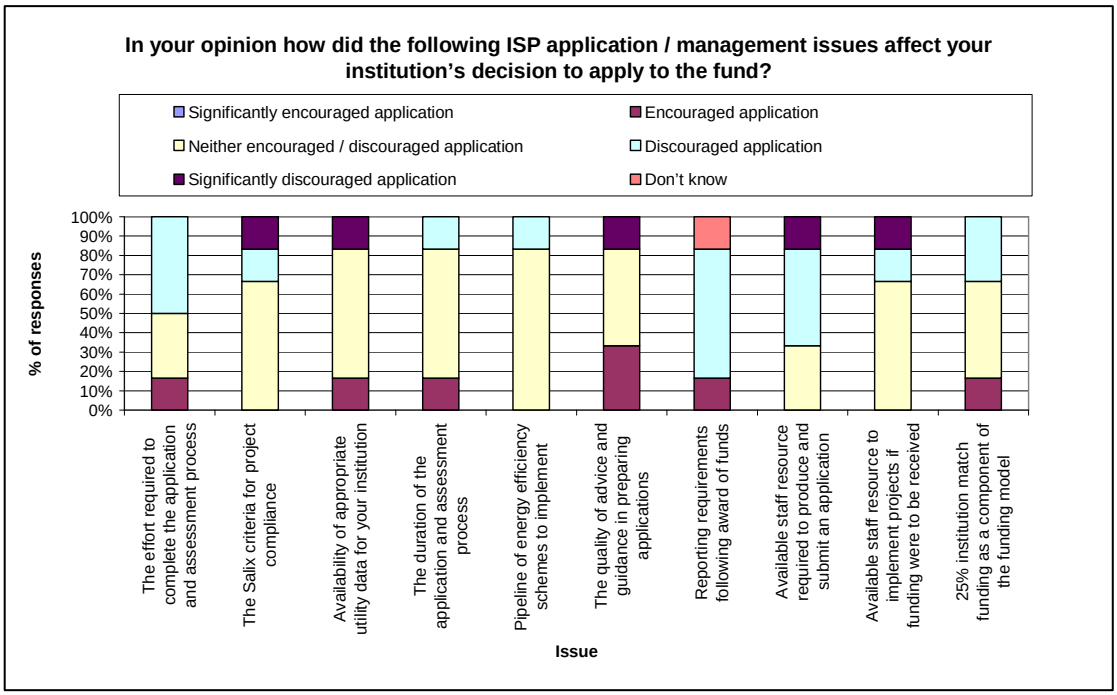
Question 18: 5 responses (this question was only shown to those who had applied unsuccessfully at round 1 and not reapplied at round 2).



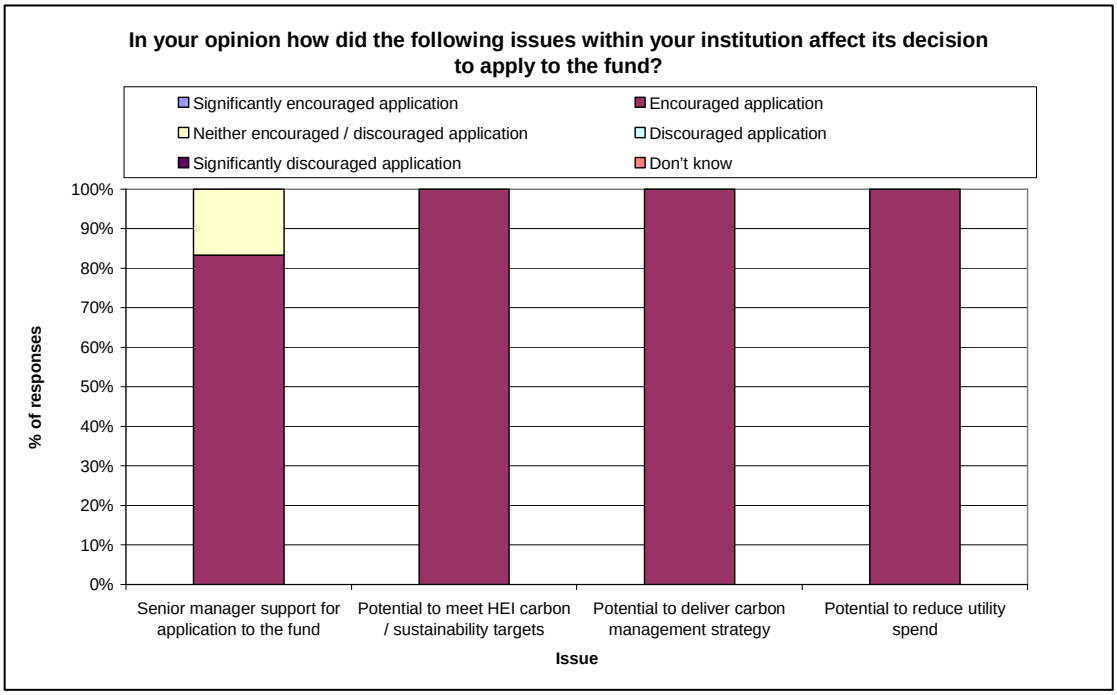
Question 20: 6 responses



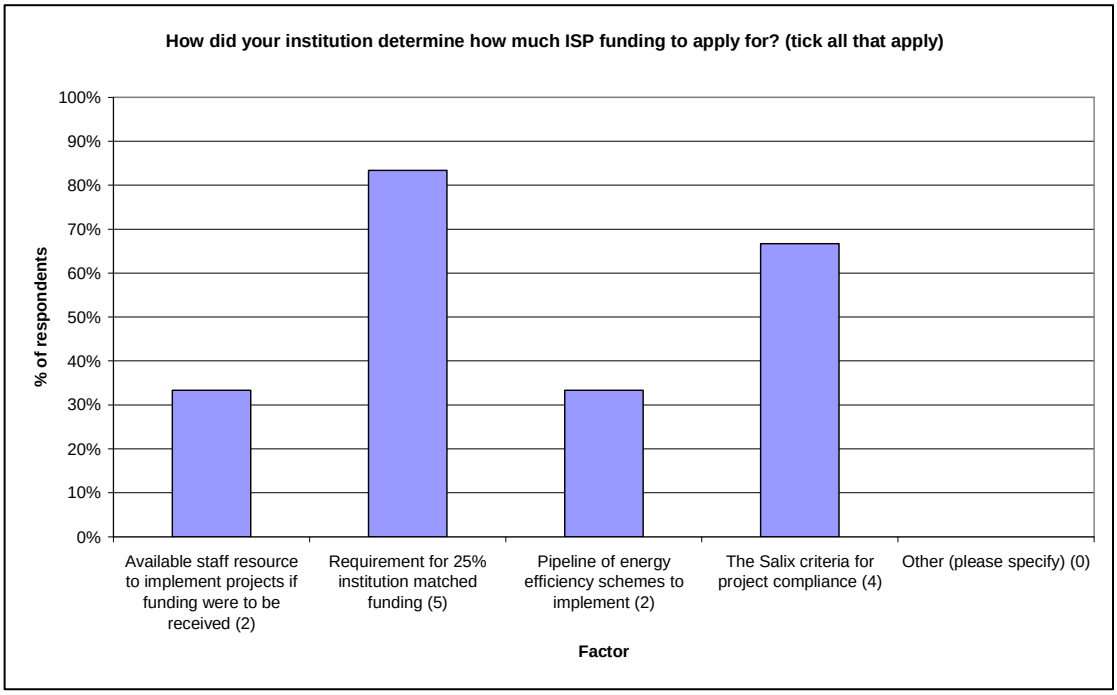
Question 21: 6 responses



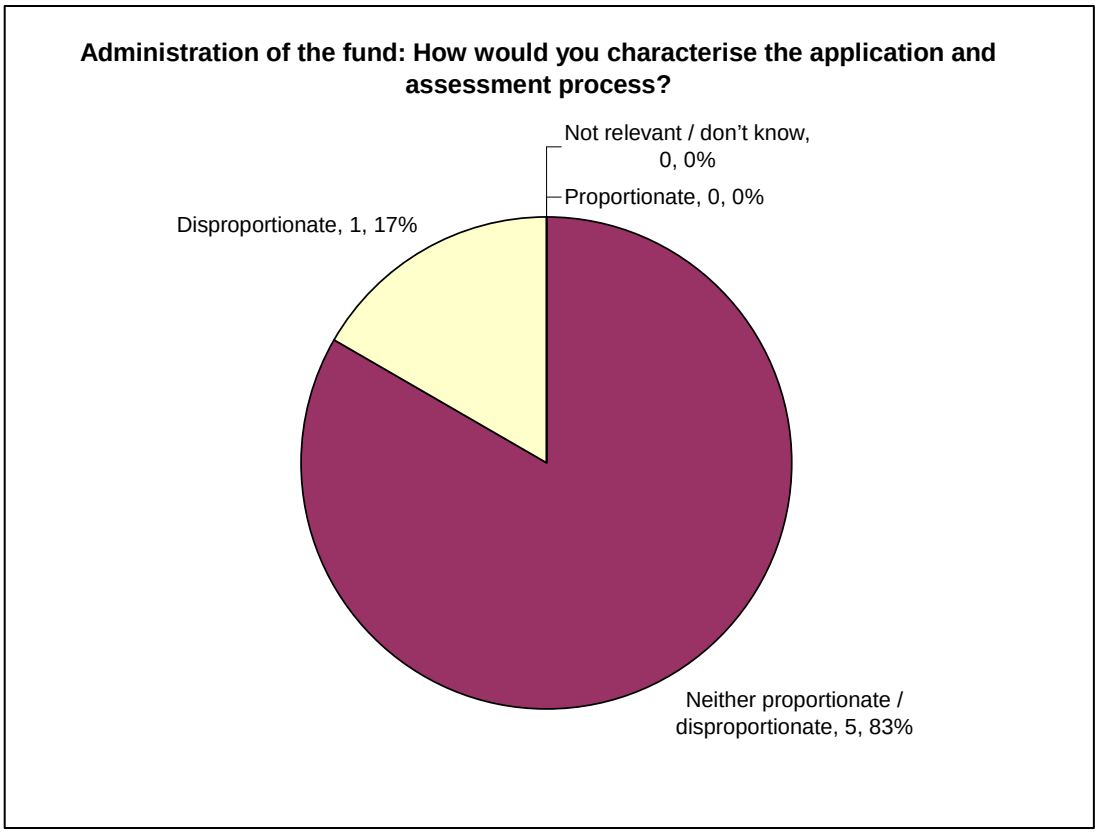
Question 22: 6 responses



Question 23: 6 responses (number of responses for each factor shown in brackets)



Question 26: 6 responses



Responses from successful transformational applicants

Contextualising responses

- Responses were received from three individuals representing all three of the institutions who have been awarded and accepted transformational funding. This gives an institution response rate of 100% for this group.
- Two of the three respondents were involved in writing the proposal for funding.

Summary of findings

Q29: Are you able to quantify any early evidence of CO_2 savings that can be directly attributed to funding received through the RGF?

- 2/3 respondents are not able to quantify any early evidence of savings, stating that the projects are still in the construction stage. The one respondent who stated that savings to date can be quantified goes on to state that these savings were modelled during the application process – suggesting that the question was misunderstood.

Q30: Supposing that transformational funding had not been received, which of the following statements most closely characterises the impact of this?

- All respondents indicated that projects would not have taken place without transformational funding.

Q31: In your opinion how did the following transformational application/management issues affect your institution's decision to apply to the fund?

- Of note is that one respondent was not involved in the project at this stage and was unable to comment. Of the two able to comment, neither reported that any factor listed discouraged application, and both stated that 'the project selection criteria (including the need for innovation)' significantly encouraged application. A clarification comment is made:

  "Other sources of funding would have required significant up-front investment; for example, planning permission may have been a pre-condition of application to other funds."

Q32: In your opinion how did the following issues within your institution affect its decision to apply to the fund?

- All respondents indicated that the factors listed either encouraged or strongly encouraged application.

Q33: Are there any other factors that motivated your application? *(free text)*

- Comments made include: the potential for academic research, and

sustainable energy generation.

Q34: Are there any other factors that you would consider barriers to your application? *(free text)*

- No additional barriers were reported.

Q35: If you identified any significant barriers to application – how were these overcome? *(free text)*

- No additional barriers were reported,

Q36: Benefits to your institution: to what extent have the following areas benefited through funding?

- At least some benefit has been reported in all areas listed.
- All three respondents have reported significant benefits in the areas of:
    - Delivery of your institution's carbon/sustainability policy/targets.
    - Raising the profile of your institution's work in this area within the institution.
    - Raising the profile of your institution's work in this area within the higher education sector.
    - Raising the profile of your institution's work in this area within other (non higher education) sectors.

Q37: Administration of the fund: How would you characterise the following aspects of funding administration?

- No respondents consider the application or accountability processes associated with the transformational fund disproportionate. One comment was received in relation to improving the application process:

  "Some further visibility on how the assessment panel would consider applications and the relative 'weighting'. Funding could further be split according to their risk profile, giving high risk innovative projects a chance, whilst allowing some lower risk/return projects through."

Question 2: What is your primary role within your institution?

Option	Number of responses
Energy or Environmental Manager (or equivalent)	2
Director of Estates (or equivalent)	1
Finance Director (or equivalent)	0
Senior manager responsible for estates/sustainability (or equivalent)	0
Other role (please specify)	0
Total	**3**

Question 28: Did you have a role in this application? (if you had more than 1 role, please tick the role involving the most time)

Option	Number of responses
N/A (haven't applied)	0
No	1
Lead Author	2
Proposal team (co-author)	0
Financial authorisation	0
Senior sponsor	0
Other (please specify)	0
Total	**3**

Question 29: Are you able to quantify any early evidence of CO_2 savings that can be directly attributed to funding received through the RGF?

Option	Number of responses
Yes	1
No	2
Total	**3**

Question 30: Supposing that transformational funding had not been received, which of the following statements most closely characterises the impact of this?

Option	Number of responses
The projects would have been implemented as planned	0
The projects would have taken place, but over a longer period	0
Some of the work would have taken place, but this would have been less comprehensive or cheaper less efficient technology would have been used	0
Some of the work would have taken place, but this would have been less comprehensive and would have happened over a longer period	0
Projects would not have happened at all without transformational funding	3
Total	**3**

Question 31: In your opinion how did the following transformational application/management issues affect your institutions decision to apply to the fund?

Issues	Significantly encouraged application	Encouraged application	Neither encouraged/ discouraged application	Discouraged application	Significantly discouraged application	Don't know	Total
The effort required to complete the application and assessment process	0	1	1	0	0	1	**3**
The project selection criteria (including the need for innovation)	2	0	0	0	0	1	**3**
Availability of appropriate utility data for your institution	0	0	2	0	0	1	**3**
The duration of the application and assessment process	0	1	1	0	0	1	**3**
Sufficiently developed transformational type schemes to implement	1	1	0	0	0	1	**3**
The quality of advice and guidance in preparing applications	0	0	2	0	0	1	**3**
Reporting requirements following award of funds	0	1	1	0	0	1	**3**
Available staff resource required to produce and submit an application	1	1	0	0	0	1	**3**
Available staff resource to implement project if funding were to be received	0	2	0	0	0	1	**3**

Question 32: In your opinion how did the following issues within your institution affect its decision to apply to the fund?

Issues	Significantly encouraged application	Encouraged application	Neither encouraged/ discouraged application	Discouraged application	Significantly discouraged application	Don't know	Total
Senior manager support for application to the fund	2	1	0	0	0	0	**3**
Potential to meet HEI carbon/ sustainability targets	3	0	0	0	0	0	**3**
Potential to deliver carbon management strategy	3	0	0	0	0	0	**3**
Potential to reduce utility spend	2	1	0	0	0	0	**3**

Question 36: Benefits to your institution: to what extent have the following areas benefited through funding?

Benefits	Significant benefit	Some benefit	No benefit	Not relevant	Total
Delivery of additional energy saving projects **(other than the project being funded)** that would not have otherwise taken place	1	0	1	0	**2**
Delivery of your institution's carbon management strategy	2	1	0	0	**3**
Delivery of your institution's carbon/sustainability policy/targets	3	0	0	0	**3**
Securing additional internal funding	2	0	1	0	**3**
Securing additional external funding	0	1	2	0	**3**
Raising the profile of your institution's work in this area within the institution	3	0	0	0	**3**
Raising the profile of your institution's work in this area within the higher education sector	3	0	0	0	**3**
Raising the profile of your institution's work in this area within other (non higher education) sectors	3	0	0	0	**3**
Increase in internal capacity to deliver projects of this type (staff development)	0	2	1	0	**3**
Reduction in utility spend	2	0	0	0	**2**

Question 37: Administration of the fund: How would you characterise the following aspects of funding administration?

Area of administration	Proportionate	Neither proportionate/ disproportionate	Disproportionate	Not relevant/ don't know	Total
Application and assessment process	2	0	0	1	**3**
Accountability processes overall	1	1	0	1	**3**

Responses from unsuccessful transformational applicants

Contextualising responses

- Responses were received from 26 individuals representing 20 institutions of the 31 who unsuccessfully applied for transformational funding. This gives an institution response rate of 65% for this group.
- The largest proportion of responses have been received from energy or environmental managers, with estates directors, senior managers, and financial officers also reflected.
- 62% of respondents were either the lead/co-author of the unsuccessful proposal for transformational funding.

Summary of findings

Q38: What has been the impact of not receiving transformational funding? Which of the following statements most closely characterises the impact of this?

- 54% of respondents comment that the projects will not happen at all, and 27% comments that 'some of the work is taking or will take place, but this will be less comprehensive and will happen over a longer period.' One respondent reports that the projects are being implemented as planned.
- A couple of respondents report that Low Carbon Building Programme phase II will be considered, while one respondent identifies carbon offsetting opportunities for alternative funding.

Q39: In your opinion how did the following transformational application/management issues affect your institution's decision to apply to the fund?

- Very few respondents consider any of the factors listed to have discouraged application and in almost every case the most common response is 'neither encouraged or discouraged application'. The exception to this and the most encouraging factor overall is 'sufficiently developed transformational type schemes to implement'.
- A number of additional comments were received suggesting that there were issues relating to the innovation criterion:

  "The innovation criteria was not well defined and good quality schemes that were well tried and would deliver were not included in the bid. Those that were, were marked down on innovation inappropriately."

  "Our application was based on implementing best practice, so innovation was not a priority for us."

  "At the time, we were encouraged to submit the project idea for [project] through telephone conversations... On reflection, we should perhaps have been discouraged from submitting on the grounds that the project was not

seen as innovative enough."

Q40: In your opinion how did the following issues within your institution affect its decision to apply to the fund?

- Of the factors listed, the overwhelming majority of respondents (over 80% in each case) commented that these factors either encouraged or significantly encouraged application.

Q41: Are there any other factors that motivated your application? *(free text)*

- **Comments include:**

  "Outline planning permission had already been gained for the installation."

  "It would have been a major catalyst for regional development around green energy technologies – the concept of energy independence on one campus was a very real objective of the application."

  "The ability to cut our carbon emissions by 10% with this one project."

Q42: Are there any other factors that you would consider barriers to your application? (free text)

- A small number of respondents again refer to the issue of innovation as a criterion for success:

  "The requirement for innovation. There is much to do to bring our buildings to basic, modern standards."

  "Lack of detail and definition of what was expected or would be supported and what was meant by "innovative" – our project was 'innovative' but I did not consider the two successful projects as such more 'run of the mill'!!"

  "Other than innovation, town and country planning, timing and possible payback criteria."

Q43: Administration of the fund: How would you characterise the application and assessment process?

- 48% of respondents describe the application and assessment process as proportionate, with only one individual describing this as disproportionate.

- Three additional comments were provided:

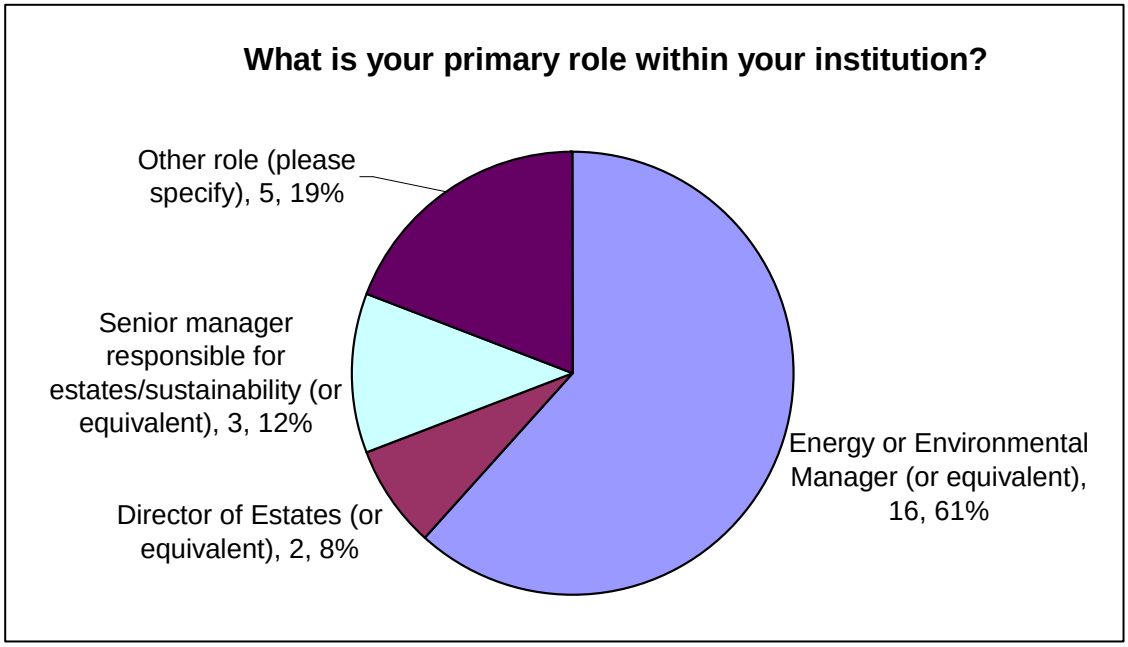
  "Given the size of the shortlist (7 or 8) – an opportunity to present the project in person would have been useful – some issues (see above) could have been easily communicated/clarified that way."

  "Our proposal was rejected seemingly out of hand and for reasons which suggested misunderstandings on the part of the assessors. It was disappointing that the decision was made without at least asking for clarification of the issues that seemed to go against the proposal."

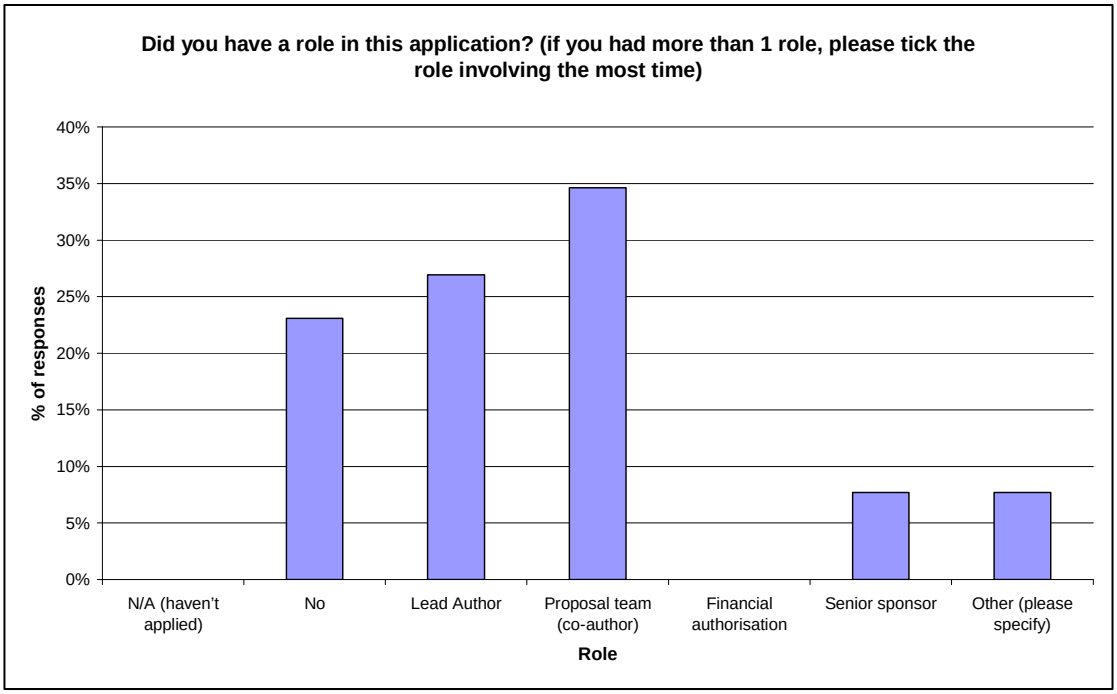
  "The transformational fund did rely quite rightly on robust data and the

administration was probably correct."

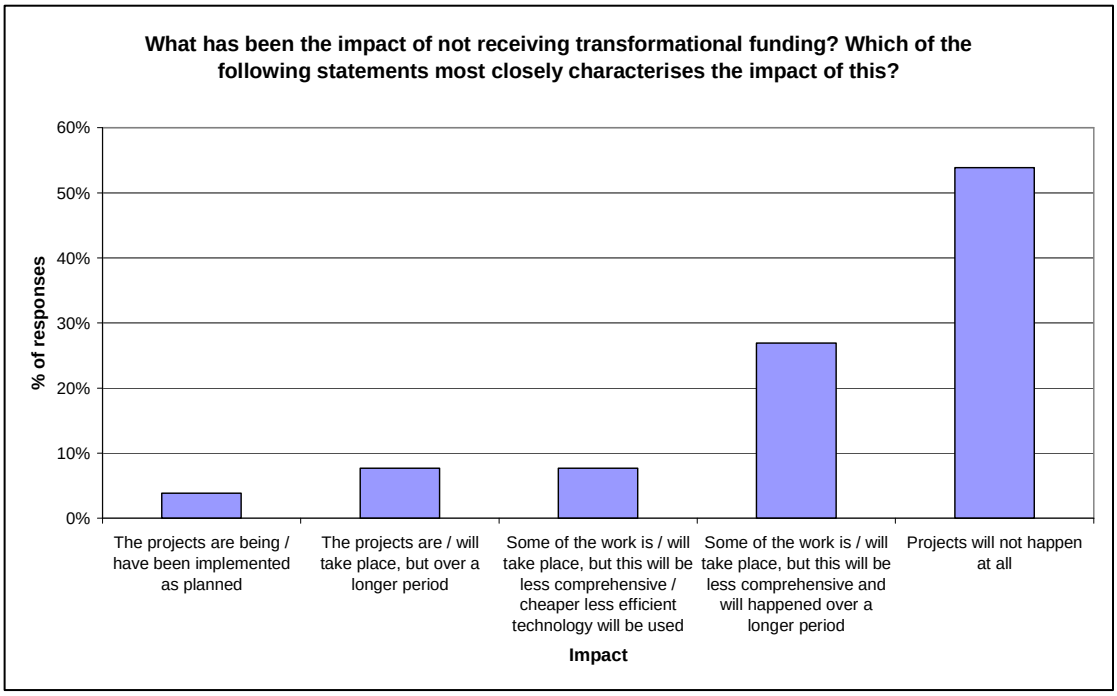
Question 2: 26 responses



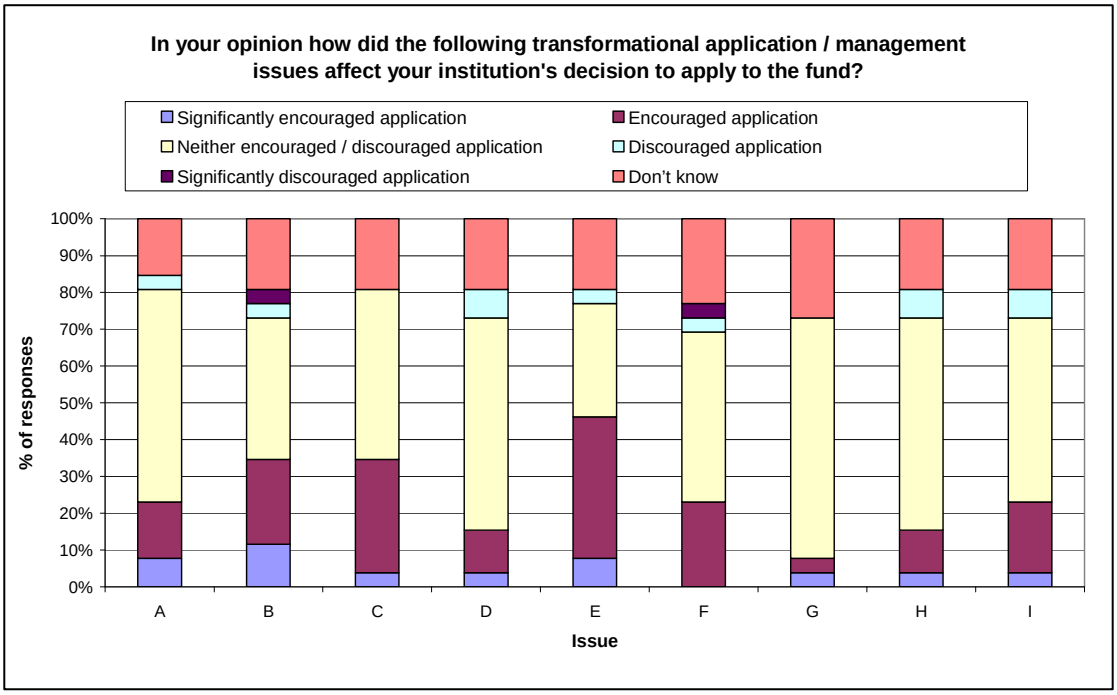
Question 28: 26 responses



Question 38: 26 responses

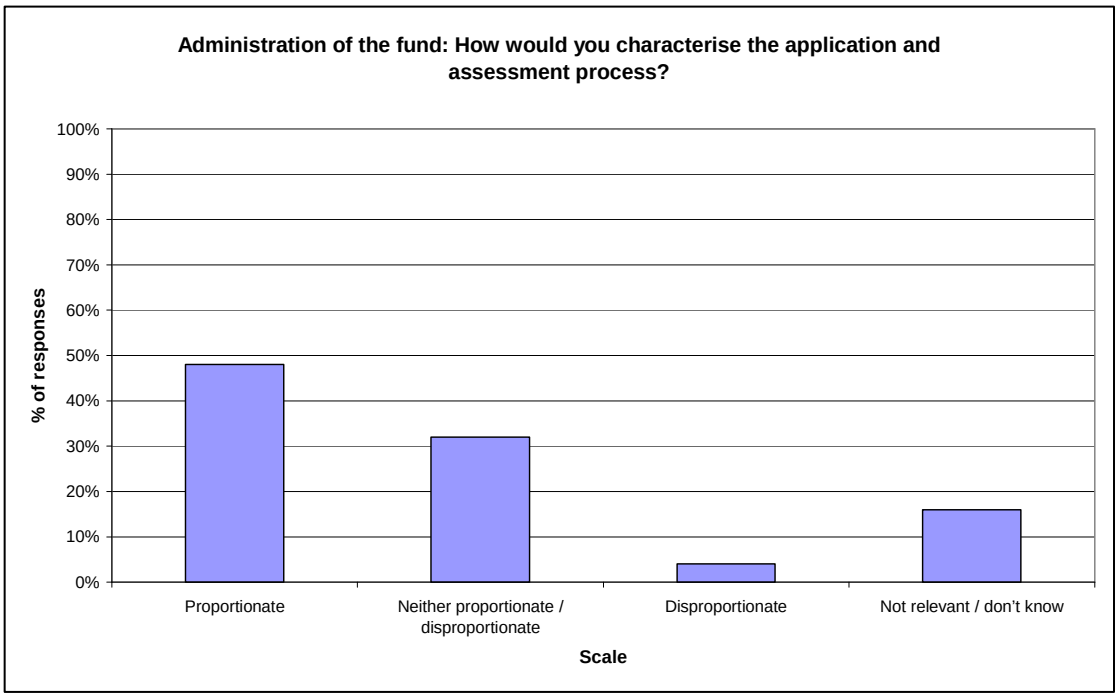


Question 39: 26 responses



Key	
A	The effort required to complete the application and assessment process
B	The project selection criteria (including the need for innovation)
C	Availability of appropriate utility data for your institution
D	The duration of the application and assessment process
E	Sufficiently developed transformational type schemes to implement
F	The quality of advice and guidance in preparing applications
G	Reporting requirements following award of funds
H	Available staff resource required to produce and submit an application
I	Available staff resource to implement project if funding were to be received

Question 43: 25 responses



Responses from those who have not applied to either strand of the fund

Contextualising responses

- Responses were received from 10 individuals representing 10 institutions of the 47 who did not apply for ISP or transformational funding. This gives an institution response rate of 21% for this group.
- Five responses have been received from energy/environmental managers, and five from estates directors.
- Three had previously considered applying for ISP funding, and three had considered applying to both strands, four had not previously considered applying.

Summary of findings

Q46: In your opinion how did the following Revolving Green Fund application/management issues affect your institution's decision to apply to the fund?

- At least one respondent commented that each factor listed had either discouraged or significantly discouraged application. Of particular note are those factors relating to staff resource 'available staff resource required to produce and submit an application' and 'available staff resource to implement project if funding were to be received' where 8/9 and 7/8 respondents respectively indicated that these discouraged or significantly discouraged application.
- Reporting requirements following award of funds, and the requirement for 25% institution match funding (for ISP) were also significant discouraging factors for many. The effort required to complete the application and assessment process discouraged application for the majority of respondents.
- Of note is that there was a mixed response in relation to 'sufficiently developed schemes to implement' suggesting that for some institutions it was difficult to identify projects which could be funded.
- The following additional comments were provided:

  "As no application has been made, impact of this initiative is difficult to assess, but I would anticipate it would raise profile and assist projects."

  "We looked into the opportunity but decided the information required i.e. management of utility data and the technical information required didn't warrant the loan/Salix benefits."

  "We have advertised for a full time Environment Manager, who will provide the necessary dedicated resource and will have responsibility for making these applications."

Q47: In your opinion how did the following issues within your institution affect

its decision to apply to the fund?

- Respondents indicated that these factors generally encouraged application; however no respondents indicated that any of the factors listed significantly encouraged application.
- One additional comment was received:

  "These were and continue to be the issues, but the opportunity costs were considered more favourable to focus in other areas at the time."

Q48: Are there any other factors that would have motivated application? *(free text)*

- Three comments were received:

  "Quick benefits analysis targeted at Finance Directors."

  "Ease of use and more grant funding i.e. BERR gave us 50% funding for a PV scheme which wasn't a loan and was simple to apply for."

  "Making it clear that it was a LOAN not a GRANT aligning application process with university financial planning."

Q49: Are there any other factors that you would consider barriers to application? *(free text)*

- Four comments were received relating to: negative comments from contacts in other institutions; lack of strategic management at the institution; a risk-averse culture to adding debt to the institution's finances; the expertise required to assess potential savings; and recent appointment of additional staff.

In addition, applicants to one strand of the fund but not the other were asked to comment on any reasons for this.

Q44: In your opinion why did your institution apply to one strand of the fund but not the other: *(free text).*

- Twenty-one individuals provided responses explaining why their institution had applied for ISP funding **but not** transformational funding. These commonly relate to either a lack of suitably developed transformational projects which could be implemented within the timeframe; a lack of available staff resource; or the consideration that ISP type projects were more appropriate for the institution at the time.

  "No major transformational projects currently developed sufficiently to allow an application, plus lack of internal resources to dedicate to this."

  "Because we did not have a large project in hand but will consider it in the future."

  "We felt it was more appropriate to apply for ISP, given the level of projects."

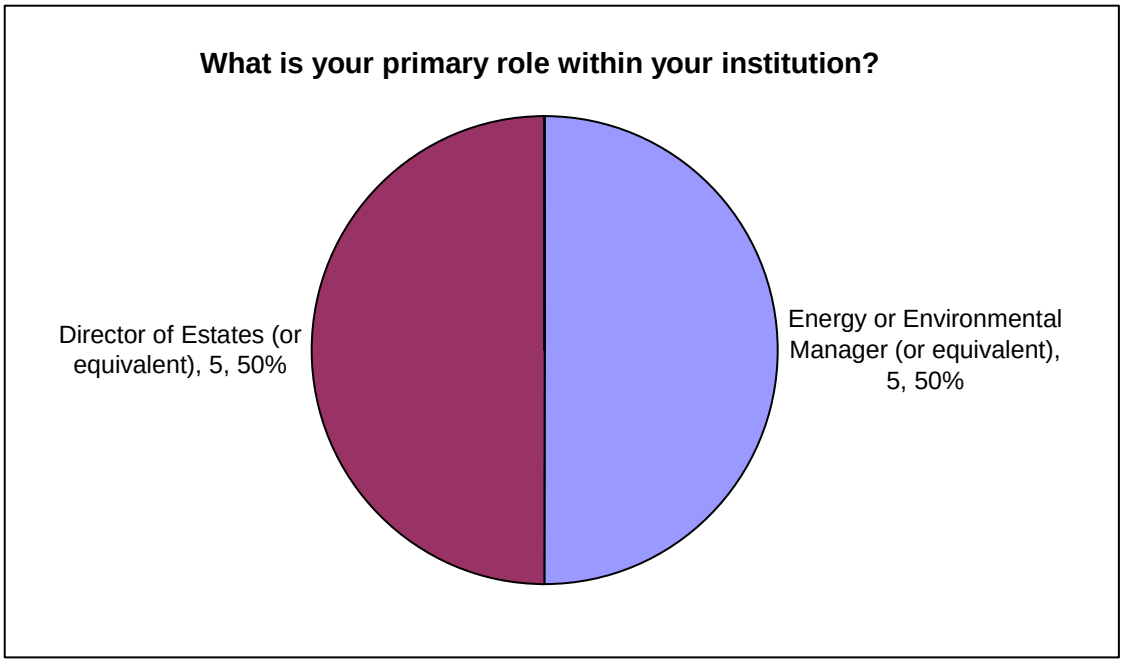
- Three individuals provided responses explaining why their institution had applied for transformational funding **but not** ISP funding. These relate to existing funding sources for ISP type projects, and limited staff resource to apply to both strands concurrently:

  "Because the university was already in receipt of Salix funding."

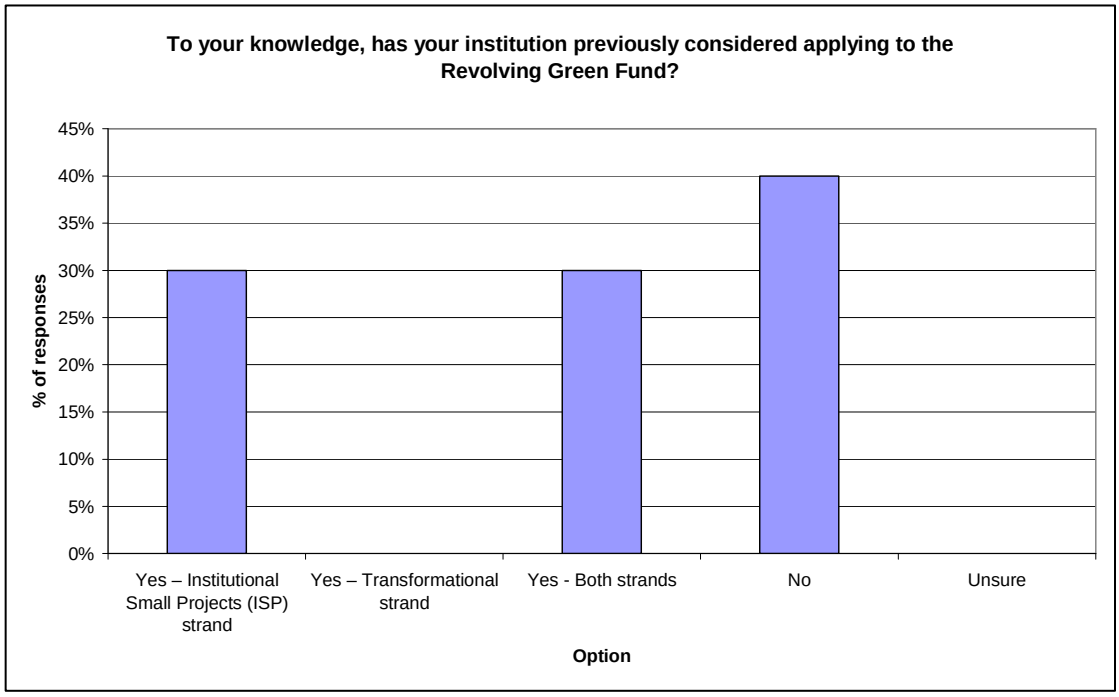
  "Funding for small shorter payback projects was available at the time internally. Management time would have been very stretched in applying for both concurrently."

  "We had an obvious scheme for [transformational funding] and did not have the manpower to consider additional applications."

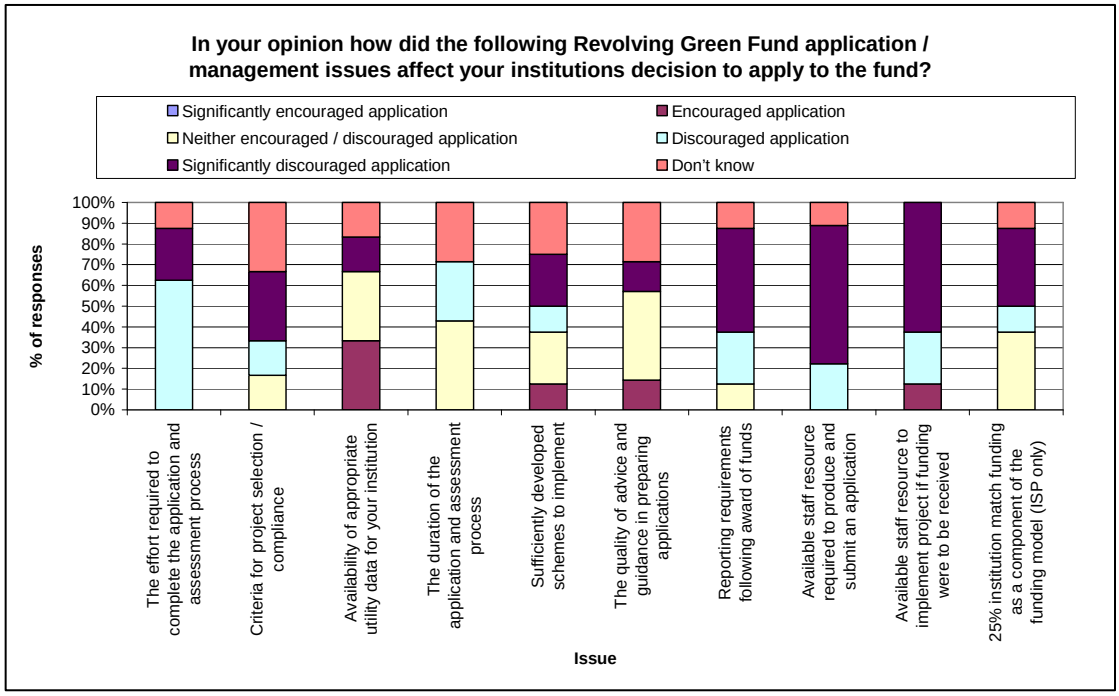
Question 2: 10 responses



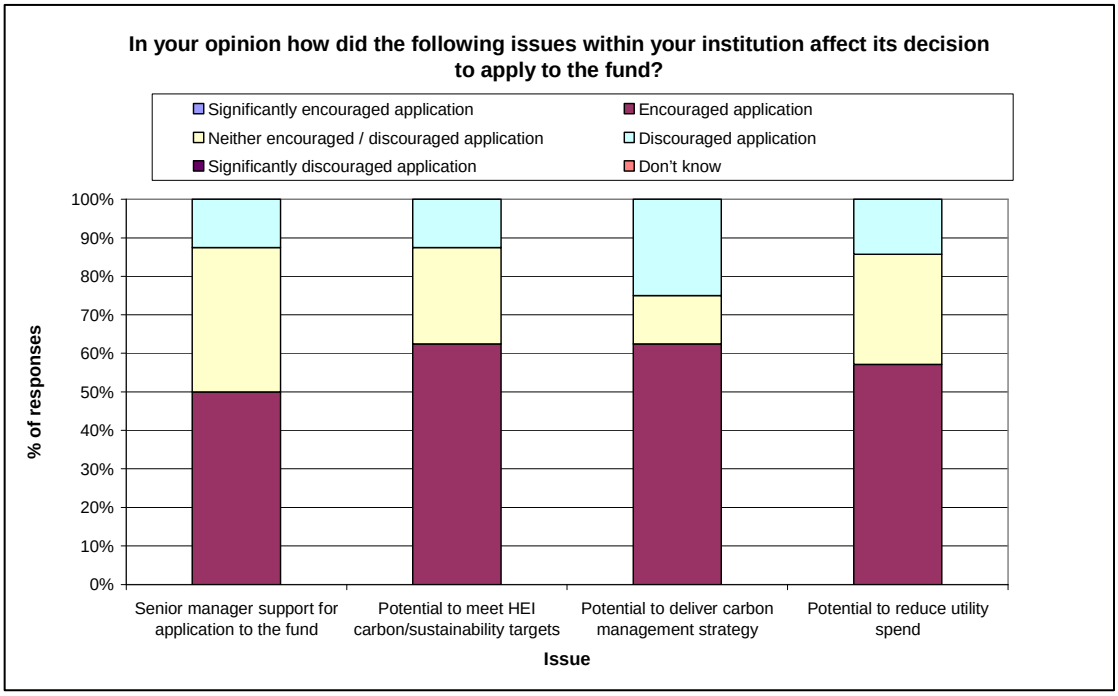
Question 45: 10 responses



Question 46: 9 responses



Question 47: 8 responses



Responses from those who have views on the sharing of good practice relating to the RGF

Contextualising responses

- Responses were received from 86 individuals representing 70 institutions of the 130 institutions in receipt of HEFCE funds. This gives an institution response rate of 54% for this group.
- Just over half of responses are from energy or environmental managers, with 1/5 from estates directors, and 1/10 from senior managers. Other roles include financial officers, sustainability officers, maintenance and facilities officers and a couple of academic staff.

Summary of findings

Q50: What networks are used to disseminate good practice from RGF projects currently? (and which networks would you like to hear about good practice from in the future?)

- 73% of respondents have heard of good practice through informal discussion with sector colleagues, making this the most common route. Salix organised meetings and events are also commonly used with 62% of respondents having accessed these.
- In addition 'direct involvement in a project', 'Carbon Trust network', and 'EAUC network' have all been used to hear about RGF good practice by over 50% of respondents. 46% have heard of good practice via AUDE, reflecting the smaller proportion of estates directors who responded to this question.
- Responses provided through the 'other' field include regional groups (such as the London Universities Environmental Group; HEFCE; AMHEC; and HEEPI).
- In terms of which networks respondents would like to hear about good practice through in the future, in the region of 20% of respondents indicated they would like to hear about good practice via each network listed.

Q51: What format would you like to see good practice from the RGF disseminated across the sector?

- Generation of case study materials and regional seminars are the two most popular choices, with approximately 80% of respondents identifying each option. Visits to HEIs with good practice projects was selected by approximately 60% of respondents. Just under 30% of respondents indicated that they would like to see dissemination through national conferences.
- Additional comments provided make suggestions for the format of case-studies – including that these should be concise and to a standard format. Suggestions relating to content include a list of recommended products.
- The need for additional dissemination mechanisms was also identified by a couple of respondents; suggestions include a database of materials and the

creation of an email list for those in receipt of RGF funding. Increasing the size of regional groups to include more institutions was also suggested by one respondent.

"All options are good but need a strong system of database to share the information in an accessible way, with ability to access a detailed presentation of the successful technologies."

"Concise electronic reports in standard template."

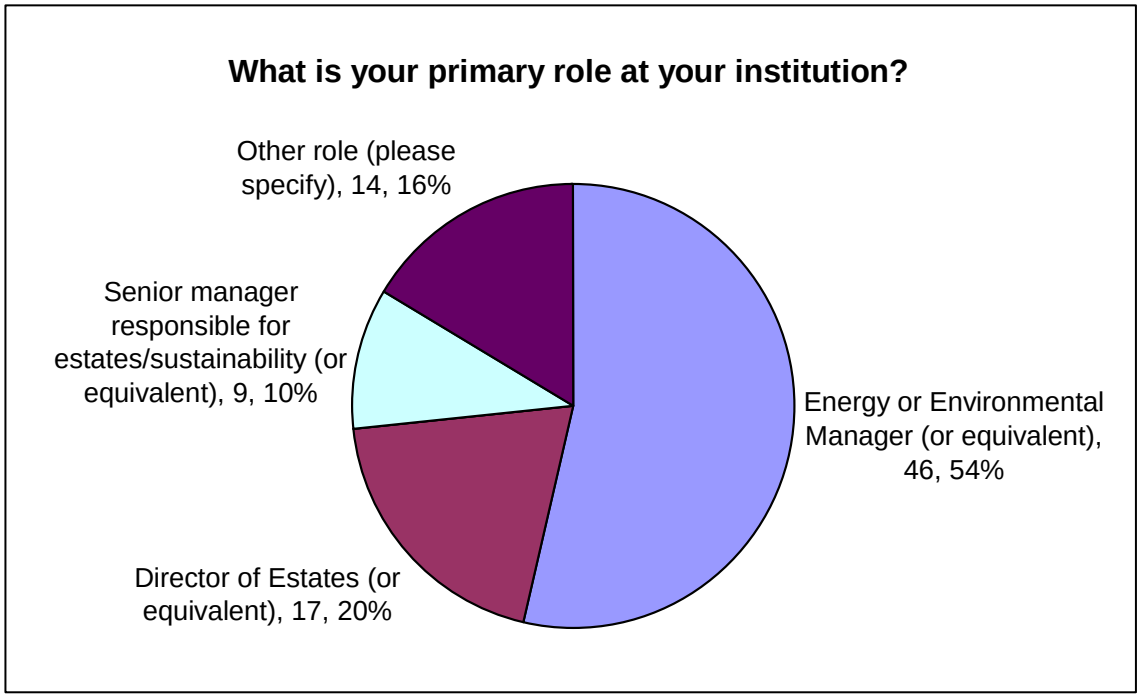
"Regional groups are quite small, I believe there would be more interaction and sharing if they covered a wider area."

Q52: Are you aware of any good examples of sharing good practice that could be applied to the RGF? Please briefly state:

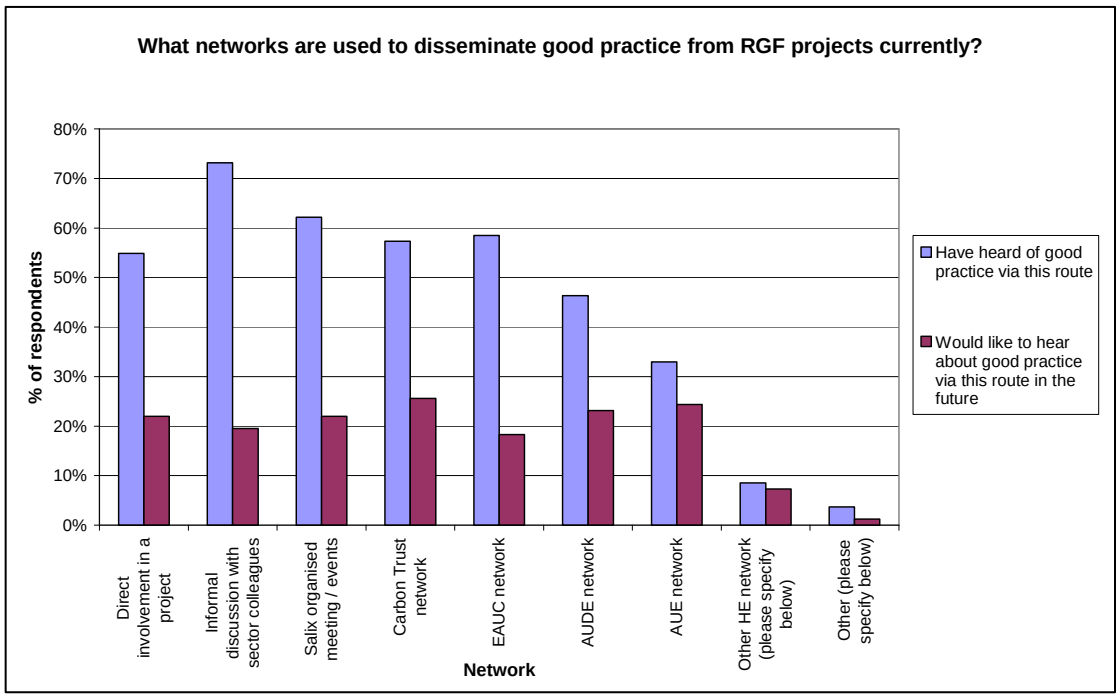
- Eighteen responses were received, these relate to some general suggestions and a number of specific examples including work through Ecocampus. EcoCampus is an Environmental Management System (EMS) and award scheme for the higher education sector. The scheme allows HEIs to be recognised for addressing key issues of environmental sustainability. More general suggestions include discussions at regional meetings, and content from the Salix website or provided through the relationship with Salix.

  "...there is some on the Salix web site and they are very good."

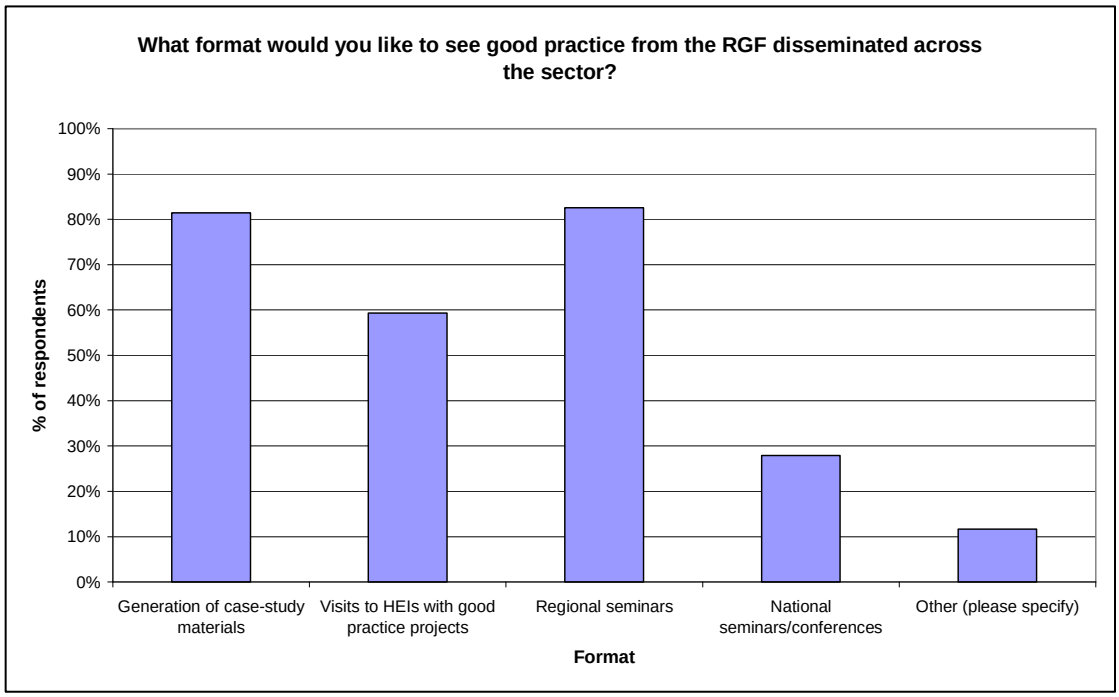
Question 2: 86 responses



Question 50: 82 responses



Question 51: 86 responses



Responses from those who have views on the potential for additional RGF type funding

Contextualising responses

- Responses were received from 104 individuals representing 75 institutions of the 130 institutions in receipt of HEFCE funds. This gives an institution response rate of 58% for this group.
- This section was made available to all survey respondents, including those who had not previously heard of the RGF. Finance directors were directed straight to this section of the questionnaire.
- Approximately half of responses were from energy or environmental mangers, 16% from directors of estates, 12% from finance directors, 8% from senior managers, and 18% from 'other' roles including sustainability, facilities management and financial officers, legal staff and academic staff.

Summary of findings

Q53: In your opinion, if additional funding was available, what is the potential to undertake more institutional small project (ISP) type (small scale retrofit) projects at your institution? To what extent do you agree with the following?

- 83% of respondents agree or strongly agree that their institution has an adequate supply of projects which could be funded, only 1% disagree.
- Just over 90% agree or strongly agree that this would contribute to the institution's carbon management strategy, and that there would be senior management support for receipt of funds.
- Although over 50% of respondents agree or strongly agree that there would be adequate staff resource to both develop applications and manage projects following receipt of funds, 15-20% of respondents are concerned that this would not be the case at their institution.
- Comments provided clarify the point that for smaller institutions the resources required to identify projects, complete the application process and conduct post-award management and monitoring activities is significant. A number of respondents are recruiting additional staff, or would like to be able to use additional funds for this purpose. Comments also relate to suggestions for changing the process/criteria for award. A comment has been received from a previously funded institution indicating that further funds could be used, while another has indicated that the funding already provided is sufficient.

  "We are a small independent (450 student) specialist teaching institution occupying a Grade 1 listed building. We have a list of projects we would like to carry out that would make the [institution] safer, more comfortable, more energy efficient and 'fit for purpose'."

"Many of the projects identified have a pay back in excess of five years. If the sector is to be close to delivering the carbon targets then payback limits will have to be increased and/or other savings included in the fiscal payback. (e.g. maintenance savings, cost of purchasing CO_2 under emission trading schemes)."

"We would need to recruit a projects manager or consultancy to manage the more complex projects."

"We are currently recruiting for an Energy Manager so shortly hope to have the staff resource necessary to manage the fund if we made a successful application."

"We have recently had our fund increased by [value}, which is fantastic. We could easily accommodate a further increase in our fund size as we have a significant number of pipeline projects."

Q54: In your opinion, if there was additional institutional small project (ISP) type funding, what changes would encourage you to apply for additional funding? (tick all that apply)

- Only 8% of respondents suggest keeping the same requirements, suggesting there is a case for making changes. 80% suggest 'increase the range of eligible types of projects (e.g. behavioural change)' and 69% 'increase the 5/7.5 year payback period and £100 or £50/tCO_2 LT requirement for projects'. 43% of respondents suggest 'reduce the 25% institutional contribution.'
- Eleven responses were provided through the 'other' category – example suggestions include:

  "Make sub-metering and Automatic Meter Reading (AMR) eligible please!"

  "The increase in payback applies particularly to gas projects where the tariff is low and so it is difficult to get a gas project through the compliance tool."

  "At these early stages I would focus on projects that will deliver. The behavioural change can result in significant cost without proportional benefit however it is significant enough to need funding"

  "Reduce administrative and contractual requirements."

Q55: In your opinion, if additional funding was available, what is the potential to undertake more transformational type (large scale retrofit or renewable) projects funded through the RGF at your institution? To what extent do you agree with the following?

- 66% of respondents agree or strongly agree that their institution has an adequate supply of projects which could be funded, 12% disagree or strongly disagree.
- Over 80% agree or strongly agree that this would contribute to the institution's carbon management strategy, and that there would be senior management support for receipt of funds, very few disagree that this would be the case.

- Although over 50% of respondents agree or strongly agree that there would be adequate staff resource to both develop applications and manage projects following receipt of funds, 15-20% of respondents are concerned that this would not be the case at their institution.

- Fourteen additional comments were provided, these include the clarification that for a number of institutions the potential for transformational type protects has not been thoroughly considered, or work is currently underway which would allow a clearer understanding of the potential. A couple of respondents have noted that the historic listed status of certain buildings is a barrier to transformational type projects. One respondent stated that removing the innovation criterion would allow implementation of more projects.

  "Within our building footprint large scale projects have, for the moment, already been carried out but what we aspire to do towards a "greener" building is simply not possible in a Grade 1 building i.e. solar panels/heat exchangers/water bore holes/wind."

  "If the innovation criteria was removed then we could deliver strong robust projects that will reduce carbon."

  "A site energy strategy is currently being developed that will clarify answers to these questions with hard data on carbon payback and financial payback of many options."

Q56: In your opinion, if there was additional transformational (large scale) type funding, what changes would encourage you to apply for additional funding? (tick all that apply)

- Of 94 respondents, 60% suggest removing 'the requirement for innovation', and 31% suggest continuing with the existing requirements.

- Nineteen respondents made comments through the 'other' field. Suggestions include comments relating to 'the requirement for innovation' – both that this should be removed, but also that this is valuable as it may prompt initial interest in application to the fund. A couple of respondents note that allowing additional resource for the development of applications would also be beneficial – particularly if 'the requirement for innovation' were to be retained.

  "Assume that more support would be gained from enhancing legacy solutions rather than continually seeking innovation."

  "I would hope the innovative requirement would be retained – that was what stirred my interest to approach resources and operations with an idea and suggest we apply."

  "More technical support to develop projects from an early stage e.g. Our [location] is well suited for a large scale AD plant, however this is a very specific technology and a considerable sum would have to be spent in consultancy to get this project to a level suitable for an application. If there were resource at an early stage to help develop projects like this, more innovative projects could be developed."

Q57: In your opinion, if there was any additional funding, what do you think the split should be between ISP (small scale retrofit) and transformational (large scale) type projects? (tick all that apply)

- Just fewer than 80% of respondents consider that the split should be purely based on the most worthy applications, with only 5% considering this should be purely ISP, and 6% purely transformational. 7% suggested 'allocate prorata to each HEI'.

- Ten responses were received through the 'other' category. These include a number of specific suggestions for how the funding should be split – however there is no overall consensus. A number of specific alternative suggestions are made:

  "Base funding on maximum CO_2 saved per £ spent! and rank all projects, allocating until funds expired."

  "Condition and age of the buildings."

  "EMS metrics for energy consumption per M² of Gross Internal Area (GIA) league table."

Q58: In your opinion, would your institution apply for additional funding? (Please note that you can still apply for the two Salix funding schemes)

- For both ISP and transformational strands approximately 90% of respondents indicated that in their opinion their institution would either probably apply or explore the possibility of application. Approximately 40% indicated their institution would probably apply.

- A smaller proportion of respondents consider an application to the Salix funds unlikely with 23% indicating that an application probably would not be made to either funding source.

- Nine clarification comments were received, examples include:

  "I feel we can do much towards energy efficiency and recycling ourselves without recourse to funding. What projects we would wish to carry out towards energy efficiency we would apply for funding from RGF ISP type."

  "ISP – once comprehensive energy audits have been completed by July 2010, we could apply again. Transformational – we would apply if there was not an insistence for innovation. The Salix Energy Efficiency Loans (SEELS) the spending timeline was too short; payback was too fast." [the SEELS fund awarded interest-free loans to help public sector organisations invest in energy efficiency projects. In March 2010 Salix announced that all loan funding had been successfully allocated]

  "Recycling fund is too complex to administer."

Q59: In your opinion, how much additional money would your institution be able to spend on ISP type projects (small scale retrofit) over the next three years with a payback of five years or less? Please respond taking account of your institution's capacity to implement projects of this type within this time

frame.

- Of the 90 responses to this question, only 4% have indicated no additional funding is required – of the four responses accounting for this, three are from individuals working at previously funded institutions.
- Just under 30% of respondents indicated £0.1 million - £0.25 million, and a similar proportion indicated £0.25 million - £0.5 million. Just over 20% indicated £0.5 million - £1 million could be used, and 10% £1 million - £2 million. Just under 10% indicated more than £2 million could be used, with just over half of these indicating more than £5 million could be used.
- A simple face value calculation of the total possible range of additional funding which could be used gives a lower value of £58.5 million and an upper value of £152.5 million (allocating £5 million to '£5 million plus' responses). However 90 responses were received from individuals representing 70 institutions; to increase the accuracy of this range if multiple responses have been received from a single institution the lowest/highest response can be used, and the others discounted so that institutions are not 'counted more than once' in the estimation. This gives an upper value of £84.5 million and a lower value of £30.55 million.
- Nine additional comments were received, several suggesting that the payback period should be lengthened.

  "Many projects, e.g. lighting replacement, are over the 5 year pay back requirement which limits the scope of the fund."

  "A short payback does not differentiate enough from a commercial loan (apart the 0% finance). Support for longer paybacks is essential."

Q60: In your opinion, does your institution have any transformational type (large scale) project ideas that could be funded? Approximately how much additional money would your institution require to implement all projects of this type?

- Of the 84 responses to this question respondents most commonly (29%) suggested £2 - 5 million.
- A simple face value calculation of the total possible range of additional funding which could be used gives a lower value of £180.5 million and an upper value of £352 million (allocating £0.5 million to 'less than £0.5 million' and £10 million to '£10 million plus' responses). However 84 responses were received from individuals representing 64 institutions; to increase the accuracy of this range if multiple responses have been received from a single institution the lowest/highest response can be used, and the others discounted so that institutions are not 'counted more than once' in the estimation. This gives an upper value of £275 million and a lower value of £125.5 million.
- Twenty-six clarification comments were received, these include comments that although this level of funding could be used, the projects may not be

sufficiently developed, or further analysis work is required.

"We could produce a list of transformational projects that would be more than £10m however we have not completed all of the studies. We believe that we could however deliver projects within the £5 to 10 million range within the next year if we had the funds."

"We have not spent enough time considering feasibility."

"We have a number of ideas but these are not yet fully costed."

"With more resource and an Environment Manager we expect to identify costed proposals."

Q61: In your opinion how do you think existing HEI funders could encourage more spending on improving energy efficiency measures at your institution?

- Fifty-five responses were received. These include a broad range of general and specific suggestions. These can broadly be characterised as either 'hard' regulatory and funding-related measures, or enabling 'softer' measures. Hard measures include the suggestion of linking performance in this area directly to funding. 'Softer' suggestions include amendments to the application process for RGF funding, provision of additional staff resource (e.g. specialists to conduct site visits) and an increase in the payback criteria.

  "Linking performance in carbon/energy management to HEFCE funding."

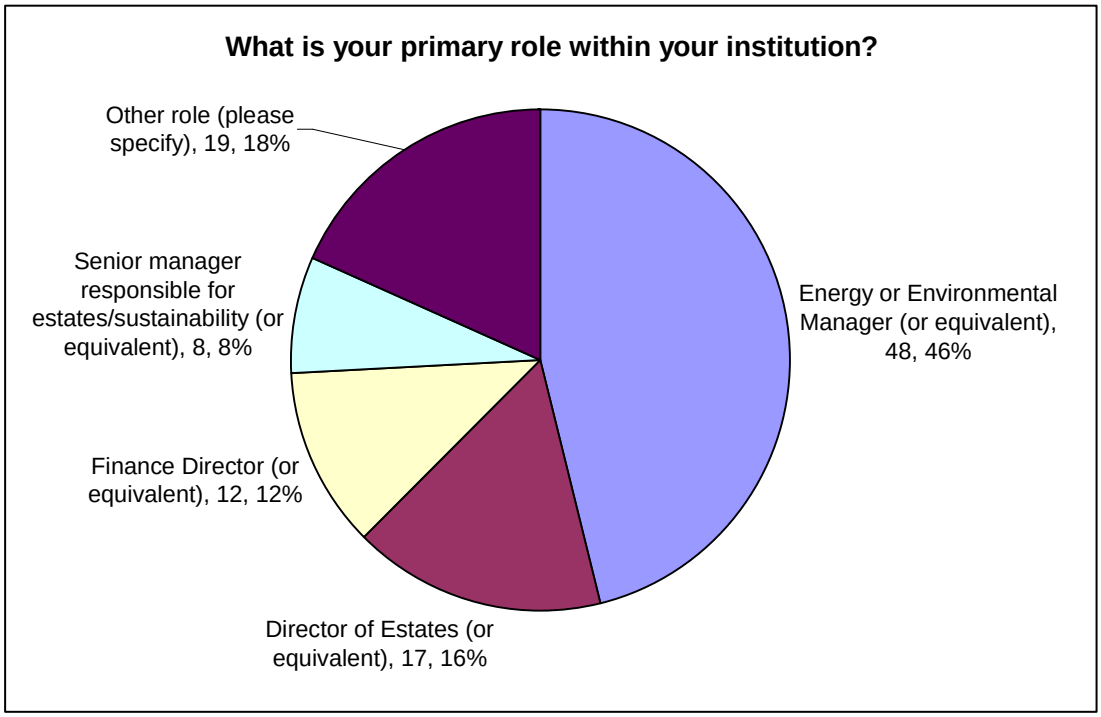
  "HEFCE I think needs to be more insistent on energy efficiency (although EMS data is not an appropriate measure given that it is not an audited return), and I would personally welcome a robust approach to the link between funding (both revenue and capital) and carbon emissions (taking into account the uniqueness between HEIs)..."

  "Provide experienced staff to support the process with visits to institutions and on-site advice and evaluation of potential."

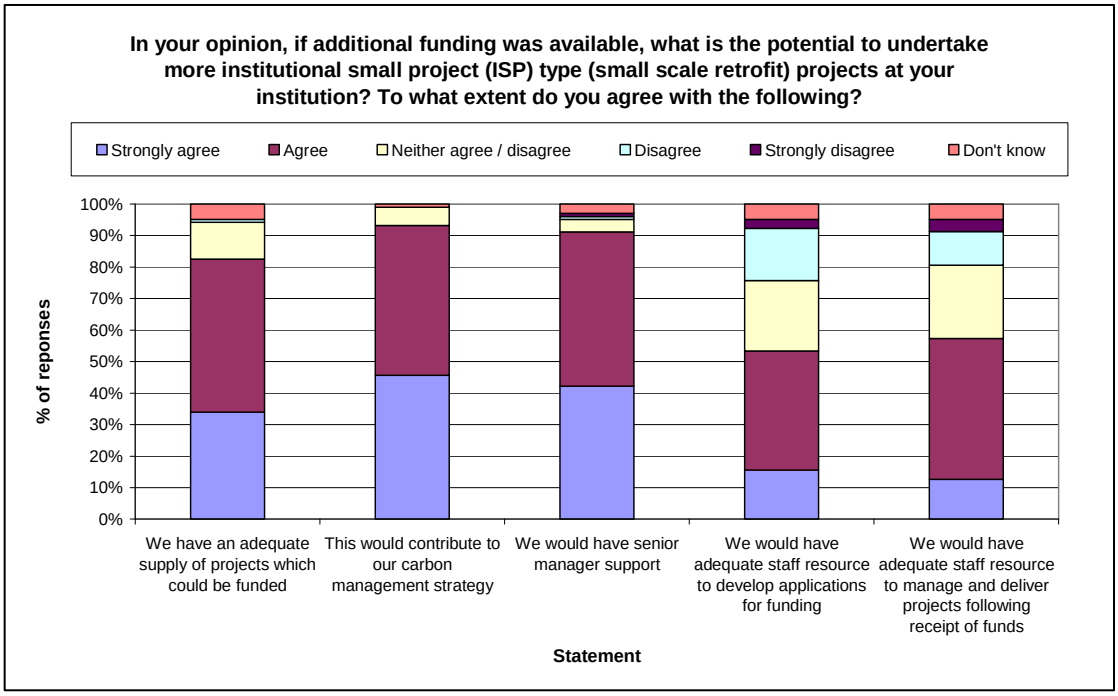
  "Reduce bureaucracy at the application phase. Site assessment rather than desktop based."

  "Reduce the administrative burden so that it is proportionate to the level of funding."

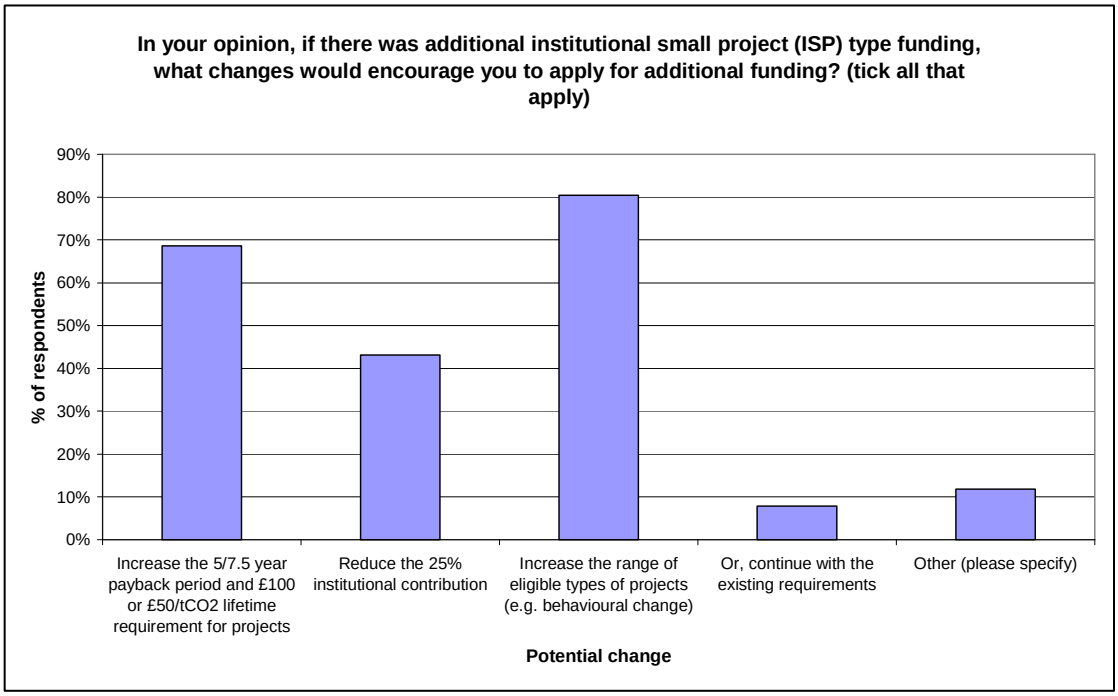
Question 2: 104 responses



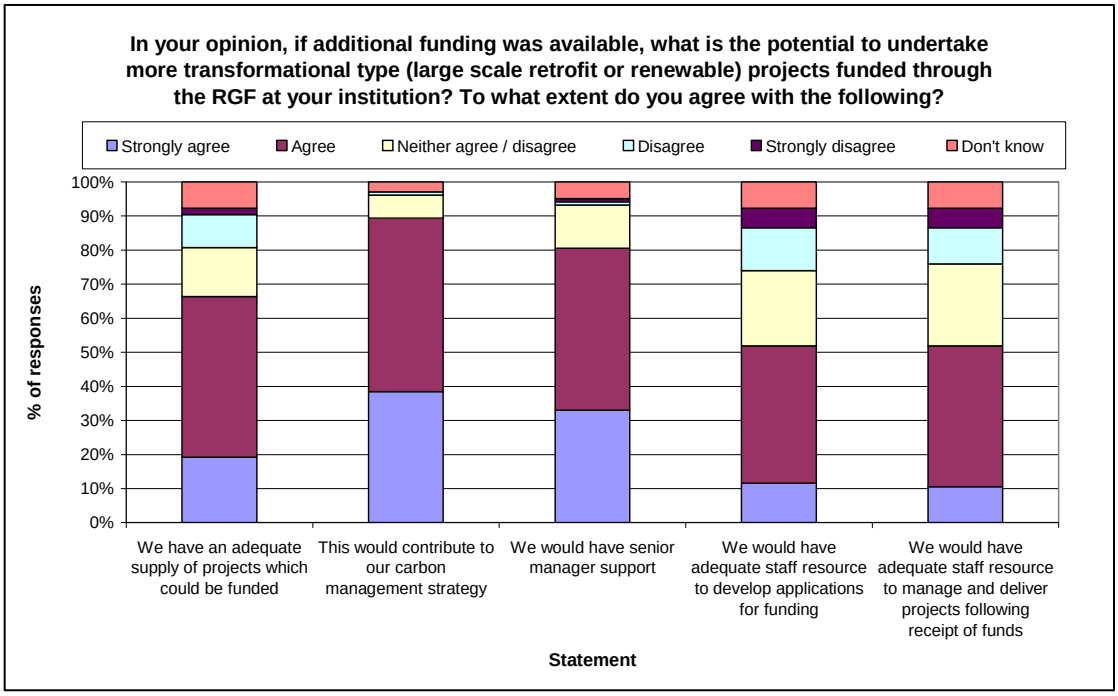
Question 53: 103 responses



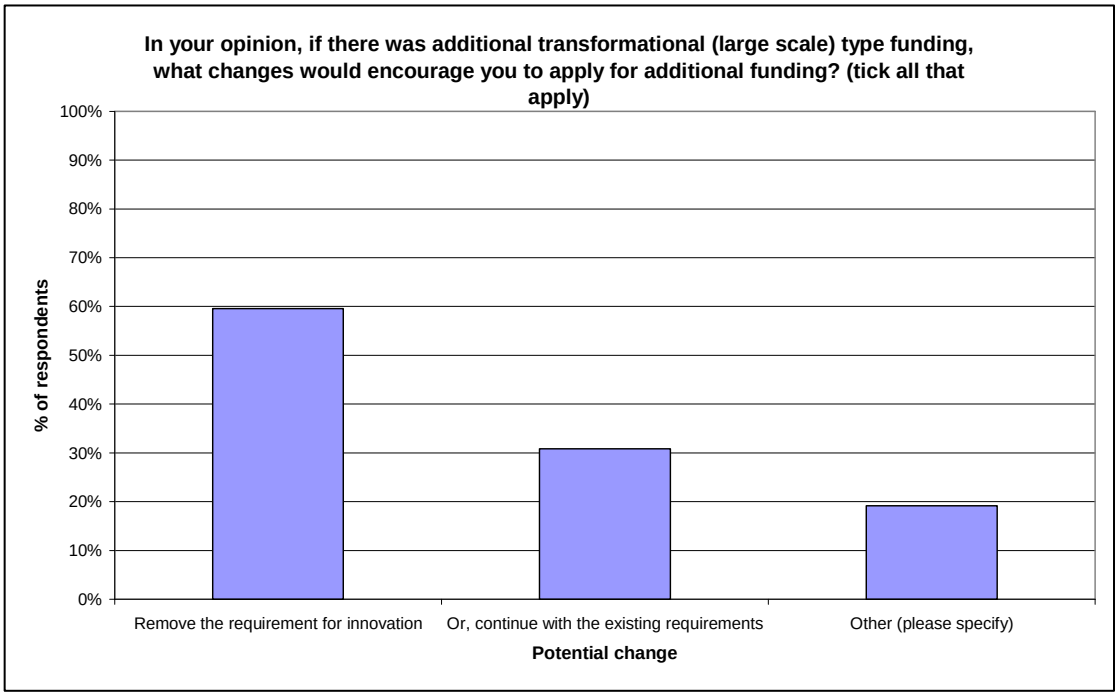
Question 54: 102 responses



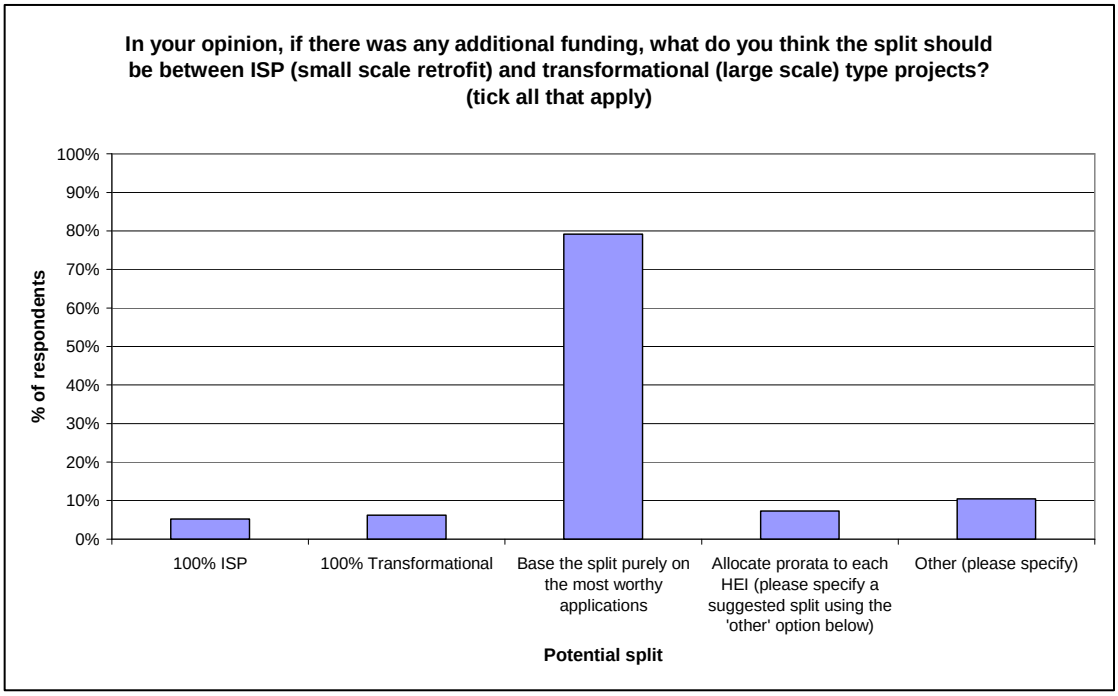
Question 55: 104 responses



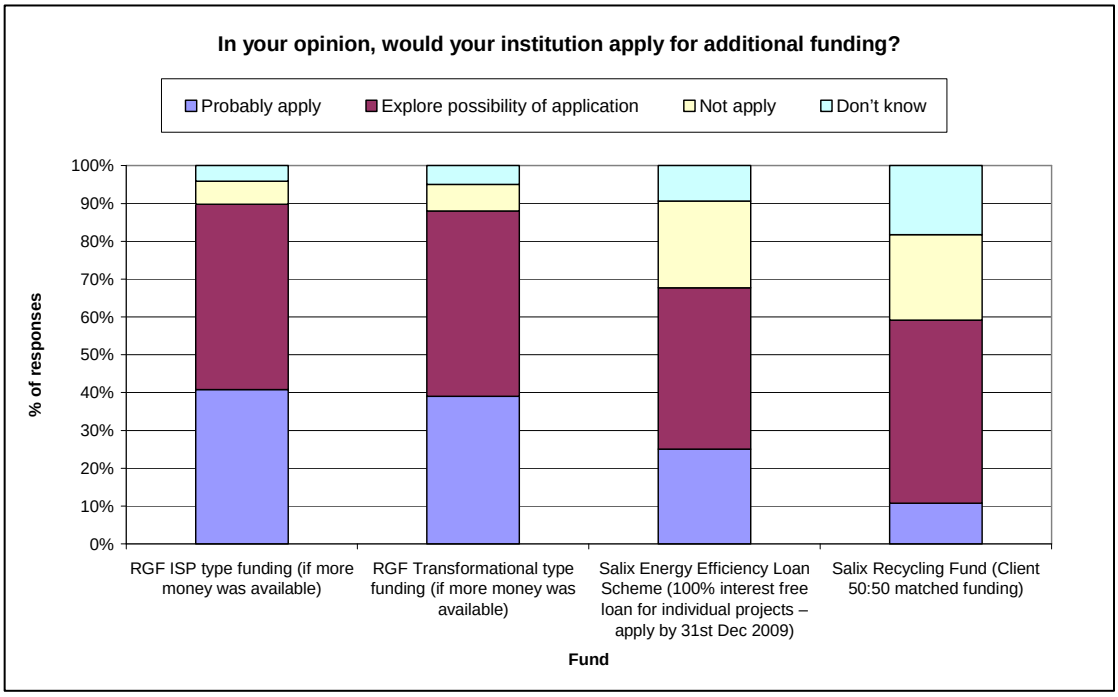
Question 56: 94 responses



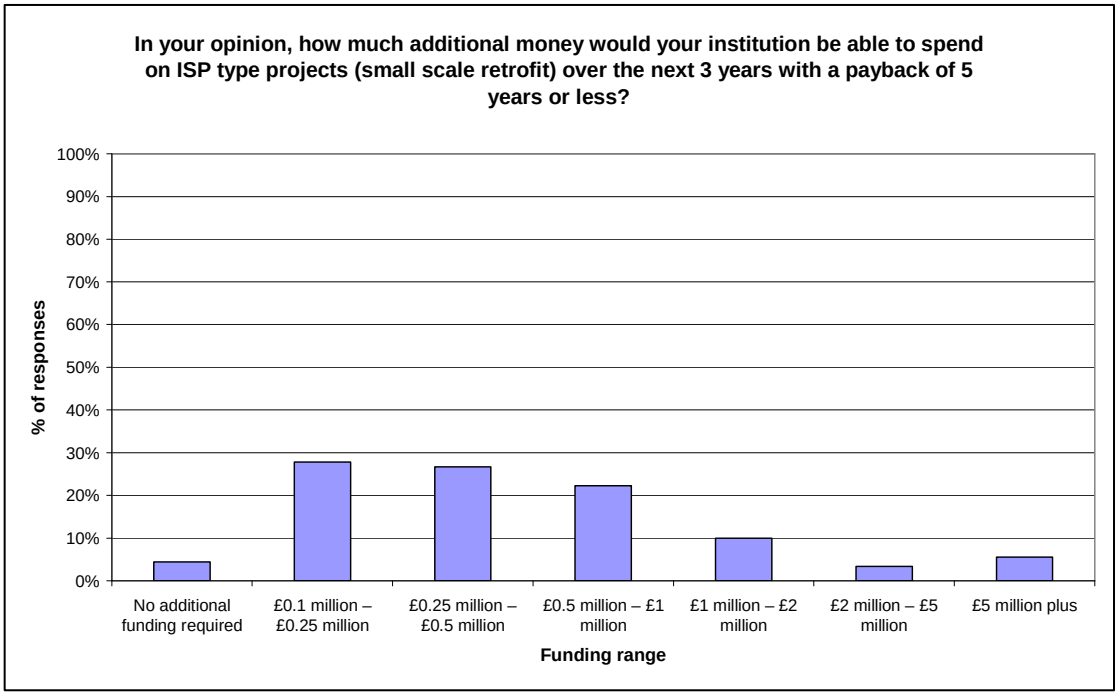
Question 57: 96 responses



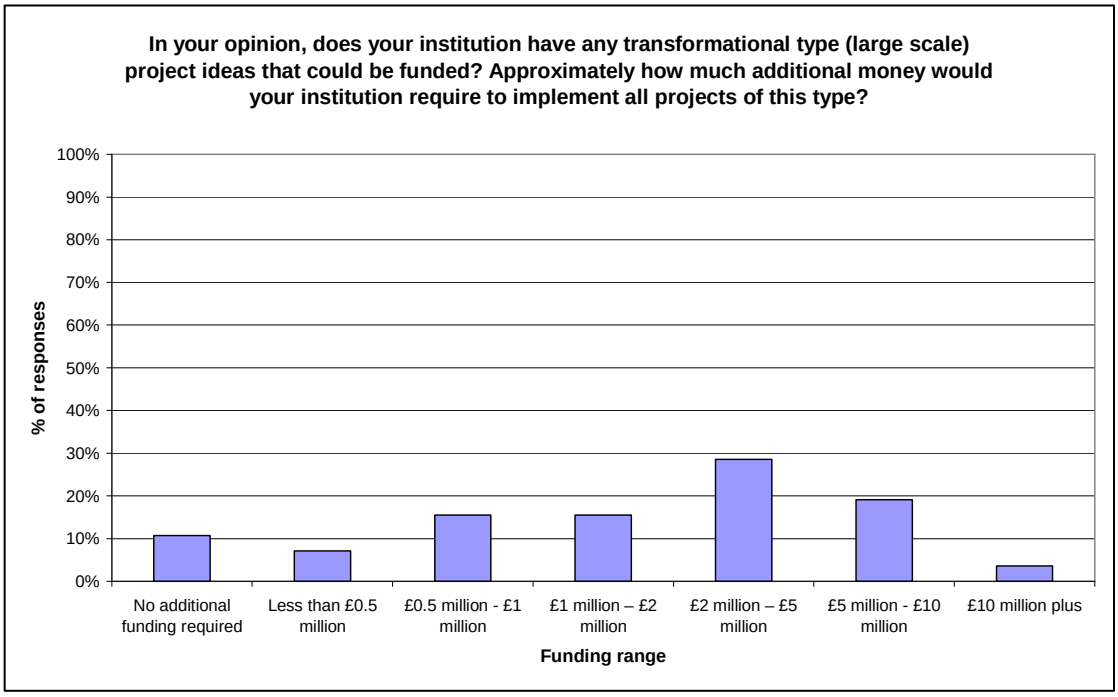
Question 58: 100 responses



Question 59: 90 responses



Question 60: 84 responses



General comments

Q62: Are there any other comments you would like to make in relation to the Revolving Green Fund?

- Twenty-one comments were received. A number of these state that the RGF has made a positive impact on carbon reduction in the higher education sector. However a couple of comments suggest that the administrative requirements are too extensive in proportion to the benefits.

  "Although slightly complex in terms of the financial requirements for managing the fund the uptake has been good and provides opportunity for energy/carbon savings across the sector."

  "It has proven to be an invaluable mechanism to drive forward energy efficiency projects which would inevitably have failed to be delivered without this funding stream."

  "Currently the way this fund operates makes it very resource-intensive, unnecessarily tying up limited staff time."

Appendix C. Overview of the Revolving Green Fund

HEFCE undertook a consultation[61] on the aims and operation of the Revolving Green Fund (RGF) between January and April 2008. Outcomes of this consultation and an invitation for institutions to submit applications was subsequently published in August 2008[62].

The aims of the RGF are to:

- Reduce the sector's greenhouse gas emissions, in particular carbon dioxide.
- Achieve long-term financial savings from reduced energy consumption.
- Increase the implementation of energy efficient projects within the higher education sector.
- Promote the sector's leading role in reducing greenhouse gases emissions through projects that transform an HEIs approach to reducing its emissions.
- Work closely with Salix and in turn the Carbon Trust.
- Use minimal accountability processes.

These aims are to be met through the provision of £30 million available to HEIs, with HEFCE contributing £20 million and Salix Finance Ltd contributing £10 million. The fund has two distinct strands:

- An institutional small projects (ISP) fund totalling £20 million.
- A transformational fund totalling £10 million.

The ISP fund uses a model tested by Salix whereby funding received is ring-fenced to be spent on carbon-saving projects. This is underpinned by the principal that the financial saving achieved as a result of reduced energy consumption are repaid to this ring-fenced fund and used by the recipient to fund additional projects – in this way the fund is 'revolving'. Once the original amount is re-paid the institution is free to keep ongoing savings, however the institution does not have to repay the money granted while savings continue to be invested in energy saving projects.

The transformational fund is for much larger scale projects which 'transform the institution's approach to managing its energy consumption and reducing its emissions'. The invitation to submit applications to this strand noted that applications in the region of £1 million to £4 million per institution were anticipated (to a fund of £10 million), and that funded institutions would act as beacons of good practice for the sector.

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[61] Revolving green fund – Consultation on the aims and operation of a revolving green fund (January 2008/03): http://www.hefce.ac.uk/pubs/hefce/2008/08_03/

[62] Revolving Green Fund – outcomes of consultation and invitation to submit applications (Circular letter number 20/2008): http://www.hefce.ac.uk/pubs/circlets/2008/cl20_08/

Institutions were initially invited to apply to both strands of the fund in August 2008, with successful ISP applicants notified in November 2008 and successful applicants to the transformational fund announced in February 2009. Following this initial round of applications, institutions were invited to submit applications for a second round of ISP funding in February 2009, with successful applicants announced in June 2009.

A summary of the two strands of the fund is shown in Figure 21 below:

Figure 21: Characteristics of the two strands of the RGF[63]

	Institutional small projects fund	**Transformational fund**
Outline	Interest free recoverable grants for HEIs to set up internal ring-fenced revolving green fund	Central fund to provide interest free recoverable grants for HEIs to implement larger projects
Value of each application	Total funding from HEFCE and Salix of approximately £100,000 - £1 million	In the region of £1-4 million
Application process	Cycle of applications through completion of application form	Annual cycle of applications through completion of application form
Assessment	Salix Finance Ltd	RGF Advisory Group
Repayment to the funders	When HEIs do not have further eligible projects to invest in	According to an agreed repayment profile arranged on an individual project basis that reflects the expected profile of benefits
Accountability	Ongoing monitoring and reporting of individual projects. Via a web-based reporting tool (SERS) Monitor greenhouse gas emission and cost savings and report annually for at least five years. A selection of projects will be subject to audit.	Periodic progress reports and notification when work is complete. Monitor greenhouse gas emission and cost savings and report annually for at least five years. A selection of projects will be subject to audit.

Transformational funding was allocated to three HEIs, for projects submitted by the University of East Anglia, Harper Adams University College and Lancaster University.

- The University of East Anglia project will establish a biomass energy centre at its Norwich campus. This will establish the first plant for the production of heat and power from biomass residues in England.

[63] Adapted from Consultation on the aims and operation of a revolving green fund (2008/03) http://www.hefce.ac.uk/pubs/hefce/2008/08_03/

- Harper Adams University College's project will develop anaerobic digestion for renewable energy production. The project will use farm waste and food waste streams diverted from landfill to generate renewable power.
- The Lancaster University project aims to install two wind turbines to significantly reduce CO_2 emissions from electricity consumption and reduce reliance on imported electricity.

Recipients of ISP funding fall into three groups:

- Eleven HEIs had a funding relationship with Salix prior to the availability of the RGF ISP strand. These institutions subsequently transferred to the ISP model and are considered as having been awarded funding though ISP round 1 application process.
- Thirty HEIs had no previous relationship with Salix and were awarded ISP funding following the round 1 application process.
- Sixteen HEIs were awarded ISP funding as a result of the round 2 application process.

In total 57 institutions have received ISP funding.

Changes to the ISP application process between round 1 and round 2

For round 1 the application process involved:

- An initial expression of interest, in which the applicant was asked:
    - To state the amount they were applying for.
    - Confirm they would contribute an additional 25% over above the amount funded by HEFCE/Salix.
    - Provide information on the size of the energy bill.
- Attendance at a seminar which comprised a presentation on the scheme and an interview.
- Following successful interview those HEIs that were successful were invited to submit a full application. The application was then assessed by Salix Customer Relationship Managers. This was followed by an independent assessment by Salix's technical contractors.

Following feedback that the process could be simplified, for round 2 this involved:

- Completion of a similar expression of interest form.
- Attendance at a seminar, with a more detailed interview, carried out by Salix's technical contractor, to determine suitability for the scheme. Completion of a full application form was not required.

Appendix D. Terms of reference and approach

Terms of Reference

The evaluation was specifically required to:

Assess the progress of the fund to date

- As the evaluation is being undertaken early in the fund's history, it is not expected to fully assess the actual effectiveness of the fund in achieving carbon and cost savings. However, it should consider whether the fund is achieving, or likely to achieve, its aims.
- The evaluation should seek to establish whether the fund is acting as an accelerator to carbon reduction within institutions and whether it is leading to additional projects being implemented (which would not otherwise have been completed).
- It should also capture the benefits to institutions of receiving funding from the RGF.

Consider the lessons learnt from the process and, if appropriate, make recommendations for amending the process in case further funding is secured

- The evaluation should determine the reasons why institutions did or did not apply to the two strands of the fund. This will include considering questions like: why did some unsuccessful institutions from ISP round one not re-apply in round two; are there barriers for institutions and what can be done to overcome these?
- The evaluation should capture the types of projects being undertaken, and ascertain whether experience has shown that these type of projects lead to the largest carbon cost savings.

Gather evidence, including unmet demand, to build a case for further funding

- It should consider how any further funding should be split between the two strands (ISP and transformational), considering the aim of the fund.

Consider and make recommendations on how the learning and good practice from both strands of the fund can be effectively captured and disseminated

- The evaluation should consider how experiences are currently shared and establish whether institutions require additional support to disseminate work and share good practice. This may involve making recommendations on what the sector will find useful and the costs of producing effective dissemination tools using a variety of media (for example case studies, films and events).
- Sharing learning is a condition of funding for the transformational fund and the advice produced should benefit both institutions and HEFCE.

Approach

A number of methods were adopted to build up the evidence base for this evaluation specifically:

- Development of an evaluation matrix mapping evaluation requirements to evidence sources and identifying the specific questions to be answered.
- Initial telephone interviews with RGF Advisory Group members and representatives of key stakeholders.
- Conducting a thorough desk-based review of existing documentation and other evidential sources, including analysis of report data provided to Salix by ISP project managers relating to the range of projects undertaken and reported savings.
- On online questionnaire available to relevant practitioners. Respondents were directed to relevant sections only, giving differing levels of response to the following main sections:
    - ISP recipients: 54 individuals representing 42 of the 57 institutions who have been awarded and accepted ISP funding.
    - Unsuccessful ISP applicants: six individuals representing six of the 18 institutions who have applied unsuccessfully for ISP funding and (and not subsequently been successful at a later point).
    - Transformational fund recipients: three individuals representing the three recipient institutions.
    - Unsuccessful transformational fund applicants: 26 individuals representing 20 institutions of the 31 who unsuccessfully applied for transformational funding.
    - Not applied to either strand of the fund: 10 individuals representing 10 of the 47 who did not apply to either strand.
    - Sharing of knowledge and good practice: 86 individuals representing 70 institutions of the 130 in receipt of HEFCE funds who could have applied for RGF funding.
    - Potential for additional funding: 104 individuals representing 75 of the 130 in receipt of HEFCE funds who could have applied for RGF funding.
- Telephone interviews with representative of:
    - The three transformational recipient institutions.

      Seven ISP recipient institutions.
    - Five institutions who had applied for ISP funding unsuccessfully.
    - Nine institutions who had not applied to either strand of the fund.

- Analysing and synthesising the results of all the desk and field research, and producing the Final Report.

Appendix E. Case study format

Dissemination method[64]	Costs		Considerations		Summary
	Main direct costs	**Main overheads/pre-requisites**	**In favour**	**Against**	
Written case study generation – highly concise content	• Content contributors are likely to be practitioners managing case-study projects, 'volunteering' content.	• Facility to make material available online (website or online database). • Mailing list or network to request and publicise content. • Some form of content verification may be desirable. • Content contributors are likely to be practitioners.	• The level of resource required to generate content is manageable. • Case studies are quick to read and learning points are easily identifiable. • Case studies emerged as a popular method for the dissemination of good practice through survey responses.	• Level of detail may not give 'the whole picture' in terms of the 'journey' from identifying potential projects, through to implementation.	• Case studies of this type may be most appropriate to ISP type projects, where those managing the projects may have the capacity to provided sufficient concise material in a standard template.

[64] Conference/meeting costs represent a range of approximate quotes from three 3* Birmingham hotels. Costs may be negotiable and vary depending on equipment requirements.

Dissemination method[64]	Costs		Considerations		Summary
	Main direct costs	**Main overheads/pre-requisites**	**In favour**	**Against**	
Written case study generation – more detailed content	• Depending on the level of detail reflected in case study materials, external consultancy support may be required to research and produce case study content. Those managing the projects may not have sufficient capacity to undertake the required work. Consultancy rates typically range from £ several hundred to £ several thousand per day depending on the skills and experience of the individual consultants	• Facility to make material available online (website / online database). • Mailing list / network to request and publicise content. • Some form of content verification may be desirable.	• Content may present more of a 'story' allowing a rich contextual understanding of motivations and objectives, through to implementation. It would include what was rejected or didn't work. • Case-studies emerged as a popular method for the dissemination of good practice through survey responses.	• Content generation may require a significant level of resource, with associated costs if external support is commissioned.	• The resource requirements to produce detailed case studies suggest that these are most suitable in relation to transformational type projects.

Dissemination method[64]	Costs		Considerations		Summary
	Main direct costs	**Main overheads/pre-requisites**	**In favour**	**Against**	
Film case studies	• Options for production would include commissioning an external production company to facilitate the planning, filming and production of the film. Services of this nature can vary greatly, but are likely to cost £10-30 thousand.	• Direct costs could be reduced through certain elements of this work being carried out by staff working at funded universities, such as development of certain content by fund recipients, or commissioning the project as an internal/student project where there is relevant curriculum and access to the required technology.	• Reduction in demand for direct interaction with project managers and site visits to observe transformational projects.	• Significant resource requirements in terms of planning and production of the film.	• Due to the significant level of direct and indirect costs associated with production of a film, this would appear to be most suitable for transformational projects. There is a great deal of interest in these projects from with the higher education sector and beyond, so film is potentially an effective medium to share good practice to date without the ongoing daily input of project leaders.

Appendix F. Analysis of ISP application values

Figure 22: Characteristics of ISP round 1 applications

Round 1 application characteristics	**Value**
Range in HEFCE-Salix funding requested from 53 round 1 interview attendees	£92,000 - £1,000,000
Range in energy bill for 53 round 1 interview attendees	£450,000 - £16,000,000
Range in % of funds requested to energy bill	2%-190%
Total HEFCE-Salix funding awarded to 30 institutions who successfully applied for and accepted funding	£10,425,664
Total utility bill of 30 institutions who successfully applied for and accepted funding	£135,000,000
Total of HEFCE-Salix funding requested by 22 unsuccessful institutions	£7,187,750 ranging in value from £92,000 to £1,000,000
Total utility bill of 22 unsuccessful institutions	£48,000,000. Note that one institution declined to accept funding
Range in % of funds requested to energy bill for 22 unsuccessful institutions	2%-190%

Following round 1, five unsuccessful round 1 applicants reapplied at round 2, and received a total value of £1,425,797. Figure 23 presents the characteristics of ISP round 2 applications.

Figure 23: Characteristics of ISP round 2 applications

Round 2 application characteristics	**Value**
Total amount of HEFCE-Salix funding requested by 18 applicants	£75,000 - £440,000
Total energy bill of 18 applicants	£38,000,000
Range in energy bill	£144,354 - £10,250,000
Range in % of funds requested to energy bill	1.2% - 173.2%
Total HEFCE-Salix funding awarded to 16 institutions who successfully applied for and accepted funding	£4,310,797
Total of HEFCE-Salix funding requested by two unsuccessful institutions	£350,000

Annex A. Summary of findings and recommendations

9.6. Recommendations relating to lessons learnt

9.6.1. Available staff resource (ref 7.8)

A notable proportion of institutions[65] are concerned that inadequate staff resource, both to produce applications and manage funding post-award, is a barrier to application. This is supported by the finding that a ready supply of identifiable projects and access to relevant data were the main encouraging factors for applicants – without the resource to identify projects and produce supporting data then application is less likely. Both the capacity and capability of staff to complete these activities may be barriers, with capacity particularly acute in institutions without dedicated energy/environmental managers, which tend to be smaller institutions.

We are aware of one instance of a cluster of institutions appointing a shared energy manager.

Recommendation 1: HEFCE should support mechanisms to encourage applications from smaller institutions. Such a mechanism could involve pump priming funding of clusters of smaller institutions to share energy expertise, the costs of which would eventually be met through savings achieved.

9.6.2. Linking capital funding to sustainability performance (ref 7.8)

A couple of interviewees believed that a proportion of any future capital funding awarded in CIF2 in 2011 should be spent on improving the sustainability performance of capital projects. They felt that this would send a clear message and further encourage HEIs to actively enhance the environmental performance of new build and refurbishment projects.

Many of the interviewees expressed the difficulty in funding energy performance uplift (fabric and plant improvements) in large scale retrofit/refurbishment projects. This size of project would often have a payback over 7.5 years and would be too large for ISP funding. There are some HEIs going beyond Building Regulations standards in their major retrofit projects, which they are funding from their capital programmes.

The mechanism for achieving this would have to be carefully managed, but could involve an element of matched funding from the HEI. Whilst HEFCE have agreed in their Carbon Reduction Strategy[66] that the CIF2 process will be remodelled with a greater focus on carbon, it is not currently proposed that there should be an overt link with the sustainability performance of the projects that are funded.

Recommendation 2: Consideration should be given on how the CIF2 framework can be used to encourage HEIs to spend a proportion of their capital funding on enhancing the sustainability performance of their new build and refurbishment projects.

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[65] 15-20% of survey respondents indicated that (if additional funding was available) they disagreed / strongly disagreed that they would have adequate staff resource to develop applications and manage / deliver projects following receipt of funds.

[66] http://www.hefce.ac.uk/pubs/hefce/2009/09_27/

9.6.3. Criteria for ISP project compliance (ref 7.9)

At present projects may not be compliant if the payback period is too long (more than 5/7.5 years or £50/tCO_2). This prevents a number of projects which may be a priority for institutions from qualifying for ISP funding. In addition, behavioural change type projects are not eligible for ISP funding. Although compliance criteria have not (in the main) deterred successful applicants, this did prove an issue for a minority of successful applicants and those who chose not to apply for funding. Only 8% of survey respondents suggested leaving the criteria unchanged.

Exclusions that were identified from the range of eligible types of projects were behavioural, certain types of renewable and metering related. Many more types of renewable project are now permissible in the compliance tool as new technologies are constantly being introduced as HEIs and other Salix customers ask for them. Metering related projects are an important part of funding delivering a Carbon Management Plan and it is logical for them to be included as an eligible ISP project. Metering could not be included in the compliance tool but could be allowed as maximum percentage of the total fund allocation.

Other suggested changes were spending a greater proportion of the funding on staff to manage the project and increasing permitted payback periods to recognise low gas prices and the cost of retrofitting whole buildings with insulation. Behavioural change projects are an important source of carbon savings, which cannot currently be included in the RGF. They could be included in ISP funding using the same mechanism as metering, or HEIs could be encouraged to apply to HEFCE for LGMF.

Recommendation 3: HEFCE and Salix should revisit the ISP project compliance requirements in the following areas:

- Increasing the payback to allow HEFCE contribution to be spent on projects which achieve the institution contribution requirement, namely a 10 year payback at £400/tCO_2 LT.
- Include metering projects even though they do not generate an overt carbon saving, they are a critical part of accessing that project savings are being achieved.
- On a project by project basis to increase the current maximum management charge (15%), which is permitted to be funded from an individual ISP project.

Recommendation 4: HEFCE should encourage institutions to apply for LGMF funding to look at behavioural change projects. These projects may be very similar between institutions, and potentially offer the recipients the opportunity to undertake partnership working.

9.6.4. Financial considerations (ref 7.9)

Two interviewees commented that the requirement to contribute 25% matched ISP funding has prevented application. 43% of survey respondents indicated that reducing this would encourage application. Although reducing this requirement would be popular with a number of potential applicants and may allow some institutions who were previously unable to apply to do so, it should be noted that this would not necessarily result in any additional carbon savings across the sector as a whole.

Also of relevance is that we have had relatively few reports of institutions not actually applying for funding because of this requirement.

A couple of institutions have reported that the nature of the fund as a recoverable, rather than a non-recoverable grant, stopped them applying for or accepting RGF funding. They were concerned that it would have impacted on their borrowings limit or needed to be paid back at short notice if no more eligible projects were identified.

Recommendation 5: Where institutions specifically cannot provide the required 25% contribution, HEFCE should consider how they can take advantage of ISP funding. In practice this could involve HEIs on a case-by-case basis (based on their size) being allowed to provide only a 10% contribution, with a funding cap to ensure that other institutions are not adversely affected e.g. a total fund of £200,000. This could be linked to the requirement that these smaller HEIs have to provide at least some part-time dedicated resource to implement their projects.

9.6.5. Transformational application process (ref 7.10)

There is an argument that in order to accelerate the implementation of transformational type projects in the future, the funding should be allocated to the strongest applications in a timely manner, and that encouraging large numbers of applications to be developed when only a few could be funded (through limited funding) is unwise. However, if the types of projects that are submitted for transformational funding no longer have to be innovative, then unsuccessful HEIs are more likely to self-fund schemes once they have prepared a bid.

Recommendation 6: Increase the notification period for receipt of transformational applications for funding to allow institutions a longer period to identify suitable projects, for example six months as a substantially longer period than the two months previously available. Consider the implementation of an amended application process comprising the award of pump priming funding following an initial expression of interest stage allowing development of applications to be submitted for the second stage.

Recommendation 7: HEFCE should consider spreading transformational funding over several annual rounds, allowing those with more developed schemes to apply initially, and those who have ideas to develop these sufficiently for the subsequent rounds. Whilst this may reduce the total number of projects which can be funded in each round, it will allow institutions to identify projects that could be funded from other sources.

9.6.6. Innovation criterion (ref 7.10)

It is clear that projects can be transformational without being innovative if the definition of transformational is that it delivers a step change in reducing an institution's carbon emissions.

Transformational projects were encouraged to be innovative as an element of the criteria for award of funds. This innovation criterion was in part driven by the potential of transformation projects as a beacon of good practice. However this has caused issues relating to:

- Exactly what was meant by innovative – this caused some confusion for applicants.
- Some have questioned the level of innovation actually characterised by the funded projects.
- That 'fundable' projects that would have scored very well on other criteria were rejected on the grounds of lack of innovation.
- 60% of survey respondents reported that removing the 'requirement for innovation' would encourage them to apply if funding were available in the future.

Given these issues the innovation criterion if retained should arguably be optional.

Consideration should also be given as to how the energy efficiency of whole building retrofit projects can be improved. These are too large for ISP funding and are likely to deliver more cost effective carbon savings than transformational renewable projects. These could potentially be funded through the transformational strand if the innovation criterion was elective.

Recommendation 8: HEFCE should consider making the innovation criterion an elective element of the transformational application and assessment process.

9.7. Recommendations relating to the requirement for additional funding

9.7.1. Indicators relating to the requirement for additional funding (ref 8.5)

A number of indicators relating to the requirement for additional RGF type funding have been used, all indicating that additional funding could be used by institutions, including:

- The value of unfunded applications to both strands (approximately £5.5 million for ISP HEFCE-Salix funding and £53.8 million for transformational HEFCE funding).
- The proportion of the total English higher education estate (in terms of size and energy consumption) which has received some ISP funding to date; indicating that the 'coverage' of the recipient institutions is around 65% of the sector in terms of size and energy consumption. This suggests that an additional 35% has not received any ISP funding at all. Although institutions representing approximately 65% of the English estate have received ISP funds, this funding will only have impacted the energy consumption of a proportion of this estate i.e. it is very likely there are more projects that can be implemented. This is supported by the finding that 90% of survey respondents working at institutions that received ISP funding said that they would either explore the possibility of applying or probably apply for more ISP funding. Of these nearly half said that they would probably apply for more funding.
- The estimated amount of funding that survey respondents consider could be spent on projects of each fund strand type; again in relation to the scale of the English higher education estate (£42.71 million - £118.18 million for ISP projects and £187.31 million - £410.45 million for transformational type projects).
- The availability of other sources of funding which could be used to implement projects of either strand type.

In addition there is a strong validation from the sector that additional RGF type funding could be used. In relation to both strands, approximately 90% of survey respondents indicated that in their opinion their institution would either probably apply or explore the possibility of application. Approximately 40% indicated their institution would probably apply, and 50% indicated they would explore the possibility of application.

Recommendation 9: HEFCE should take forward measures to secure additional funding for both ISP and transformational type projects.

9.7.2. Division of future funding between ISP and transformational strands (ref 8.5)

In terms of the split of any future funding, there is a view from the sector that potential ISP projects are more easily identifiable. This combined with the relative speed at which carbon savings can be achieved suggests that the largest proportion of any future funding should be directed towards ISP-type projects. However there is also evidence supporting the case for additional transformational funding, with many practitioners suggesting the split of any future funding should be based on the merit of applications.

Recommendation 10: The largest proportion of future funding should be directed towards ISP type projects, however there is potential to adjust the split following assessment of the strength of transformational applications.

9.7.3. Amount of ISP funding applied for relative to institution utility costs (ref 8.6)

The average Salix-HEFCE funding percentage of an HEI's energy bill is 8%. For many large research intensive institutions their ISP funding represents a much lower percentage of their utility costs than this, as they applied for similar amounts of funding to much smaller HEIs.

There are a number of large HEIs with high utility spends due to the research intensive activity, which despite having received ISP funding, are still spending a relatively small proportion of their energy bill on energy efficiency measures.

Recommendation 11: HEFCE should ensure that senior managers in institutions are fully informed as to the benefits associated with receipt of ISP funding, including any 'quick wins' relating to high payback projects with short lead in times. This should allow senior managers to actively consider the merits of investing further institutional funding into ISP type projects and also increasing the associated staffing resource to manage these projects.

9.8. Recommendations relating to sharing of good practice

9.8.1. Current sharing of good practice (ref 9.3)

86 survey respondents had heard of the RGF before completing the survey and were therefore asked questions on current sharing of good practice. 73% of survey respondents have heard of good practice through informal discussion with sector colleagues, making this the most common route. Salix organised meetings and events available to Salix clients have been accessed by 62% of respondents.

Good practice relating to ISP projects is currently formally shared through Salix regional meetings. The approach adopted involves the production of a concise slide pack by project managers. However these meetings and case-study resources are only available to existing Salix clients. There is a need to expand dissemination of learning from ISP projects to HEIs who are not currently involved in the programme.

Overall across the sector, sharing is fragmented and there is only one organisation coordinating and driving the sharing of good practice arising from the RGF.

In terms of future forms of media, generation of case study materials and regional seminars are the two most popular choices, with approximately 80% of respondents identifying each option.

The need has been expressed for some technical guidance materials which provide both an overview of different technologies and more in depth information for each technology. They should take advantage of the latest academic research, but also focus on tried and tested technologies as well as cutting edge ones. The guidance needs to take account of how experienced the audience is and how suitable the technology is for many HEIs.

Recommendation 12: It is recommended that both concise and in depth case studies should be produced. There is also the potential to use film in relation to the transformational projects in particular as exemplified by the popular UEA videos available on youtube.com.

Recommendation 13: HEFCE and Salix should consider a mechanism to make ISP case study material available to all HEIs. This would allow learning from HEIs with ISP funding to be better disseminated across the sector.

Recommendation 14: The LGMF should be used to fund any applications from an institution/consortium or sector organisation bidding to act as a centre for the production of case study material for the sector. Such proposals should include consideration of reaching a broad audience of relevant practitioners, through both existing and innovative routes.

Recommendation 15: The LGMF should be used to fund proposals from an institution/consortium or sector organisation to act as a repository of technical guidance material for all relevant technologies for the sector. Expert staff resource could also be funded to provide specific advice to HEIs.

9.8.2. Access to appropriate networks (ref 9.3)

Survey responses and interviews suggest that practitioners want to continue to hear about good practice through the membership networks they currently use and want to continue to use them for good practice dissemination. However, this is challenging for individuals at smaller institutions without dedicated energy or environmental staff who, if they are not participating in the Carbon Trust or RGF initiatives, cannot access a wide range of good practice resources.

Smaller specialist institutions have particular needs and would find it valuable to refer to good practice from comparable institutions (rather than large institutions with several relevant practitioners).

Recommendation 16: The work of the Association of Managers in Higher Education Colleges (AMHEC) in developing a shared service to provide carbon expertise to small institutions should be strongly supported.

9.8.3. Sharing through events and other media (ref 9.3)

There does not appear to be the demand for an RGF-specific national conference/seminar however there is potential for RGF related good practice to feature in relevant regular national conferences and events arranged by the relevant representative professional bodies. Regional conferences/seminars are a popular method for future dissemination of good practice. There is potential for institutions to host such events on a rotational basis, reducing direct costs.

There may be the opportunity to feature good practice arising from both the transformational projects and ISP projects in existing professional and representative body national conferences in either keynote, or elective workshop sessions which commonly feature in such events. Such organisations include: AUDE; AMHEC; EAUC, AUE, BUFDG; GuildHE; UUK.

In terms of future forms of media, generation of case study materials and regional seminars are the two most popular choices, with approximately 80% of respondents identifying each option.

Recommendation 17: Existing professional networks and representative organisations (particularly: AUDE; AMHEC; EAUC, AUE, BUFDG; GuildHE; UUK) should consider how RGF good practice can feature in existing regular regional or national conferences. They should also consider new ways of collaborating between members, including making greater use of regional networking.

9.8.4. Intense level of interest in transformational projects (ref 9.3)

Currently the time demand of delivering advice and support of some of the institutions delivering transformational projects is quite significant. The approach by which learning and good practice derived from the transformational projects should be disseminated has not been finalised. This is a good opportunity to consider a sector wide dissemination approach.

Recommendation 18: The requirement for dissemination of the three transformational projects needs to be specifically defined by HEFCE, possibly through consultation with existing professional bodies to determine the most suitable type of dissemination.