Framework for the Northern Ireland Sustainable Energy Programme

Prepared by the Energy Saving Trust on behalf of the Utility Regulator

May 2009

Under the terms of the Northern Ireland Electricity (NIE) plc Licence the Northern Ireland Authority for Utility Regulation (the Utility Regulator) may appoint a Programme Administrator to oversee the detailed operation of the Northern Ireland Sustainable Energy Programme (NISEP). The Utility Regulator has appointed the Energy Saving Trust to act as Programme Administrator for NISEP. Throughout the remainder of this document references to the Programme Administrator relate to the Energy Saving Trust.

The Energy Saving Trust

The Energy Saving Trust is a non-profit organisation that promotes energy saving, funded by government and the private sector. Set up after the 1992 Rio Earth Summit, it has two main goals:

- To achieve the sustainable use of energy.
- To cut carbon dioxide emissions, one of the key contributors to climate change.

To achieve these goals, it works with households, businesses and the public sector:

- Encouraging more sustainable use of energy.
- Promoting the use of small-scale renewable energy sources.
- Stimulating the demand and supply of cleaner fuelled vehicles.

Members of the Energy Saving Trust

The Secretary of State for Energy and Climate Change
The Secretary of State for Transport
The First Minister for Scotland
The First Minister for Northern Ireland
The Welsh Assembly Government
BP Oil UK Ltd
Centrica plc
EDF Energy plc
E.ON Energy
Firmus Energy
Northern Ireland Electricity Energy
National Grid Transco plc
Phoenix Natural Gas
RWE npower plc
Scottish Power plc
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CONTENTS

A FRAMEWORK FOR THE NORTHERN IRELAND SUSTAINABLE ENERGY PROGRAMME (NISEP)

1. INTRODUCTION

The purpose of this Framework Document is to give effect to the Northern Ireland Authority for Utility Regulation's (the Utility Regulator) decisions following the review of the Energy Efficiency Levy (now retitled NISEP), which was announced in March 2009. This Framework Document will facilitate the first phase of opening NISEP to competition – that is that gas licence holders will be permitted to bid for funding. Further consultations will take place in due course to facilitate the second phase of opening the NISEP to competition.

1.1 Background to Northern Ireland Sustainable Energy Programme (NISEP)

From the time of its introduction in 1997/8, the Energy Efficiency Levy (EEL) represented an important element of the Utility Regulator's response to its duty to protect customers, and in particular vulnerable customers, and also to carry out its functions in a manner best calculated to secure a diverse, viable and environmentally sustainable long-term energy supply. As initially conceived, the EEL was introduced to implement energy efficiency schemes for domestic and non-domestic customers with the aim of reducing carbon emissions. However in 2002, as a result of a consultative process, it was decided that the majority of EEL funding (80%) would be targeted at helping to alleviate fuel poverty.

The strategic objectives of the EEL (and now the NISEP) have therefore been to contribute to the achievement of:

i. Efficiency in the use of energy;

ii. Socially and environmentally sustainable long-term energy supplies; and

iii. The above at best value to customers whilst also having due regard to vulnerable customers.

The Utility Regulator conducted a Review of the EEL in 2006 and at that time promised a further review in 2009. The process of the Review began in August 2008 in order to allow time for due consideration of all the issues and to allow implementation time following the Review.

The Review was carried out against the backdrop of an increased emphasis on issues such as fuel poverty, energy efficiency, sustainable energy and environmental and social sustainability. There is a synergy between efforts to improve energy efficiency and efforts to reduce fuel poverty. This is demonstrated by successive Home Energy Conservation Reports which show how improving energy efficiency can reduce fuel poverty.

The results of the review were published in March 2009. The main decisions taken were as follows:

- The Northern Ireland Energy Efficiency Levy Programme will be renamed the Northern Ireland Sustainable Energy Programme (NISEP). The name change will better reflect the contribution which the Programme makes to social and environmental sustainability. It will incorporate the reforms outlined in the decision paper and it will continue for at least 3 years after which time it will be reviewed whether as to the introduction of competition to the scheme has enhanced performance.
- For clarity it is proposed to have arrangements in place for a staged opening up of the scheme. It is proposed that by the September 2009 call for schemes, natural gas licence holders will be permitted to apply directly for funding and by September 2010 it would be our intention that organisations other than licensed energy suppliers will be invited to bid for funding. The next Review is intended to commence in 2011 and be completed by 2012.
- Initiatives eligible for funding under the programme will be widened so that funding will be available not only for energy efficiency measures but also for renewable energy measures. The choice between energy efficiency and renewable energy schemes will depend upon cost effectiveness expressed in terms of £ per tonne of carbon saved. In addition, innovative measures will be encouraged.

NISEP will continue for at least 3 years after which time it will be reviewed to establish whether the introduction of competition to the scheme has enhanced performance. Within this time the Framework Document may be amended on an annual basis and any amendments to the Framework Document will be established before the call for schemes each year. For example the Framework Document for the scheme year commencing April 2010 must be published by September 2009 – the governance for schemes run during the April 2010 year will therefore be established within the September 2009 Framework Document. The Framework Document set in September 2010 covers the scheme year commencing April 2011, and so on.

1.2 Organisations permitted to compete for NISEP funding

The right to bid for funding for schemes under NISEP will be opened up as follows:

September 2009 – the call for applications for funding for the scheme year commencing April 2010 will be issued to licensed electricity suppliers and licensed gas suppliers.

September 2010 – it is hoped that pre-registered organisations that meet set eligibility criteria will be permitted to apply for funding in addition to the licensed electricity suppliers and licensed gas suppliers.

The Utility Regulator would intend to begin a pre-registration process in **April 2010** whereby organisations, other than licensed energy suppliers, wishing to be included for the call for schemes in September 2010 will be asked to pre-register their interest in bidding for schemes. This will allow a period of time for the Programme Administrator to assess the eligibility of organisations to apply for funding. As licensed electricity and gas suppliers have already demonstrated financial stability and a suitable track record through the licensing process they will not be required to pre-register.

Pre-registration will be open to all financially sound organisations capable of demonstrating a successful track record in the delivery of energy efficiency or renewable energy programmes within the commercial or domestic sectors. Organisations will be required to submit at least one annual report. The Programme Administrator will use set eligibility criteria to assess whether an organisation has the appropriate experience and financial standing to be included in the call for schemes.

The Utility Regulator will reserve the right to refuse the right to bid for funds to any organisation which has not successfully demonstrated financial soundness or a successful track record of delivery and/or does not meet any of the other eligibility criteria that may be required.

The Utility Regulator intends to carry out further consultation on the eligibility criteria and pre-registration process prior to the opening up of the pre-registration period in April 2010.

1.3 Funding Allocation

The minimum bid for funding will be £50,000 per scheme. For first time participants the maximum total bid per new organisation will be £300,000. This will apply to organisations in their first year as a primary bidder to the scheme. If an organisation has demonstrated successful delivery in the first year, the maximum bid cap will be removed. The measure of success for a new organisation is that it delivers its approved SEP schemes and energy savings targets and possibly achieves an incentive payment.

An amount of funding equal to 80% of total funding available will be ring-fenced for priority customers, i.e. those deemed to be vulnerable. The following activities will be eligible to qualify for funding for priority group customers:

- Full packages of energy efficiency measures installed in homes without existing heating, or have electric heating, solid fuel heating, LPG, old oil fired central heating systems (12 years old or more) or oil fired systems that are broken beyond viable repair.

- Provision of individual measures.

34% of NISEP funds will be ring-fenced for ‘whole house solutions’ leaving 46% for other fuel poverty schemes such as individual measures. However, it

should be noted that whole house type schemes can still receive funding above the level of the ring-fence, subject to the fact that these schemes would be competing with other schemes which offer partial solutions to a greater number of properties.

Of the remaining 20% of funds, the previous split between the commercial and non commercial sectors has been removed. However, half of the remaining funding (that is 10% of total funding) will be ring-fenced for innovative schemes and new, but proven, technologies in the non-vulnerable sector.

1.4 Role of the Programme Administrator and Relationship with the Utility Regulator

The Energy Savings Trust acts as the Programme Administrator to NISEP. The role of Programme Administrator is defined by Condition 43 of the NIE plc licence.

On behalf of the Utility Regulator, the Programme Administrator evaluates all schemes submitted under NISEP against the relevant criteria, and provides technical advice to assist in scheme development. The Programme Administrator carries out audits of completed schemes to verify that they have been delivered in line with the approved statement of method.

The Energy Saving Trust has extensive experience in the development and evaluation of regulatory energy efficiency programmes. In addition to its involvement in NISEP, the Energy Saving Trust has played a key role in the regulatory programmes administered in GB.

The Programme Administrator has undertaken further development of the Framework Document for the delivery of NISEP, and as Programme Administrator will continue its current evaluation role under NISEP, and will be responsible for assessing all schemes submitted by applicants.

The role of the Energy Savings Trust as Programme Administrator and the relationship with the Utility Regulator is formalised by a 'Heads of Agreement' contract.

1.5 Format of Framework Document

Section 2 of this document covers the broad framework for the NISEP and discusses in detail the various factors that need to be taken into account when developing schemes for funding. Section 3 covers details of setting the overall energy saving target. Appendix 1 sets out the administrative procedures to be followed by organisations. Appendices 2, 3, 4, 5, 6 and 7 contain samples of the Scheme Submission Form, Customer Satisfaction Surveys, the Scheme Completion Post Implementation Form, Scheme Variation Form, Interim Report, and Guidance on the use of the different energy efficiency and sustainable energy measures, and a list of legislation relevant to sustainable schemes.

1.6 Equality of Opportunity

The Energy Saving Trust has undertaken, through its Northern Ireland Sustainable Energy Database (NISED) (see paragraph 3.4), to provide the Utility Regulator with monitoring information on the geographical and sectoral spread of households benefiting from NISEP on an annual basis.

2.0 BROAD FRAMEWORK OF NISEP

2.1 Eligible Initiatives

Schemes submitted for funding must meet all of the following essential criteria:

- Funding must be targeted at activities that result in sustainable energy measures being adopted. Funding cannot be used for research, demonstration or purely educational projects.

- Schemes aimed at priority group customers must be targeted in line with the guidance provided in Section 2.5 of this document.

- Measures promoted should be in customers' financial interest. In other words, the present value of the lifetime customer benefits (energy bill savings and improved comfort) should exceed the cost of the measures;

- Measures should deliver overall economic benefits to NI;

- Measures promoted should be proven technology which meet or exceed relevant standards (e.g. safety, quality, etc);

- Schemes should be structured, where possible, to secure the maximum level of funding from third parties, e.g. equipment manufacturers, housing providers and fuel suppliers. Guidance on the expected contribution from customers benefiting from both Priority and Non-Priority schemes is given in Section 3.8;

- Schemes should be designed and managed cost effectively;

- Consideration should be given to legislation specific to the scheme in hand, as well as overarching statutes that may affect proposals, such as the Human Rights Act, or the Data Protection and Freedom of Information Acts.

2.1.1 Additionality

In order to approve schemes submitted by organisations, the Programme Administrator must be satisfied that they deliver reductions in carbon emissions and that the result will be over and above that which would have happened without NISEP funding. This principle is known as 'additionality' and

is central to the administration of the programme and determination of carbon reductions for completed schemes.

Schemes must be additional to any planned activity, regulatory obligation or government-funded initiatives.

In order to ensure that NISEP funding has effected the commencement of a scheme i.e. the scheme would not have taken place without the provision of the funding, NISEP funding must be a minimum of 20% of total project costs. In exceptional circumstances a case may be put forward by applicants as to why a project should proceed with less than 20% of NISEP funding.

The Programme Administrator must be satisfied that the applicant's action will lead to carbon reduction and that the total improvement is not due to other factors. Therefore, applicants must not set up any retrospective agreements to provide funding for measures already installed.

Schemes should be designed to minimise 'free riders', i.e. those who are likely to have adopted a measure without any support or encouragement.

All scheme applications must contain a statement explaining why the scheme would not proceed without NISEP funding and how the scheme will result in improvements and reductions in carbon emissions over and above what would have occurred without the scheme.

Applicants will be required to retain evidence of the additionality of schemes and make it available for audit inspection.

2.1.2 Additionality – existing regulations and legal requirements

The Programme Administrator must be satisfied that an applicant's notified action will result in improvements in energy sustainability or a reduction in carbon emissions which is additional to that required to be achieved as a result of other legal requirements. The Building Regulations, for example, require reasonable provision for the conservation of fuel and power in domestic premises. As there is already a legal requirement to meet Building Regulation standards, action must lead to improvements in energy sustainability above what would be achieved to meet the requirements of Building Regulations.

Measures installed in new build homes will not be counted as additional, unless a declaration can be provided from the housing developer to confirm that the house would have met Building Regulations without the measure, and that the applicant's funding has enabled the developer to exceed Building Regulations.

The Programme Administrator will monitor any potential changes to Building Regulations and will discuss the implications of these on qualifying action with the applicant.

2.1.3 Additionality – actions with third parties

Where an applicant is undertaking action in partnership with a third party, the Programme Administrator must be satisfied that the applicant's action will result in reductions in carbon emissions additional to those that would be achieved by the scheme partner without Applicant's funding. The following criteria will be taken into account:

Social Housing Providers

When partnering with Social Housing Providers (SHP), an applicant must obtain written confirmation that its involvement has resulted in additional carbon emission reductions. This declaration may be signed before the scheme commences or after it has been completed. If the declaration is signed beforehand, and any changes occur to the scheme, the SHP must sign another declaration once the action is completed. For this purpose a change will be considered to be a change in the measure types installed, or a reduction in the applicant's average cost contribution of more than five percentage points.

Manufacturers

When partnering with manufacturers to improve the sustainable energy performance of a new measure, such as at the production stage of consumer electronics, an applicant's action must result in improvements additional to mandatory requirements and to those achieved as a result of voluntary industry agreements. The manufacturer should write to confirm that the improvement in reducing carbon emissions would not result without the applicant's action.

Monitoring may be necessary to avoid double counting between different applicants' schemes. The Programme Administrator may ask the applicant to inform the other stakeholders of their partnership to help avoid double counting of measures.

Retailers

Where additionality is being determined through the change in market share, for example some consumer electronics schemes, the market share will be determined before and after the applicant's activity through the use of Electronic Point of Sale (EPoS) data from the retailer.

When retailers or manufacturers are providing sales data to applicants, a covering letter should be provided to confirm which period the EPoS data covers and that these sales all took place in NI and exclude trade sales. The letter should also confirm that the measures and/or marketing was subsidised by the applicant and funding has not been received for these measures from any other party.

When delivering measures through a retailer, a marketing plan detailing the activities the retailer or manufacturer has agreed to carry out, must be provided. This will help demonstrate that the operation of the scheme will result in an improvement in sustainability or a reduction in carbon emissions above what would have happened without the scheme. This should include when and how the measures will be promoted in the store(s). Energy savings attributed to retailer based schemes will be based on the level of increased sales rather than the total sales during the period of the promotion.

With other Government programmes

Applicants may be able to undertake action in conjunction with other government programmes, providing that the applicant can clearly demonstrate that its action has resulted in reductions in carbon emissions above what would have happened without its involvement. In this case:

a) A signed letter must be provided by the relevant scheme partner to confirm that the applicant's actions have exceeded those of the government programme and that the measures to be accredited to the applicant could not have been installed without the applicant's input, i.e. the applicant is not claiming measures which would have been installed through the other programme anyway.

b) There must be a clear, upfront agreement with scheme partner to ensure there is no potential for double counting of carbon savings between NISEP and another government programme. If the applicant is part funding measures in conjunction with another government programme, then the carbon savings accredited to the applicant will be in proportion to the funding they have provided.

2.2 Eligible costs

In broad terms, any activity which satisfies the above criteria is eligible for funding. Individual schemes may include some or all of the following costs:

- Scheme management and other indirect costs (see section 3.7); and
- Direct subsidies for measures.

2.3 Funding Available

The Energy Efficiency Levy was £7.354 per customer for 2009/10. With approximately 840,800 customers, this equated to overall funding of £6,183,559. The Utility Regulator will continue to increase the funding available by inflation until the time of the next Review. Following the 2008 Review and the anticipated reduction in incentive payments, an additional £1,000,000 has been added to NISEP funding. An additional increase in funding available will be considered and consulted upon after Year 1 of (the new) NISEP or following the outcome of the current debate on social tariffs. Table 2.1 below illustrates the resulting increase in NISEP over the next 2 years.

Table 2.1 – NISEP adjusted for inflation

Year	Total Available Funding
2010/11	£7,338,148
2011/12	£7,521,602*
2012/13	£7,709,642*
Total	£22,569,392*

* Subject to review

Note: While bidding for this funding will be on an annual basis (see Appendix 1, Section 1.0), bids for schemes lasting more than 1 year can be accepted, providing the Programme Administrator is satisfied that such schemes represent better value for money. At least 25% of the funding shown above will still be available for bidding on an annual basis.

In addition to the funding available shown in Table 2.1, an additional amount will be collected each year to cover the incentive payments earned by successful schemes.

Currently the Energy Saving Trust as Programme Administrator will incur costs amounting to approximately 1.4% per annum of the available NISEP funding. This will be reviewed on an annual basis. Details of the Programme Administrator's responsibilities are included within a 'Heads of Agreement' contract. As Programme Administrator the Energy Saving Trust's costs are incurred in undertaking the activities set out in the Heads of Agreement and include the following activities:

- Developing, and adjusting as necessary, energy efficiency, renewables and priority customer targets for applicants;
- Developing and updating as necessary a suitable administrative framework under which schemes are implemented;
- Providing guidance to applicants who wish to develop energy efficiency, renewable or fuel poverty schemes;
- Evaluating schemes submitted by applicants and recommending to the Utility Regulator whether or not they should proceed;
- Evaluating completed schemes and quantifying the energy savings to be accredited to the applicants;
- Auditing applicant's records to ensure schemes have met the required criteria and have been implemented and reported appropriately;
- Compiling an annual report for the Utility Regulator, and contributing to applicants annual reports on their activities under NISEP;
- Providing ad-hoc advice and information to the Utility Regulator and applicants in relation to energy efficiency, renewables and fuel poverty schemes implemented under NISEP.

2.4 Payment of NISEP Funding

In the past funding has been paid to participating suppliers in 12 equal instalments. Going forward, funding will be paid to primary bidders undertaking approved schemes using one of the following methods:

a) Payments to be made every three months in arrears, during the relevant scheme year, upon receipt of invoices/evidence of work completed;

b) Payments to be made on the basis of a pre-agreed payment profile to reflect the intended spending profile of the scheme.

All scheme submissions must include a proposed profile of spending. In addition, primary bidders will be responsible for informing the Programme Administrator of significant deviations from the proposed profile of spending.

Payment method a) will be the normal method of payment to be used in all cases except where the applicant requests the use of payment method b). If method b) is the preferred method, the applicant must be able to provide adequate assurance, to the Programme Administrator's satisfaction, that any payments of NISEP funding made to the applicant can be recouped in circumstances, as outlined within the framework document, where a scheme has failed to proceed as per the approved scheme submission. The Utility Regulator will reserve the right to review and amend the agreed payment profile if the spending profile deviates significantly from that agreed.

2.5 Focus on Vulnerability

As stated earlier in this Framework Document, the strategic objectives of NISEP will continue to be helping customers to use energy efficiently and promoting the use of sustainable energy supplies but in doing this to have due regard for the needs of vulnerable (priority) customers.

Financial vulnerability and lack of access to affordable energy is often referred to as fuel poverty. It is widely accepted that fuel poverty is caused by a combination of factors including inefficient energy use in the home, the cost of energy and household income. The need to spend a large portion of income on fuel means that householders have to make difficult decisions about other household essentials. This can lead to poor diet, reduced opportunities to participate in the community, as well as an increased risk of ill health due to cold homes.

Due to the current high level of fuel poverty in NI, the amount of programme funding ring-fenced for vulnerable customers remains at 80%. The level of this ring-fence for vulnerable customers will be reassessed during the next Review at which time the Utility Regulator will take into consideration any government decisions relating to the implementation of social tariffs and also the level of fuel poverty.

The reasons for continuing the 80/20 allocation are threefold:

- The overall level of energy savings arising from NISEP schemes will be optimised, balancing the objectives of helping vulnerable customers and contributing to climate change targets.

- Directing 20% of the funding towards non-priority customers will allow NISEP schemes to continue the 'market transformation' effect that has resulted from non-priority schemes already implemented. Due to the ability to lever in additional funding from non-priority customers to help pay for sustainable energy measures, schemes delivered within this category are more cost effective. Some very successful non-domestic schemes have been implemented over the last few years, resulting in very cost effective use of funds. In addition, the funds for the non-priority category can be used to fund certain renewable measures and also to promote the use of new or innovative measures.

- All electricity customers in NI contribute to NISEP. It is therefore considered fair that all customers have access, should they wish, to participate in schemes implemented by applicants.

As stated within the Utility Regulator's Social Action Plan Decision Paper 2009 – 2014, the Utility Regulator considers the main determinant of financial vulnerability to be income. Therefore for the purpose of targeting scarce resources the only indicator of financial vulnerability will be income. However, the Utility Regulator considers that where certain other factors are in place, the affect of this financial vulnerability is intensified on the people within the household. Therefore the following criteria will be considered intensifying characteristics for financial vulnerability:

- Age - to include older people and young people (under 16) and children;
- Disability or chronic illness;
- Rurality.
- SAP rating of property

When working on the targeting of help to the financially vulnerable, the Utility Regulator will firstly consider low income and then use the other characteristics to identify priority groups.

Scheme bidders should use the overarching characteristics as defined above to develop specific eligibility criteria for schemes aimed at vulnerable customers. The scheme specific vulnerability criteria to be used must be included within the scheme submission at the bidding stage and will be subject to approval by the Utility Regulator. For clarity when setting criteria, scheme bidders should set out how they will attempt to ensure that vulnerable customers are directed towards the scheme that best suits their needs (whether it is a government scheme such as Warm Homes or a separate scheme approved under the NISEP).

Where possible, if a vulnerable customer meets the criteria for more than one scheme, steps should be taken to ensure that the customer is either given appropriate advice on the best scheme for their individual circumstances, or directed to an appropriate advice giving agency.

2.6 NISEP Schemes to tackle Financial Vulnerability

2.6.1 Background

In the EEL Programme, the 80% funds set aside for schemes aimed at priority group (vulnerable) customers, were spent in two different ways.

The first approach was for schemes to provide packages of heating systems and insulation measures to improve the least efficient properties in the housing stock, thus effectively 'fuel poverty proofing' those homes. The approach focused on the energy efficiency of the dwelling rather than the benefit status of the householder, by targeting homes with electric storage heating, solid fuel heating, no central heating system, old or broken oil heating system or LPG fired central heating. These homes are recognised as being the least energy efficient, having been shown in the NIHE House Condition Survey to have the lowest SAP ratings. Adopting this criterion meant that homes ineligible for assistance under Warm Homes could be assisted.

The second approach involved 'topping up' the grants that the Warm Homes Plus programme provided. 'Top-up' funding allowed a full package of heating and insulation measures to be installed in dwellings. It was necessary because the maximum grant available under the Warm Homes Plus programme was often insufficient to provide the package of measures required to 'fuel poverty proof' properties. This 'top-up' from NISEP does not apply from 2010-11 onwards.

2.6.2 Whole House Solutions

34% of total NISEP funds is available to continue providing whole house solutions to qualifying households. Qualifying households will be those that either are without central heating or have solid fuel heating, electric heating, old or broken oil or LPG fired central heating. These homes are deemed to most likely have occupants who are fuel poor. NISEP schemes must target such homes, and set appropriate vulnerability criteria to ensure that funds are used to assist those most in need (Section 2.5), and install a full package of energy efficiency measures. Carrying out such work will effectively 'fuel poverty proof' the dwelling as far as is possible. Customers who have been identified as potentially 'financially vulnerable' would not normally be expected to contribute to the funding for measures in this category of schemes.

To effectively 'fuel poverty proof' dwellings, a package of heating and building fabric energy efficiency measures should be provided. It is expected that installing the following package of measures should effectively 'fuel poverty proof' a dwelling:

- Cavity wall insulation (£415)
- Loft insulation (£460)
- Tank insulation (£15)
- An efficient central heating system (Average £3,700)

The typical indicative cost of these measures is shown in brackets, providing a typical package cost of approximately £4,590. It is anticipated that in nearly all cases the homes targeted will require this full package of measures.

Table 2.2 below illustrates the funding available for electric/solid fuel central heating, no central heating, old or broken oil and LPG boiler replacement whole house solutions in qualifying homes over the next three years.

Table 2.2 - NISEP Funding for Whole House Solutions (Electric/Solid Fuel Central Heating; No Central Heating; Old Oil or Broken Oil & LPG Boilers)

Year	Total Available Funding
2010/11	£2,460,041
2011/12	£2,521,542*
2012/13	£2,584,580*
Total	£7,566,163*

* Subject to review

Heating systems with oil or LPG boilers must be either older than 12 years or be broken beyond viable repair for these properties to be eligible for whole house solutions. Schemes replacing old oil or LPG boilers should ensure that the make, model type and age of the boiler are recorded. This will be required for audit purposes.

Applicants must put processes in place to ensure that properties are surveyed before work commences to check that the households are eligible for whole house solutions. A survey must also be carried out post-implementation to ensure all the work has been carried out as intended. See Appendix 1 for more details on the applicants' responsibilities in delivering schemes which receive NISEP funding.

The amount of funding ring-fenced for whole house solutions has been reduced from previous years, however, it should be noted that whole house type schemes can still receive funding above the level of the ring-fence, subject to the fact that they will be competing with other schemes which offer partial solutions to a greater number of properties. At the time of the next Review the Utility Regulator will assess the impact of reducing the focus on whole house solutions and decide if the focus should continue.

The target level of cost effectiveness for priority group whole house solution schemes is presented in section 3.9 of this document.

2.6.3 Provision of Individual Energy Efficiency Measures to Priority Group Homes

NISEP funding is also available for the provision of individual measures (for example heating controls, insulation and energy efficient light bulbs) to homes containing vulnerable customers. This is in recognition of the fact that the properties may have central heating boilers less than 12 years old that are lacking in controls, or well-controlled heating systems but inadequate levels of cavity, loft, or tank insulation. Poor heating control and low levels of insulation can lead to considerable wasted energy and subsequent high fuel bills. Energy efficient light bulbs can also be provided under this section of the Framework but only when provided with other measures. Again, customers who have been identified as potentially 'financially vulnerable' would not normally be expected to contribute to the funding for measures in this category of schemes.

Dwellings receiving measures under this category must be inhabited by vulnerable customers (section 2.5). Guidance on heating controls is given in section 3.2 of Appendix 7. Where a scheme proposes to install heating controls, a minimum of room thermostat, hot water tank thermostat, associated heating and Domestic Hot Water (DHW) circuit valves, programmer and Thermostatic Radiator Valves (TRVs) must be installed as required.

Up to 46% of Total NISEP funds is available for providing individual measures to qualifying households. Table 2.3 illustrates the maximum funding available for individual measures in qualifying homes over the next three years.

The target level of cost effectiveness for priority group individual measures schemes is presented in section 3.9 of this document.

Table 2.3 - NISEP Funding for Individual/Other Measures in Priority Customer Homes

Year	Total Available Funding
2010/11	£3,328,290
2011/12	£3,411,498*
2012/13	£3,496,785*
Total	£10,236,573*

* Subject to review

2.7 NISEP Schemes for Non-Priority Customers

Outside of the main financial vulnerability focus of NISEP, 20% of the total fund is available for non-priority customer schemes.

The previous split between the commercial and non-commercial sectors has been removed. However, half of this remaining funding (that is 10% of total

funding) will now be ring-fenced for innovative schemes, such as those detailed below. The funding for the non-priority category will be allocated as follows:

I. Funding for conventional non-priority schemes (both domestic and commercial using established energy efficiency technology) will amount to 10% of total funds (£723,543 in 2010/11).

II. Funding for innovative schemes will amount to 10% of total funds (£723,543 in 2010/11). Within this context we consider renewable technology to be innovative and have decided that the funding for innovative schemes will be further split into renewable schemes (5% of total funding) and other innovative energy efficiency schemes (5% of total funding). Therefore:

- Funding for renewable schemes targeting non-priority customers will amount to 5% of total funds (£361,770 in 2010/11).

- Funding for other innovative energy efficiency schemes targeting non-priority customers will amount to 5% of total funds (£361,770 in 2010/11).

The definition of innovative schemes will include the following:

a) Schemes which reach properties which are hard to treat. These are defined as properties with solid walls that require significant investment in internal or external wall insulation.

b) Schemes which help to bring forward new but proven domestic technologies that provide a better energy efficiency performance than 'standard' measures. These technologies will typically have been brought to market in the last 3 years.

c) Schemes which help to bring forward new but proven commercial technologies that provide a better energy efficiency performance than 'standard' measures. These technologies will typically have been brought to market in the last 3 years.

(The Utility Regulator considers that the above three categories of schemes should be classed as 'innovative' for the purpose of being considered within the 5% of funding to be ring-fenced for other innovative energy efficiency schemes, because they promote worthwhile improvements which may otherwise fail to receive help. Scheme bidders should state in their application why the scheme is innovative and why, in the case of b) and c) above, it proposes measures that are an improvement on established technologies.)

d) As a result of earlier consultations on the future direction of NISEP it was concluded that some funding (5%) should be made available for renewable technologies. Analysis has shown that funding would best be directed to two technologies - Solar

Thermal Hot Water and Biomass boilers. Solar PV, micro CHP, micro hydro and micro wind are not considered as cost effective at this time. Heat pumps are currently undergoing field trials by the Energy Saving Trust, and if manufacturer's claims are proven then consideration should be given to including these in future stages of the programme.

Note: the technologies permitted within non-priority group schemes will be continually reviewed by the Utility Regulator and the Programme Administrator.

Table 2.4 illustrates the total amount of funding available for Non-Priority schemes over the next 3 years.

Table 2.4 - NISEP Funding Available for Non-Priority Customers

Year	Total Available Funding
2010/11	£1,447,083
2011/12	£1,483,260*
2012/13	£1,520,341*
Total	£4,450,684*

* Subject to review

In order to maximise the cost effective use of NISEP funding, the level of contributions from customers and third parties that applicants should aim for when developing Non-Priority schemes is specified in Section 3.8 of this document.

The different target levels of cost effectiveness for non-priority group schemes are presented in section 3.9.

2.8 Scheme Submission

Specific details of the scheme submission process and scheme requirements are contained in Appendix 1 and a scheme submission form is included in Appendix 2. A call for schemes is sent out in September each year to all organisations eligible to bid for funds. Scheme proposals must be submitted to the Programme Administrator between 1 October and 31 December to bid for funds for sustainable energy schemes to commence in April of the following year.

Primary bidders for funding will be required to name any scheme partners who will be working with them on scheme delivery, and state any management arrangements in place. (e.g. in the past NIE Energy has partnered with retailers, voluntary organisations etc. In the future we would encourage such partnerships to continue). Primary bidders will have overall responsibility for any arrangements or agreements in relation to the bid.

All primary bidders must also submit a written statement detailing how they intend to manage the quality standards of the installation of measures (where installers are to be used, this will include a statement of the minimum qualifications of installers, proposed inspection and survey arrangements etc).

2.9 Scheme Approval

The Programme Administrator will recommend to the Utility Regulator which schemes should be approved for funding from the NISEP. Applicants who have submitted successful schemes will be notified in writing by the Utility Regulator of approval for these schemes to receive funding. The formal approval letter from the Utility Regulator forms a binding agreement to deliver the scheme as per the scheme submission and statement of method. Any subsequent significant scheme variations during the delivery of the scheme will require approval from the Utility Regulator. See Appendix 1, Section 2.6 for further details on scheme variations and Appendix 4 for a scheme variation form.

In the event that scheme variations exceed the accepted tolerance levels, and approval has not been granted by the Utility Regulator, any relevant costs will be required to be borne by the applicant.

2.10 Scheme Reporting

Regular reports on the progress of scheme are required to be submitted to the Programme Administrator. Interim progress reports are required after 6 months (October) and 9 months (January) and a post-implementation report must be submitted after completion of the scheme. Further details of scheme reporting requirements are given in Appendix 1. All the progress reports are forwarded by the Programme Administrator onto the Utility Regulator with recommendations for follow-up action if schemes are not progressing as anticipated.

2.11 Scheme Monitoring

All schemes implemented under NISEP will be subject to the monitoring criteria laid out in Appendix 1. This monitoring will involve two distinct activities. Firstly, applicants will be required to survey a sample of customers receiving measures to ascertain their satisfaction with the scheme. Secondly, applicants will be required to carry out quality monitoring on a sample of homes receiving building fabric measures. This will be to check that the measures have been installed in line with relevant procedures and standards. Deficiencies in quality of installation will have to be rectified. Further guidance as to monitoring requirements is provided in Appendix 1.

2.12 Scheme Auditing

All schemes implemented will be subject to random audit following completion by the Programme Administrator. The purpose of the audit will be to check that the scheme has been implemented in the manner approved by the Utility

Regulator, and that the funding has been utilised as reported by the applicant. Further guidance as to the auditing procedure is provided in Appendix 1. Applicants will be required to retain all paperwork relating to the scheme operation, additionality, performance and monitoring and make it available for audit inspection.

3.0 SETTING THE OVERALL ENERGY SAVING TARGETS

3.1 Energy Savings from Schemes

Historically, schemes have had their energy savings assessed on the basis of 'ex-ante' figures. That is the savings are agreed in advance of implementation as opposed to an 'ex-post' methodology where the savings would be determined based on energy monitoring before and after the installation of the measure. This practical approach gives an agreed and consistently utilised set of data for all participants and will continue.

BREDEM[3] has been the main source of assessing the energy savings from insulation and heating measure schemes in the past. The model calculates the energy requirements of domestic dwellings and estimates the likely savings resulting from energy efficiency improvements. It is the best validated and most widely used energy model in the UK and when aggregated over all users, has been shown to accurately predict national domestic energy consumption.

In the case of lighting and appliances the Programme Administrator has liaised with reputable bodies (the Lighting Association and the Market Transformation Programme) to ascertain suitable levels of energy savings for accreditation purposes.

The energy savings accredited under NISEP will be expressed in terms of gigawatt hours (GWh) and will reflect the energy benefit to the consumer in terms of reduced bills and, where applicable, improved levels of comfort. 100 per cent of the energy savings arising from a scheme will be accredited to the applicant, unless funding is secured from other sources, where upon savings may be apportioned (see paragraph 2.1.3).

3.2 Savings based on 'Accredited Discounted Lifetime Energy Savings'

Savings generated by NISEP should be expressed in terms of lifetime GWh energy savings. In order to compare the cost of saving energy with the cost of energy supply, savings should be multiplied by the discount factor to give 'discounted lifetime energy savings'. A discount factor, as per the standard in the Treasury Green Book, of 3.5% is used.

It should be noted, however, that the real year-on-year energy savings will consequently be greater than the figures shown in this document. For

[3] BREDEM - the Building Research Establishment Domestic energy Model

example, a discounted lifetime energy saving of 100GWh could in fact represent an annual saving of 10GWh for 15 years (150GWh).

3.3 Types of Fuels Eligible to be Saved and 'Fuel Standardisation'

Applicants will be able to implement schemes that save electricity, gas, oil, coal and liquid petroleum gas.

So that the savings of different fuels can be expressed in a consistent manner, the savings will be shown in 'fuel standardised' terms that reflects the fuel's carbon content. The carbon factors used are consistent (with the exception of electricity) with those published by the Department of Energy and Climate Change (DECC) and are consistent with the concept introduced in CERT in GB. This methodology means that the value of energy savings from gas, oil, coal and LPG will be relative to electricity savings in terms of the carbon content of each fuel. This means that the energy savings able to be claimed from measures installed in electrically heated homes will be higher than other fuels.

Table 3.1 below indicates the fuel standardisation factors that are applied to each fuel.

Table 3.1 Fuel Standardisation Factors

Fuel	Carbon Content of Fuel (kgC/kWh)	Fuel Standardisation Factor
Electricity	0.166	1.00
Gas	0.052	0.31
Oil	0.068	0.41
Coal	0.082	0.49
LPG	0.058	0.35

The fuel standardisation factors are derived by dividing the carbon factor of each fuel by the carbon factor for electricity.

Schemes involving renewable technology that generates electricity will assume that the electricity generated is carbon neutral. Similarly biomass is considered to be carbon neutral.

The example in Table 3.2 below shows how this methodology would work when comparing the installation of cavity wall insulation in an electrically heated semi-detached home against one with oil heating.

Table 3.2 Example of Standardisation Methodology

Heating fuel of dwelling	BREDEM annual energy savings (kWh)	Fuel standardisation factor	Savings accredited toward targets
Electricity	5,667	1.00	5,667
Oil	5,899	0.41	2,415

3.4 NI Sustainable Energy Database (NISED)

NISED is an Energy Saving Trust database that provides a repository for recording the physical characteristics of individual NI domestic properties and the status of the specific heating and building fabric energy efficiency measures in those dwellings. There is also reference to measures and initiatives that reduce the energy consumption of lighting and domestic appliances. As a result NISED provides a means to collect a detailed picture of the state of sustainable energy of the NI housing stock. Currently 38% of NI domestic stock is in NISED.

The data required must consist of the address of the property together with details of measures installed and other supporting information such as property type, number of bedrooms, heating fuel and installation date. The recording of this data in the database will allow a quick and easy way for the Utility Regulator and the Programme Administrator to verify what sustainable energy solutions have been installed in individual dwellings.

Applicants undertaking schemes under NISEP must submit data for inclusion in NISED.

The Energy Saving Trust will accept data in electronic format from applicants carrying out NISEP schemes and will also make software available to record this information if necessary.

3.5 Lifetime of Sustainable Energy Measures

In line with the Government's Climate Change Programme, and as has been the case with EEL projects since 2001, the energy saving benefits will be assessed over the full lifetime of the measures. The considered lifetimes of the various measures, which will be used in calculating the energy saving benefits, are shown in Table 3.3 below:

Table 3.3 Lifetimes of Measures

Energy Efficiency Measure	Lifetime (years)**
Loft insulation	30
Cavity Wall insulation	40
Internal/external wall insulation	30
Efficient boiler	15
Heating Controls	15
Hot water tank and pipe insulation	10
Energy efficient lighting (CFLs)	10*
Domestic refrigeration and appliances	Various
Renewable Measure	
Solar Thermal Hot Water	25
Biomass Central Heating	20

* May change depending on lamp types supplied. The scheme submission spreadsheet will calculate the lifetime automatically.

** Refer to Appendix 7

3.6 Cost of Measures

Table 3.4 indicates typical indicative costs of key measures:

The following factors have also been considered when setting suitable measure costs to determine whether or not any adjustment should be made:

- The impact of inflation over the period of NISEP;
- The reduction of costs due to bulk purchases on installations.

Table 3.4 Typical Costs of Measures

Energy Efficiency Measure	Cost
Loft insulation	£460
Cavity Wall insulation	£415
An efficient central heating system	£3,700
Hot water tank Insulation	£15
Energy efficient lighting	£2.55
Solid Wall Insulation (External)	£12,600
Solid Wall Insulation (Internal)	£7,000
Renewable Measure	
Solar Thermal Hot Water	£3,500
Biomass Central Heating	£9,200

3.7 Indirect Cost Assumptions

Indirect costs include all the applicant's management costs associated with implementing a scheme.

It is important that indirect spend under NISEP is clearly reported in scheme submissions. An applicant submitting a scheme will have to build the indirect costs into the overall scheme costs, breaking them down as follows:

- Scheme design and development;
- Scheme facilitation;
- Grant administration;
- Marketing;
- Monitoring;
- Evaluation and reporting;
- Surveying and Inspection;
- Third party indirect costs.

When each submitted scheme is evaluated by the Programme Administrator, the level of NISEP funding attributed to indirect costs will be analysed to ensure that indirect costs do not constitute an undue amount of overall scheme costs.

Indirect costs for an individual scheme should not exceed (£250 x individual household/commercial property cost) / (£1000 + individual household/commercial property cost). Please see the examples set out on the next page.

It is understood that it is not in the interest of applicants to allow indirect costs to be higher than need be, since only measures costs lead to savings and thus potential incentive payments. However, it is also understood that schemes do incur management costs and other indirect costs, some of which may be borne by NISEP funding. It should be noted that it is permissible for indirect costs above the limit to be paid for by third parties who are partners in the delivery of the scheme.

In cases where an applicant's indirect costs are unavoidably greater than the level allowed, for example in very small schemes or where it is not possible to lever-in indirect costs from other partners, representation must be made to the Utility Regulator via the Programme Administrator, for 'one-off' consideration. All relevant information must be included to justify the level of indirect costs and evidence (e.g. letters from third parties) provided that indirect costs are not available from other sources. This procedure must be followed at initial submission stage and at any stage in the development of a scheme, including post-implementation, when it becomes apparent that indirect costs may exceed the level allowed on the above basis. The Utility Regulator reserves the right to deduct any unapproved overspend on indirect costs from any incentive payments earned.

Furthermore, it will be a requirement of any scheme that the indirect costs are reasonably and prudently incurred and that there is no cross subsidy between indirect costs and measures costs.

Examples of Indirect Costs Allowed
Scheme 1 is a scheme to provide insulation in 500 properties. The insulation is estimated to cost £150 per property: £250 x £150 / £1000 + £150 = £37,500 / £1150 = £32.61 Therefore for Scheme 1, the indirect cost that is allowed per measure is £32.61. The total cost of the scheme measures is £75,000 (£150 x 500) and indirect costs up to £16,305 (£32.61 x 500) will be allowed i.e. 21.74% of the measures costs for that scheme.
Scheme 2 is a whole house scheme (heating system plus insulation) costing £4,200 per property and will provide measures for 80 households: £250 x £4,200 / £1000 + £4200 = £1,050,000 / £5,200 = £201.92 Therefore for Scheme 2, the indirect cost that is allowed per measure (heating + insulation) is £201.92. The total cost of the scheme measures is £336,000 (£4,200 x 80) and indirect costs up to £16,153.60 (£201.92 x 80) will be allowed i.e. 4.81% of the measures costs for that scheme.
Scheme 3 is a commercial scheme aimed at a single large user. It costs £10,000. £250 x £10,000 / £1000 + £10,000 = £2,500,000 / £11,000 = £227.27 Therefore for Scheme 3, the indirect costs for the single measure are £227.27 i.e. 2.27% of the measure cost.
Previously, indirect costs were not allowed to exceed 5% of levy funding. This caused problems with individual measures type schemes, such as insulation only, as the costs of surveying individual properties are similar whether you are providing a whole house solution or a low cost measure. Therefore the indirect costs for individual measures were well above the 5% limit and special allowance had to be made. This new methodology for calculating the permissible indirect costs should ensure that they are more realistic for schemes with low cost measures costs. Note: the limit on indirect costs is a limit on how much the NISEP funding will contribute to indirect costs. If indirect costs are higher but a partner wishes to contribute some of the costs they may do so i.e. the indirect costs may exceed the limit as long as NISEP funding is not paying for the extra amount.

3.8 Third Party Funding Assumptions

Applicants will receive 100 per cent of the energy savings resulting from a measure as long as the minimum funding level of 20 per cent (including indirect costs) for a scheme has been met (unless funding is secured from other sources, where upon savings may be apportioned). (Note that for retail, manufacturing and social housing schemes the energy savings attributed will be determined in accordance with section 2.1.3). There is therefore an incentive for applicants to secure financial contribution towards measures from a variety of other sources, such as, customers, landlords, local authorities, manufacturers or retailers.

The ability to lever in additional funding to a scheme will be an important evaluation criterion, as it increases the cost effectiveness of NISEP funding.

Applicants should aim for the following contributions towards the cost of measures from customers and/or third parties in order to maximise the cost effective use of NISEP funding:

- Non-priority customer owner occupiers 50%
- Priority customer owner occupiers 0%
- Social housing 25%
- Non-domestic 70%

Cost-effectiveness targets, as discussed below, are calculated based on the above assumptions regarding the level of contribution from customers towards the measures they are receiving. Consideration will be given to changing the cost-effectiveness targets for schemes which do not satisfy the above assumptions.

3.9 NISEP Targets

Table 3.5 below sets out target levels of cost effectiveness for priority group schemes (both whole house and individual measures schemes as discussed in section 2.6) and also for non-priority group schemes (commercial, domestic, innovative and renewables as discussed in section 2.7).

Levels of target cost effectiveness have been calculated following a review of schemes implemented over the last three years. These are shown in the 'target cost effectiveness' column in Table 3.5 below. Applicants should aim to develop schemes that deliver this level of cost effectiveness. In order to encourage applicants to bring forward priority group schemes and thereby ensure that the objectives of the NISEP are met, the Utility Regulator has decided that the cost effectiveness targets for the priority schemes should be doubled. This should allow a reasonable level of incentive payment to be earned (see section 3.10 for more detail) for priority schemes. The revised target cost effectiveness figures, as shown in the fourth column of Table 3.5, will be the figures used for target setting purposes.

It should be noted that the target cost effectiveness for non-priority schemes proposing to use either established or innovative measures is the same, on the basis that innovative technologies will cost more than established technologies but generate more savings. This assumption will be subject to ongoing review as more detail on costs and savings becomes available.

Table 3.5 NISEP Target Cost Effectiveness

Category	Target Cost Effectiveness (p/kWh)	Multiplier Factor	Revised Target Cost Effectiveness
Priority Domestic Individual Measures	0.982	2.0	1.964
Priority Domestic Whole House Solutions	3.682	2.0	7.364
Non Priority Domestic Whole House Solutions	0.624	1.0	0.624
Non Priority Domestic Established Individual Measures	0.329	1.0	0.329
Non Priority Domestic Renewable Biomass Boilers	2.243	1.0	2.243
Non Priority Domestic Renewable Solar Thermal	9.754	1.0	9.754
Non Priority Domestic Innovative Individual Measures	0.329	1.0	0.329
Non Priority Domestic Hard to Treat Whole House Solutions	2.796	1.0	2.796
Non Priority Domestic Hard to Treat Insulation Only (including solid or exterior wall insulation)	6.363	1.0	6.363
Non Priority Commercial Established Technology	0.276	1.0	0.276
Non Priority Commercial Innovative Technology	0.276	1.0	0.276

Applicants will be set a target based on the amount of funding bid for and the target level of cost effectiveness for the type of scheme proposed. An example is given below. Levels of target cost effectiveness for NISEP schemes will be subject to annual review.

Example of Target Setting for a Scheme:

An applicant is bidding for £500,000 for a priority group individual measures scheme.

The revised target cost effectiveness for this type of scheme is 1.964 p/kWh.

The energy saving target for this applicant would therefore be:

((£500,000 x 100) / 1.964) / 1,000,000
= 25.458 GWh

3.10 Incentive to Exceed the Target

Applicants overachieving targets will be awarded an incentive payment. This is on the basis that, should applicants deliver the target level of savings for a sum less than that bid for, they are required to use the remaining sum to deliver additional energy savings, rather than retaining it for their own profit.

Following consultation, the Utility Regulator considers that the level of incentive payments potentially earned by applicants should be in the region of 6% of the NISEP funding granted for their schemes.

The level of incentive payment for each type of scheme is based on each GWh of target exceeded and is set out below:

Priority Group schemes = £2,000 per GWh of target exceeded.

Non Priority Group schemes = £1,000 per GWh of target exceeded.

The variance in incentive payments for Priority and Non Priority Groups is to acknowledge the generally greater degree of complexity involved in undertaking schemes for vulnerable customers, for example: the difficulty in identifying properties to participate in a scheme, and then subsequent benefit checks, heating system installations, inspections and grant administration.

No incentive is payable for simply meeting the target.

Participants are currently required to commit to 'recycle' any incentive earned above the threshold of 8% of total scheme funds into fuel poverty, energy efficiency and/or renewable schemes which are additional to work already planned. This feature of the existing programme will be retained and the Programme Administrator must be notified of the destination of these recycled incentives.

IMPORTANT NOTE:

Some schemes may involve funding from other energy suppliers or Government Departments/Organisations such as DSD or NIHE.

If it can be confirmed in writing that Government Departments/Organisations such as DSD or NIHE would not have undertaken the relevant scheme without NISEP funding and that they (DSD/NIHE) will not be accounting for the savings themselves, then the applicant can be credited with all the savings.

However, if third party funding is sought from a gas/water/electricity license holder, subject to a price control, the energy savings from the scheme must be split between the two license holders pro-rata on the basis of funding provided by NISEP. This is to ensure that there is no double counting between energy savings attributed to another license holder's price control and NISEP.

Apportionment of savings will be discussed with applicants, as required, when they are submitting schemes for the following financial year.

3.11 Customer Financial Savings

Customers who benefit directly from sustainable energy measures do so in two principal ways:

- Reduced energy consumption leading to lower bills.
- Improved comfort.

The total benefits to customers should therefore consider both the direct cost savings on electricity and fuel bills and the value of the savings taken up in improved comfort levels. These should be valued at the same rate as the energy savings. Thus, the total benefit to customers is simply the potential energy saving before comfort is accounted for multiplied by the appropriate unit price.

When calculating the benefits that result from NISEP schemes, the fuel prices illustrated in table 3.6 should be used:

Table 3.6 Cost of Fuels

Fuel type	**Cost per kWh**
Electricity peak rate (for lighting and appliances)	15.81 p/kWh
Electricity (heating or insulation measures)	8.29 p/kWh
Gas	4.32 p/kWh
Oil	3.58 p/kWh
Coal	3.82 p/kWh
LPG	6.42 p/kWh
Biomass	4.44 p/kWh

The Programme Administrator will review these prices on an annual basis, and update if necessary, so that an accurate picture of the financial benefits realised by customers benefiting from NISEP can be derived.

The customer financial savings of schemes, on an aggregate basis, will be used as a performance indicator in assessing the overall success of the NISEP for a particular year and the benefits it has produced for society. At an individual level, the customer financial savings of a particular scheme will be used in analysing the success of that scheme and assessing whether similar schemes should be approved in the future.

3.12 Carbon Savings

The Energy Saving Trust recommends that the carbon emission factors illustrated in table 3.7 are used when reporting the carbon savings resulting

from NISEP schemes. These are consistent, with the exception of electricity, with those used in the CERT programme in GB.

The financial and carbon savings resulting from schemes will be calculated automatically by the scheme submission software developed by the Energy Saving Trust.

To ensure that carbon savings are accurately calculated, comfort benefits taken up by customers need to be removed from the overall energy savings. Comfort factors are therefore applied to the overall energy savings.

Table 3.7 Carbon Emission Factors

Fuel type	Carbon emission factor (kgC / kWh)
Electricity	0.163
Gas	0.052
Oil	0.068
Coal	0.082
LPG	0.058

The comfort factors applied to the theoretical BREDEM savings are based on the Energy Saving Trust's previous experience in the EESoP and EEL programmes, and other energy monitoring schemes undertaken over the last 3 years. A comfort factor for insulation measures of 30 per cent is assumed for both priority and non-priority customers.

In light of there being no data available with regard to comfort uptake from heating measures such as boilers or heating controls, the Energy Saving Trust recommends that no comfort factor be applied to these measures.

For appliances there is unlikely to be any significant change in usage between efficient and less efficient products, so no comfort factor will apply.

For lighting no comfort factor will apply.

The carbon savings of schemes, on an aggregate basis, will be used as a performance indicator in assessing the overall success of the NISEP for a particular year and the benefits it has produced for society and the environment. At an individual level, the carbon savings of a particular scheme will be used in analysing the success of that scheme and assessing whether similar schemes should be approved in the future.

APPENDIX 1 – ADMINISTRATIVE PROCEDURES

1.0 BIDDING FOR NISEP FUNDING

The amount of NISEP funding available each year is stated in section 2.3 of the Framework Document. Of this annual funding, 80 per cent is available for expenditure on schemes for vulnerable (priority) customers, with the remaining funding available for schemes focused on non-priority customers.

Bids for funding must take the form of a formal detailed scheme submission as discussed in Section 2 below and as set out in Appendix 2. Schemes proposed for a given financial year must be submitted between 1 October to 31 December the preceding year (i.e. schemes proposed for the 2010/11 financial year must be submitted between 1 October 09 and 31 December 09).

Any bids received after 31 December may not be considered for funding. Bids received within the appropriate time period but which are incomplete or of insufficient quality may also be rejected.

Following the bidding period, applicants should be informed by mid-March if their bids have been successful.

All bids for funding must be sent to the Programme Administrator at the following address:

Lynsey Byrne
Energy Saving Trust (NI)
Enterprise House,
55/59 Adelaide Street,
Belfast
BT2 8FE

Tel: 028 9072 6005

Fax: 028 9023 9907

Electronic copies of bids must also be sent to the following e-mail address:

lynsey.byrne@est.org.uk

2.0 SCHEME SUBMISSION

2.1 Scheme Reference Numbering

Each NISEP scheme submitted must have a specific reference number. The format of this number shall be made up as follows:

Applicant ID / Year / Scheme Number / Scheme Measure Type / Customer Type

The Applicant ID should consist of 3 letters that clearly identify the applicant, for example NIE Energy's ID would be 'NIE'.

The year should be shown as the last two digits of the financial year in which the scheme is to be implemented.

The scheme number should consist of two digits. Should an applicant submit more than one scheme in a given financial year, the scheme number should increase sequentially for each scheme, e.g. 01, 02 etc.

The scheme measure type should be shown as follows:

A = Appliances only
H = Heating (Including boilers and controls) only
I = Insulation only
L = Lighting only
M = Mix (e.g. a lighting & insulation scheme or a heating and appliance scheme)
R = Renewable Energy
O = Other measures not covered by the above

The customer type should be shown as follows:

P = Priority group customers
NP = Non-Priority group customers

To illustrate an example, if NIE Energy submitted one scheme to be undertaken in the 2010/11 financial year, and that scheme was an insulation scheme aimed at non-priority customers, the scheme reference number would be **'**NIE 10 01 I NP'.

2.2 Scheme Submission

Applicants must submit a Statement of Method for each scheme. Each submission must consist of the following:

- Written description of the scheme.
- Technical details of the scheme.

Applicants must send their scheme submissions to the Programme Administrator.

A guide showing the main areas applicants must cover is contained in the following paragraphs. This is not intended to be an exhaustive list of requirements but should provide a useful template for applicants to use when preparing their scheme submissions. A scheme submission form for recording the main details is provided in Appendix 2 but supplementary information may also be submitted, if necessary, to ensure that the Programme Administrator receives full details of the scheme.

Applicants are required to complete and send to the Programme Administrator a signed, hard copy of each submission. Schemes must also be submitted electronically to the Programme Administrator using the software that will be provided.

2.3 Written Description of the Scheme

The intention of the written description is to provide the Programme Administrator and the Utility Regulator with sufficient information to be able to effectively evaluate submissions. Where schemes are particularly large, complex or innovative, additional information may need to be provided.

The following details **must** be included in the written part of the submission:

- Scheme reference number.
- Scheme title – Must not contain Applicant's name.
- Scheme description - this must include:
  - A detailed description of the scheme, including the measures involved. This must clearly indicate whether or not the scheme is aimed at vulnerable (priority) customers, assisting other programmes which are aimed at vulnerable customers, or is aimed at non-priority customers.
  - A description of the properties targeted by tenure type (Owner Occupier/Private Rented/NIHE/Housing Association), if applicable to the scheme.
  - A statement providing evidence of the additionality of the scheme, as per section 2.1 of the Framework Document.
  - A description of the scheme partners involved and their role including financial contribution if any.
  - An indication of any links with other programmes.
  - The time-scale of the scheme and the intended time plan for implementing the scheme, i.e. start and finish dates.
  - An indication of who will carry out the scheme, and how they were selected (e.g. has a competitive tender process been undertaken).
  - Where the scheme is to take place, geographically.
  - A summary of the costs (by applicant, customers and other parties) of the scheme. This must also include a breakdown of indirect costs, and where applicable, costs per survey/inspection. Supporting documentation of costs must be provided. (If it is not possible to confirm actual costs of measures at the time of scheme submission, estimated costs will be acceptable but the scheme must be resubmitted when costs have been confirmed before full approval can be granted for the scheme to go-ahead).
  - The forecast energy savings. Calculations must be included to support energy savings.
  - Technical specification for products submitted (website/brochure).
  - A statement of how the scheme will address the customer satisfaction monitoring requirements specified in Appendix 1 Section 3.1 of this document. The questionnaire to be used should

be included with the scheme submission. Examples of customer satisfaction questionnaires are set out in Appendix 3.
  - A statement of how the applicant will quality assure the work to be carried out and what standards will apply (see Appendix 1, Section 3.2 for quality monitoring requirements).
  - A statement of how the scheme will target the most vulnerable homes, as per section 2.5 of the Framework Document (see Appendix 1 section 2.7 for example criteria).
- A description of how the scheme is to be marketed and targeted – this must include:
  - Which type of customer groups are being targeted.
  - An estimate of the proportion and type of vulnerable customers targeted, and on what grounds they are deemed to be vulnerable (vulnerability criteria).
  - An indication of how the scheme is to be promoted and marketed (include sample of marketing material/application form to be submitted for review).
  - A description of the terms on which the scheme is being offered to customers.
  - An indication of what commitments, if any, are required of customers covered by the scheme.

Note: Applicants are required to provide evidence of their ability to effectively manage the cost of such schemes.

2.4 Technical Details of the Scheme

Applicants must submit the technical details of the scheme using the submission software, which will be provided by the Programme Administrator.

The main technical details which require inputting are:

- Scheme reference number.
- The total number of different types of measures targeted by the scheme. This must be broken down by property type, property heating fuel type and customer grouping (this applies to building fabric measures only).
- Details of the direct cost of each measure per property type and customer grouping (non-priority / priority).
- Details of the amount of applicant, customer & third party financial contribution per measure.
- A forecast of the total level of indirect (management and administration) costs.
- Fuel Switching Costs and Carbon Savings for relevant fuel switching scenarios (figures provided by the Energy Saving Trust).

2.5 Scheme Approval

Upon receipt of a sustainable energy scheme submission, the Programme Administrator will review it to check that the criteria in sections 2.3 and 2.4 (of Appendix 1) above have been met.

Once the Programme Administrator is satisfied that the relevant criteria has been met it will recommend the scheme for approval. Scheme submission forms for the recommended schemes will then be passed onto the Utility Regulator for final approval. In the case of bids in a particular category exceeding the level of funding available, the more cost-effective schemes will be approved. The Utility Regulator has clearly stated that only the schemes that make best use of NISEP funding i.e. those that are the most cost effective in terms of energy saved compared to expenditure will be approved.

Applicants **must not** commence schemes until final approval has been granted. Final approval from the Utility Regulator is confirmation that the scheme has been successful in being awarded NISEP funding, following the bidding process described earlier. Applicants will be notified of final approval in writing from the Utility Regulator.

Applicants should note that the Utility Regulator's written approval for a scheme essentially becomes an agreement between the applicant and the Utility Regulator to undertake the scheme in accordance with their submission.

Programme participants will be obliged to inform beneficiaries of schemes, of the origin of funding. This will be facilitated by the introduction of a NISEP logo which must be used, at least in conjunction with the scheme participant's logo, on scheme documentation and publications and publicity.

2.6 Scheme Variation

Any subsequent significant change to the approved scheme will require a Scheme Variation Form to be completed by the Applicant and forwarded to the Programme Administrator (see Appendix 4). Applicants will be notified of final approval in writing from the Utility Regulator. If the variation concerns the reallocation of funding from an under performing to a successful scheme, clear evidence of underperformance must be provided.

Underspend from an underperforming scheme must not be transferred to another scheme without prior endorsement from the Programme Administrator and approval from the Utility Regulator. Overspend on a successful scheme will be at the Supplier's own expense unless approval has been given to transfer funds from an underperforming scheme.

2.7 Over Arching Vulnerability Criteria

Section 2.4 in the main body of this document introduces the use of over arching criteria to ensure funding targets the homes of vulnerable customers. Each scheme must state how it intends to address this and the criteria will be

assessed for each individual scheme. Two possible example criteria are illustrated below:

1) Single person household with an income/pension of less than £18,000 gross.

2) Couple or single parent family with an income/pension less than £25,000 gross.

3.0 SCHEME MONITORING REQUIREMENTS

3.1 Customer Satisfaction Monitoring

Applicants are required to undertake and report on the monitoring of customers' satisfaction with the measures installed. The applicant should target a minimum of 5 per cent of all homes receiving measures, with the exception of CFLs.

For CFL schemes, customer satisfaction monitoring must be carried out on the following sample size:

- For each type of CFL scheme undertaken (e.g. bulk delivery/mail order CFLs etc); 1 per cent or 1000 customers, whichever is less.

For further guidance, Appendix 3 of this document contains examples of customer satisfaction surveys. An example is given for lighting schemes, heating/insulation schemes and renewable energy schemes.

3.2 Quality of Installation Monitoring

The installation of sustainable energy measures, has historically been carried out to very high standards. It is important that standards are maintained and are part of a 'quality culture' that applicants adopt in their approach to delivering sustainable energy schemes. With this in mind, suppliers must include within the written description of the scheme the quality assurance (QA) approach they intend to adopt when undertaking the scheme. It must address issues such as the quality of materials used, products installed and working practices.

Applicants undertaking NISEP schemes must survey and report on the quality of installation in a minimum of 10 per cent of homes receiving fixed insulation and controls measures. Where heating measures are installed, applicants must survey and report on the quality of installation in 100 per cent of homes receiving measures. This quality monitoring should be carried out by a suitably qualified person, who should check whether or not the measures have been installed in line with approved British Standards etc. Any deficiencies in quality of installation identified must be rectified. Some of the more frequently referred to Standards are listed in Appendix 7 of this document.

For CFL schemes, quality criteria will be fulfilled if lamps included on the Energy Saving Trust's approved list are used.

For appliance schemes, assuming that all products used have relevant CE marking, there are no additional quality monitoring requirements.

Should applicant's undertake schemes in conjunction with Local Authorities it is often the case that the Local Authority will undertake quality monitoring. Should this be the case, applicants must provide an outline of the QA procedure adopted by the Local Authority. Likewise, QA procedures adopted by other nominated scheme partners may be used if suitable.

4.0 INTERIM PROGRESS REPORTING

Applicants who have schemes approved must notify the Programme Administrator and the Utility Regulator after three months (July) whether or not the scheme will proceed in a timely manner and as originally submitted. If this notification is not received the scheme approval will be cancelled.

Applicants undertaking NISEP schemes must submit an interim report (see Appendix 6) to the Programme Administrator after six months (Oct) and nine months (Jan) of each financial year they implement NISEP schemes. This report must provide details, on a scheme by scheme basis, of the current NISEP spend to date and the forecast final NISEP spend. Applicants are encouraged to provide additional detail of any issues they think may be of interest to the Programme Administrator and the Utility Regulator such as details of any corrective action to be taken to ensure the approved scheme is delivered as planned. The Programme Administrator will forward these interim reports to the Utility Regulator. Scheme variations should be reported, at the time they occur, in accordance with Appendix 1, Section 2.6.

In addition, applicants must inform the Programme Administrator of any forecast underspend in their schemes by mid Feb.

5.0 SCHEME COMPLETION REPORTING

Once schemes have been completed, applicants are required to complete a post-implementation form (see Appendix 4). The information submitted must include:

- Submission spreadsheets containing final outturn data. All information to be quoted on the post-implementation form can be derived from these sheets.
- Results of customer satisfaction or quality monitoring activities. If it is not possible to submit the customer satisfaction information at the time of completion submission, it may be supplied subsequently. It should always be possible to submit quality monitoring feedback on installed measures prior to final reporting.
- Completed Post-Implementation Form (See Appendix 4 for sample proforma). Applicants may adopt a different format provided that all

information contained in the sample proforma is included. All sections must be completed. Within the additional information section, it is important to explain any discrepancies between original scheme submission and completion. In the case of costs and savings figures, this may be due to more or less uptake than was initially envisaged (in which case any known factors should be cited), or something more specific such as extra fulfilment costs. In the case of scheme methodology, it may be an alteration of delivery mechanism, or a change in terms of the measures offered. The model of measures delivered must be specified where relevant. CFL models should be specified so as to allow cross-checking with the Energy Saving Trust approved list, and cold appliances and boilers, where the savings are related to the manufacturer's energy label, should be included.

Post implementation documentation must be submitted to the Programme Administrator by 1 July of the financial year following the year the scheme was implemented. For example, the required documentation must be submitted by 1 July 2011 for schemes implemented during the 2010/11 financial year.

Once a scheme has been completed, post implementation reports should be submitted to the Programme Administrator as soon as possible.

6.0 ANNUAL REPORTING

An Annual Report is required by the Utility Regulator in respect of each applicant's performance under the NISEP. Annual Reports will be due by the end of September each year, and must be made public by all suppliers undertaking schemes under the Programme during the previous financial year.

Annual Reports must cover the following particular issues:

- The level of performance against the targets.
- A description of each scheme implemented during the previous financial year including:
  - The type of customers involved;
  - The objective(s);
  - The achievements and energy savings each scheme delivered;
  - The benefits to customers in terms of bill savings and comfort;
  - The benefit to the environment in terms of carbon savings;
  - The explanation of any variations from the original scheme submission and confirmation that these scheme variations were approved.
- The amount of money spent by the applicant in preparing each scheme and causing them to be implemented over the last financial year.

7.0 AUDITING

Schemes implemented under NISEP will be subject, once completed, to audit by the Programme Administrator.

The following information is likely to be reviewed during audit:

- **Financial Information:**

  The scheme costs and the customer/third party/applicant contributions to the scheme will be established, and checked against those claimed in the schemes completion report. Purchase orders, invoices etc., which must be retained by the applicant, will be viewed to verify this.

  The key aim will be to establish the amount of NISEP funds spent by the applicant.

- **Tendering:**

  The audit will check that the selection of scheme installers, managing agents and key product providers has been subject, where necessary, to competitive tender. If affiliated organisations have been used, the justification for doing so will be explored – in such cases the Applicant must retain evidence e.g. benchmarked costs, to demonstrate that value for money has been obtained.

- **Installation of Measures:**

  The audit will check that the types of measures installed are consistent with the Statement of Method. With regard to completed schemes, it will be necessary for the applicant to provide evidence that the numbers and types (including property types) of measures claimed to be installed in the completion report are correct.

  Some specific areas may include:

  - That cold appliance schemes have made appropriate arrangements for the disposal of old appliances.
  - That CFLs delivered are on the Energy Saving Trust's approved list.
  - That appropriately trained/accredited installers and accredited products have been used.

- **Delivery Mechanisms:**

  The audit will check that the delivery mechanisms and terms under which a scheme is offered to customers is in line with that described in the approved Statement of Method, including the involvement of any retailers or contractors.

- **Energy Savings**

  The audit will check that the scheme delivered the required energy savings. Energy Savings will be calculated in accordance with the methodology used by the Programme Administrator.

- **Additionality:**

  The audit will check that there is evidence to support the statement of additionality of the scheme made in the scheme submission. Evidence of additionality will be inspected and therefore should be retained for audit purposes.

- **Scheme Variations**

  The audit will check that appropriate approval was obtained for any variations to the scheme submission or statement of method.

- **Monitoring:**

  The audit will check the methodology the applicant had in place for:

  - QA, with regard to the installation of measures (including how failures are rectified, what per cent of installations checked, who carries out these checks, whether or not measures, in particular CFLs, are of a correct specification).
  - Customer satisfaction (including the per cent of customers questioned and how dissatisfied customers are dealt with).

APPENDIX 2 – SCHEME SUBMISSION FORM

Northern Ireland Sustainable Energy Programme
Scheme Submission Form 20xx – 20xx

Scheme name	
Scheme reference number	
Detailed Scheme description	
Scheme category	
Properties to be targeted	
Vulnerability criteria (if priority scheme)	
Statement of Additionality	
No of homes fuel poverty proofed	
Scheme linked with other programmes?	
Timescale	
Geographic location	
Marketing	
Quality monitoring	
Customer Satisfaction	
Applicant's role	
Scheme Partners selection process	
Managing agent	

Other partners role				
Energy Savings	**Total Fuel Standardised Energy Savings (GWh)**	**Cost Effectiveness (p/kWh)**	**Total Annual Carbon Saving (tC/a)**	**Total Lifetime Carbon Saving (t/C)**
Funds to be made available from NISEP (£) (>20%)				
Total Measures Subsidies (£)				
Applicant Indirect Costs (£) Detailed Breakdown ie £ Marketing, £ Grant Admin, £ Per Survey			% of NISEP Funding	
Total Scheme Cost (£)				
Additional Comments				
Submitted by				
Date				

APPENDIX 3 – CUSTOMER SATISFACTION SURVEY EXAMPLES

Northern Ireland Sustainable Energy Programme
Customer Satisfaction Survey – Lighting Scheme

You have recently been a recipient of some low energy lighting through the Northern Ireland Sustainable Energy Programme. In order to evaluate the success of the programme, it would be useful for us if you could take just a couple of minutes to complete this short questionnaire.

Name	
Address	

Q1 Where have you installed the new lamp(s)?

- Hall/landing ☐
- Kitchen ☐
- Living Room ☐
- Bathroom ☐
- Bedroom ☐
- Other (please specify) ☐

Q2 Were you already using energy saving lamps before installing the new ones? (*Please circle how many you already had fitted*)

1 2 3 4 5 6 6+

Q3 Would you buy energy saving lamps anyway, without this offer being made available?

- Yes ☐
- No ☐
- Don't know ☐

Q4 Do you use your lighting more or less than before installing low energy lamps?

- Much less ☐
- A bit less ☐
- About the same ☐
- A bit more ☐
- Much more ☐

Q5 Are you likely to fit another energy saving bulb when the current one(s) fail?

- Yes ☐
- No ☐
- Don't know ☐

Q6 What do you think are the main advantages of energy saving lamps? (*Tick all that apply*)

- Save energy ☐
- Better for the environment ☐
- Save money ☐
- They last longer ☐

Q7	What do you think are the main disadvantages? (*Tick all that apply*)	Different tone of light	
		They are ugly	
		Take time to brighten up	
		Other (please specify)	

Q8	What is your overall level of satisfaction with the lamps you have received?	Very satisfied	
		Quite satisfied	
		Neither satisfied nor dissatisfied	
		Not very satisfied	
		Not at all satisfied	

Q9	If you answered '*Not very satisfied*' or '*Not at all satisfied*' in Q8, please explain	

Thank you for taking time to complete the questionnaire, this information is very useful to us to ensure we get the best out of future Northern Ireland Sustainable Energy Programme schemes.

Please return the completed form to:

XX
XX
Belfast
Etc.

Northern Ireland Sustainable Energy Programme
Customer Satisfaction Survey – Heating/insulation measures

You have recently been a recipient of heating and/or insulation measures through the Northern Ireland Sustainable Energy Programme. In order to evaluate the success of the programme, it would be useful for us if you could take just a couple of minutes to complete this short questionnaire.

Name	
Address	

Q1 What measures did you have installed? (*tick all that apply*)

- Loft insulation ☐
- Cavity wall insulation ☐
- New heating system ☐
- New heating controls ☐
- Thermostatic radiator valves ☐

Q2 How satisfied were you with the quality of work undertaken by the installers?

- Very satisfied ☐
- Quite satisfied ☐
- Neither satisfied nor dissatisfied ☐
- Not very satisfied ☐
- Not al all satisfied ☐

Q3 Is your home warmer than before the energy saving measure(s) were installed?

- Yes ☐
- No ☐
- Don't know ☐

Q4 Are your fuel bills lower since the energy saving measures(s) installed? (*May not be applicable if no fuel bill has been received since installation*).

- Yes ☐
- No ☐

If yes, please comment

Q5 Were you given energy saving advice at the same time as the work was carried out?

- Yes ☐
- No ☐

Q6 How would you rate this energy advice?

- Excellent ☐
- Good ☐
- Satisfactory ☐
- Poor ☐
- Very Poor ☐

Q7	Overall, how would you rate the energy saving scheme?	Excellent	
		Good	
		Satisfactory	
		Poor	
		Very Poor	

If you have any additional comments about any aspect of the work carried out, please use the space below.

Thank you for taking time to complete the questionnaire, this information is very useful to us to ensure we get the best out of future Northern Ireland Sustainable Energy Programme schemes.

Please return the completed form to:

XX
XX
Belfast
Etc.

Northern Ireland Sustainable Energy Programme
Customer Satisfaction Survey –Renewable Energy measures

You have recently been a recipient of renewable energy measures through the Northern Ireland Sustainable Energy Programme. In order to evaluate the success of the programme, it would be useful for us if you could take just a couple of minutes to complete this short questionnaire.

Name:
Address:

Renewable Energy Scheme

Q1 What Renewable Technology was installed?

Combined Heat and Power	
Solar Water Heating	
Ground Source Heat Pumps	
Biomass Heating	
Wind Turbines	
Photovoltaics	
Micro Hydro	
Other (please state)	

Q2 What prompted you to buy a renewable energy system?

To save money on your energy bills	
Good for the environment	
Both	
Other (please state)	

Q3 Have you recommended buying a renewable energy system to anyone else?

Yes	
No	
Don't Know	
If no, please state why	

Q4 How satisfied were you with the quality of the work undertaken by the installers?

Very satisfied	
Quite satisfied	
Neither	
Not very satisfied	
Not at all satisfied	

Q5 How satisfied were you with the instructions the installer has given you to operate the system?

Very satisfied	
Quite satisfied	
Neither	
Not very satisfied	
Not at all satisfied	

Q6	Would you consider other renewable sources for your home in the future?	If Yes, please state what	
		If No, please state why	
		Don't Know	
Q7	How did you find out about the grant scheme?	Please specify	
Q8	Are your fuel bills lower since the measure was installed? (May not be applicable if no bill received since installation).	Yes	
		No	
		If yes, please comment	
Q9	Were you given energy saving advice at the same time as the work was carried out?	Yes	
		No	
		If yes, have you taken action on advice?	
Q10	How would you rate this energy advice?	Excellent	
		Good	
		Satisfactory	
		Poor	
		Very Poor	
Q11	Overall, how would you rate this energy saving scheme?	Excellent	
		Good	
		Satisfactory	
		Poor	
		Very Poor	

Thank you for taking time to complete the questionnaire, this information is very useful to us to ensure we get the best out of future Northern Ireland Sustainable Energy Programme schemes.

Please return the completed form to:

XX
XX
Belfast
Etc.

APPENDIX 4 – SAMPLE SCHEME POST IMPLEMENTATION PROFORMA

Northern Ireland Sustainable Energy Programme
Scheme Completion Post-Implementation Form

Applicant		Scheme Reference No	
Scheme Name			

Principal Costs & Savings:

	Approved	Actual	% Difference
Supplier Accredited Savings (GWh)			
Total Carbon Savings (tC)			
Total Applicant Direct Costs (£)			
Total Applicant Indirect Costs (£)			
Total Scheme Costs (£)			
Supplier Cost Effectiveness (p/KWh)			
No of homes fuel poverty proofed			

Additional information from applicant to confirm whether there was any discrepancy between the approved scheme design and actuality and if so to explain in terms of scheme delivery mechanism, savings and costs, and to specify the model of measures installed where appropriate (e.g. CFLs / Refrigerators / Boilers):

	Date	Signature
Scheme completed as stated above, and savings calculated, and scheme delivered in accordance with approved scheme submission		

APPENDIX 5 - SCHEME VARIATION FORM

Northern Ireland Sustainable Energy Programme

Year:	Scheme Reference:	
Scheme Name:		
Approved and Endorsed by: EST/NIAUR		Date:
	Current	Revised
NISEP Funding		
Total Scheme Cost		
Other Party Funding		
Cost Effectiveness		
Energy Savings		
Indirect Cost (%)		
Applicant Contribution (>20%)		
Submitted By:		Date:
Variation approved by EST:		Date:
Variation endorsed by NIAUR:		Date:

ADDITIONAL INFORMATION

(Please clearly outline any changes to original submission, giving an explanation where required)

EST NOTE:
Variations to the revised figures up to 5% of NISEP funding no notification action is required, variations of 5-10% of NISEP funding EST is to be notified and above 10%, prior endorsement must be sought from EST for final approval by the Utility Regulator.

Any other significant changes to the delivery of the scheme will require a Scheme Variation Form to be completed by the applicant.

APPENDIX 6 – SAMPLE OF INTERIM REPORT TO BE SUBMITTED TO EST(NI) AFTER 6 AND 9 MONTHS

Northern Ireland Sustainable Energy Programme

Interim Progress 6-month Report for 10/11 Schemes - Submitted to EST(NI) by 4 Oct 10

			Submission							Interim Progress Report									
	Ref No	Scheme Title	Total Scheme Cost (£)	NISEP Funding (£)	% NISEP Contribution (>20%)	Energy Savings (GWh) *	Indirect Costs (%) **	Measures spend (£)	Applicant Cost Effectiveness	To Date NISEP Funding Spend (£)	% NISEP Contribution (>20%)	To Date Energy Savings (GWh) *	Indirect Costs (%) **	% Variance	To Date Applicant Cost Effectiveness	Referrals to Date	Work Complete	Proposed No of Jobs/Measures	Progress/Action
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
										0									
			0	0		0.000				0.00		0.000							

KEY

% Variance highlighting UNDERSPEND (Negative Value)

* Estimate should be provided based on the assumptions on the measure mix and type as specified in the scheme submission spreadsheet. The actual out-turn should be reported in the post-implementation report.

** Indirect costs calculation ----------

*** Apportionment Applied

Indirect Costs (Management Costs etc) must not exceed : (£250 x Measure cost) / (£1000 + Measure cost)

- on target (as authorised)
- NIAUR must be notified of increased spending for management costs
- Need Permission from NIAUR for this level of spending

% NISEP funds must contribute at least 20% of total scheme costs

- >20 %
- 0 - 20%

APPENDIX 7 – GUIDANCE ON THE USE OF ENERGY EFFICIENCY AND SUSTAINABLE ENERGY MEASURES

The following provides guidance on the installation of sustainable energy measures. Where appropriate, reference is made to relevant British Standards or guidance notes. An overview of British Standards is available at the BSI website at the following address. Copies of the Standards can also be ordered through this site http://bsonline.techindex.co.uk/

1.0 INSULATION MEASURES

1.1 Loft Insulation

Loft insulation provided under NISEP schemes should ideally be installed to a depth of 270mm. Depths of less than 270mm will only be considered for the accreditation of energy savings where it is physically impossible or unsafe to install 270mm.

The lifetime of loft insulation is assumed to be 30 years.

Loft insulation products must be compliant with the following British or European Standards:

BS EN 13162:2001 – 'Thermal insulation products for buildings. Factory made mineral wool (MW) products: Specification.' This document details the standards loft insulation materials must meet to be eligible as a qualifying action under the Order.

BS EN 5803 Part 5:1985 – 'Thermal insulation for use in pitched roof spaces in dwellings. Specification for installation of man-made mineral fibre and cellulose fibre insulation.' This standard specifies the requirements when installing loft insulation in pitched roof dwellings.

All lofts insulated by a NISEP scheme must include, where appropriate, loft boarding in order to provide safe access to the cold water tank. When insulating lofts, the loft hatches must be insulated and draught sealed.

In addition to these requirements, good practice when insulating roof spaces requires the insulation of the cold water tank and associated pipe work. The relevant British Standard is:

BS 5422: 2001 – 'Method for specifying thermal insulation materials for pipes, tanks, vessels, ductwork and equipment operating within the temperature range -40^{o}C to +700^{o}C.'

Cases of condensation in newly insulated lofts have been identified in previous programmes. There are several factors that can lead to condensation in lofts, such as failing to draught seal the loft hatch or the blocking of loft vents with

insulation. Scheme managers must ensure that their installers take care to minimise the risk of condensation when installing loft insulation.

Insulation installed to 270mm ensures that the loft has a U-value of 0.16W/m2K, based on the product installed having a lambda of 0.044W/mK. Suppliers can be accredited for installing other insulants, although the lambda will need to be verified and the thickness recorded to ensure that the loft has the U-value of 0.16W/m2K.

There are two guides relating to best practice when installing loft insulation:

Energy-efficient refurbishment of existing housing (GPG155/CE83, November 2007).

Practical refurbishment of solid-walled houses (CE184, March 2006).

Both publications state that insulation above the height of the joists should be laid across the joists where appropriate.

1.2 Cavity Wall Insulation

The energy savings associated with cavity wall insulation are displayed in the Scheme Submission Spreadsheet. The energy savings differ considerably between homes constructed pre 1976 and those constructed post 1976. Installers must therefore provide the age of the property insulated when reporting to energy suppliers, to enable applicants to accurately report on their completed schemes.

The lifetime of cavity wall insulation is assumed to be 40 years.

Insulation materials used must be certified by an appropriate UKAS accredited certification body and must conform the following British Standards:

BS EN 13162: 2001 – 'Thermal insulation products for buildings. Factory made mineral wool (MW) products. Specification.' This standard replaces the current BS6232.

BS 5617:1985 - For UF foam insulation, **–**'specification for urea-formaldehyde (UF) foam systems suitable for thermal insulation of cavity walls with masonry or concrete inner and outer leaves' and

BS 5618:1985 - ;Code of practice for thermal insulation of cavity walls (with masonry or concrete inner and outer leaves) by filling with UF foam systems.'

A 25-year guarantee must be provided to the customer when the insulation work has been completed as the reduction in carbon emissions calculated are based on installation to the technical requirements of such a guarantee.

The technical requirements are outlined in the following documents published by Cavity Insulation Guarantee Agency (CIGA):
Assessor's Guide: Suitability of external walls for filling with cavity wall insulation.
Part 1 existing buildings, Version 1.0, December 2003

Technician's Guide to Best Practice – Installing cavity wall insulation, Version 2, July 2002
Technician's Guide to Best Practice – Flues, chimneys and combustion air ventilators, Version 3.0, May 2006.

Conservatories, Technical Guidance Note, Version 1.0, July 2007.

Ventilators, Technical Guidance Note, Version 1.0, September 2007.

1.3 Draught Proofing

When calculating the draught proofing energy savings, BRE has assumed that only buildings with 'high ventilation rates' should be insulated to merit the accreditation of the energy savings listed in the Submission Spreadsheet. Scheme managers should therefore attempt to target homes with 'high ventilation rates' when undertaking draught proofing schemes. Typically, this type of home will be in an exposed position, or have ill fitting or sash style windows.

The lifetime for draught proofing measures is assumed to be 10 years.

The British Standard relevant to the materials used for draught proofing is:

BS 7386: 1997 – 'Specification for draught strips for the draught control of existing doors and windows in housing.' This Standard specifies the requirements for products to fit the common types of installed doors and windows in housing not originally designed to incorporate draught stripping.

BS 7880:1997 – 'Code of practice for draught control of existing doors and windows in housing using draught strips.' This standard specifies the requirements when installing draught-proofing.

1.4 Hot Water Tank Insulation

Details of the assumptions behind the energy savings for tank insulation are provided in the BRE report, contained in Appendix 1 of this document.

A lifetime for tank insulation is assumed to be 10 years.

The relevant British Standard for tank insulation is:

BS 5615: 1985 – 'Specification for insulating jackets for domestic hot water storage cylinders.' This Standard specifies the performance, in terms of the maximum permitted heat loss, the materials, design and marking of jackets for cylinders to BS699 and BS1566.

1.5 High Efficiency Cylinders

Comparisons were made between the energy required to heat 3 different types of hot water cylinders, namely the 'stock average' cylinder, the British Standard cylinder and the 'high performance' cylinder.

The stock average cylinder was defined by a combination of survey data on insulation and expert opinion on the mixture of tank (i.e. heat exchanger) types in the stock. The British Standard and high performance types are described in 'Central Heating System Specifications', CHeSS (Energy Efficiency Best Practice programme General Information Leaflet 59).

For dwellings where the water is heated from a gas fired boiler the findings were:

In a property with no primary pipework insulation, the energy saved by replacing a stock average cylinder with a high performance cylinder is 994 kWh/annum. In a property with insulated primary pipework, the saving from replacing a stock average cylinder with a high performance cylinder is 533 kWh/annum. In a new house, the energy saved by installing a high performance cylinder rather than a British Standard cylinder is 153 kWh/annum.

For dwellings with water heated by electric immersion heater the savings are:

181 kWh/annum for replacing a stock average with a high performance cylinder.
39 kWh/annum for installing a high performance rather than a British Standard cylinder.

These energy savings values should be entered into the 'other insulation' section of the Scheme Submission Spreadsheet. The cylinders are classed as insulation measures, because the vast majority of the energy savings result from the high levels of insulation in their design.

A lifetime of 20 years should be assumed for this measure.

Installations of hot water cylinders should meet the best practice guidance set out in CHeSS. This document has been distributed by the Energy Saving Trust to applicants previously.

1.6 Radiator Panels

The energy savings shown below are attributable to radiator panels constructed in a 'louvered' or 'saw toothed' fashion (with raised ridges) and incorporating a reflective surface, which is by far the most common method of design.

The energy savings on a 'per square metre installed basis' are 93kWh/a for both gas and oil heated homes. These savings are attributable to panels installed behind radiators on external walls.

The above data is based on measurements on a panel with a reflective surface. Panels are available which do not have a reflective surface, in which case its effect on energy saving should be taken as one half of the above value.

Radiator panel energy savings should be calculated on a 'per panel' basis. This calculation requires the assessment of the area of the radiator panel, which should then be applied to the data shown above. For example, a panel with a surface area of 0.3 square metres would achieve energy savings of 30kWh when installed. In submitting such schemes, applicants should indicate the numbers of panels forecast to be installed, therefore allowing the overall scheme savings to be calculated. Applicants should include a breakdown of their calculations in their Statement of Method for the scheme. The energy savings values and total area of panel installed should be entered into the 'other insulation' section of the Scheme Submission Spreadsheet.

A measure lifetime of 10 years should be assumed for radiator panels.

1.7 Solid Wall Insulation

Energy saving figures are available from the Energy Saving Trust for a variety of different solid wall insulation products and for a range of target U-values.

Solid wall installation (internal or external) is typically installed to achieve U-values of 0.35W/m2K, 0.37W/m2K and 0.45W/m2K when installed on a wall with a U-value of 2.1W/m2K or higher (e.g. 220mm solid brick wall).

The lifetime of solid wall insulation is 30 years.

The following technical standards and specific requirements apply and solid wall insulation materials must conform to the following British or European Standards:

BS EN 13914-1:2005 – 'Design, preparation and application of external rendering and internal plastering – Part 1: External rendering.' This standard specifies the materials, aspects of design, mixes and methods of application of

cement-based renderings to all common types of new and old backgrounds. It also includes advice on the inspection and repair of defective renderings.

BS 8212:1995 – 'Code of practice for dry lining and partitioning using gypsum plasterboard.' This standard contains recommendations for materials, design backgrounds and insulation of dry lining to walls, ceilings and partitioning.

When solid wall insulation is composed of material for which no British or European Standard exists, the material must by certified by the British Board of Agrément (BBA), or another UKAS Accredited Technical Approval Body for their thermal performance.

Best Practice guidelines

Best Practice guidelines for solid wall insulation recommend an improvement to the U-value of 0.35W/m2K. The Energy Saving Trust strongly encourages applicants to install to this level, where practical. Further details on products that can be used to attain the Best Practice improvement are provided in the following publications:

Energy-efficient refurbishment of existing housing (GPG155/CE83, November 2007).

External insulation systems for walls of dwellings (GPG293/CE118, March 2006).

The following guides provide advice on solid wall installations:

Practical refurbishment of solid-walled houses (CE184, March 2006).

Internal wall insulation in existing housing – a guide for specifiers and contractors (GPG138/CE17, January 2008).

2.0 LIGHTING MEASURES

New legislation, in the form of the Energy Using Products Directive, will come into force in the UK as of September 2009. The legislation is yet to be finalised but will have a significant impact on lighting. The Programme Administrator will monitor the development of this legislation and the impact on the UK lighting market, and advise suppliers accordingly if NISEP requirements change.

2.1 Compact Fluorescent Lamps (CFLs)

For the purposes of accrediting ex-ante energy savings, all lamps used in NISEP schemes must be included on the Energy Saving Trust's list of approved CFLs, and have achieved Energy Saving Recommended (ESR) status, awarded by the Energy Saving Trust's ESR Programme. These lamps have been tested in accordance with the requirements of the Energy Saving

Trust's lamp specification. The approved CFL list is circulated on an ongoing basis, as and when revisions are necessary. For confirmation of the current version, contact Energy Saving Trust (NI). All the lamps currently listed on the Energy Saving Trust's approved list have also successfully achieved ESR status.

Applicants are required to enter the numbers and types of lamps installed by their lighting schemes into the relevant place in the Scheme Submission Spreadsheet. The lifetimes of the lamps (in hours) is also required to be entered into the spreadsheet. The lifetime entered should be as displayed on the approved list. Where the life status is shown as 'ongoing' the manufacturer's claimed lifetime (i.e. as shown on the packaging) should be entered into the spreadsheet.

NOTE: Please see guidance below for the submission of CFL schemes.

Free distribution – applicants can send up to four CFLs free to each household. Applicants need to provide a freepost address so people can post them back if they don't want them. They also need to track the names/addresses of where they are sent. In situations where four CFLs are provided free at events, the addresses/names also need to be logged to enable cross checking to be carried out. Although, if CFL's are given out free of charge by scheme partners, such as charities, it may not always be possible to collect names and addresses to cross check. In such situations, no more than two CFLs can be provided per household.

Mail order schemes - a choice of wattages should be offered, and an individual can purchase no more than ten lamps.

Retailer CFL schemes - When retailers are providing sales data to applicants (to confirm number of qualifying products sold), a covering letter should be provided to confirm which period the electronic point of sale (EPoS) data covers, that the sales took place and that they exclude trade sales. The letter should also confirm that the measures and/or marketing campaign was subsidised by the applicants and funding has not been received for the measures from any other applicant. For retail CFL schemes, the applicant should provide a marketing plan to demonstrate their proposed actions, but will not be required to increase sales by a specified percentage.

NOTE: Energy savings attributed to the scheme should be attributed to the increased sales only rather than the total sales during the period of the offer.

2.2 Luminaries

Schemes involving the installation of luminaires must only use CFLs that are displayed on Energy Saving Trust's approved CFL list. These lamps have been tested in accordance with the requirements of the Energy Saving Trust's lamp specification.

The ballast used in conjunction with the approved CFL must meet the requirements of Energy Saving Trust's luminaire Specification. Energy efficient luminaires meeting the requirements of this specification are eligible for use of the ESR logo. For details of endorsed luminaires please contact the Energy Saving Trust (NI).

The Scheme Submission Spreadsheet enables the calculation of energy savings arising from the installation of luminaries. The relevant part of the CFL worksheet should be used to input the number, type and hours of use of luminaries to be delivered by the scheme.

2.3 Halogen Lamps

A wide range of energy saving versions of halogen lamps is now available in the UK. Halogen lamps that have achieved ESR status would be eligible for installation in NISEP schemes. A list of eligible products is available upon request from the Energy Saving Trust (NI).

2.4 LED Lighting

LED lighting that is suitable for domestic applications is being developed by a wide range of manufacturers. The most common LED products available are replacements for existing halogen reflector lamps (spotlights). The benefits are low power consumption and an extremely long lifetime.

The Energy Saving Trust has recently extended the scope of the ESR scheme to include LEDs. As of May 2009 there are no LED products endorsed but this is expected to change in the coming months.

LED products installed in NISEP schemes will need to have achieved ESR status. Suppliers considering using LED products should contact the Programme Administrator to discuss the proposed scheme and availability of appropriate products.

3.0 HEATING MEASURES

3.1 Boilers

Any new boiler provided by a NISEP scheme should be gas fired wherever gas is available to fuel it.

Schemes replacing old oil boilers should ensure that the make, model type and age of the boiler is recorded.

Boilers installed in schemes must be a SEDBUK ‘A’ rated model. The SEDBUK database can be viewed at http://www.sedbuk.com/. It indicates the energy efficiency of all currently available boilers.

A spreadsheet containing energy, carbon and financial savings for all the different heating replacement scenarios (e.g. electric heating to new oil condensing boiler/solid fuel heating to new gas condensing boiler) is available from the Programme Administrator upon request..

The lifetime assumed for boilers is 15 years.

Installations of boilers must meet the best practice guidance set out in CHeSS (Energy Efficiency Best Practice programme General Information Leaflet 59).

Several British Standards also apply:

BS 5440 Part 1: 2000 – 'Installation and maintenance of flues and ventilation for gas appliances of rated input not exceeding 70kW net (1st, 2nd and 3rd family gases). Specification for installation and maintenance of flues.'

BS 5440 Part 2: 2000 – 'Installation and maintenance of flues and ventilation for gas appliances of rated input not exceeding 70kW net (1st, 2nd and 3rd family gases). Specification for installation and maintenance of ventilation for gas appliances.'

BS 6798: 2000 – 'Specification for installation of gas-fired boilers of rated input not exceeding 70kW net.'

BS 5449: 1990 – 'Specification for forced circulation hot water central heating systems for domestic premises.'

BS 7671: 2001 – 'Requirements for electrical installations, IEE wiring regulations, 16th Edition.'

Best Practice Guidelines

Energy Efficiency Best Practice in Housing Domestic heating by oil: boiler systems (CE29, January 2008).

Energy Efficiency Best Practice in Housing Domestic heating by gas: boiler systems (CE30, January 2008).

Energy Efficiency Best Practice in Housing Domestic heating: solid fuel systems (CE47, March 2005).

3.2 Heating Controls

In general, heating controls must be installed in line with the best practice guidance provided in CHeSS (Energy Efficiency Best Practice programme General Information Leaflet 59).

The Submission Spreadsheet enables the calculation of energy savings from heating controls. The savings are calculated by entering the existing controls scenario before installation, and then entering the type of heating controls installed by the scheme. The spreadsheet assumes different 'packages' of controls, as follows:

Package A: No controls or hot water tank thermostat.
Package B: Room thermostat*.
Package C: Roomstat and Thermostatic Radiator Valves (TRVs)*.
Package D: TRVs without a roomstat*.
Package E: Delayed start roomstat and TRVs*.
Package F: Intelligent heating controls and TRVs*.

* These control options include a hot water tank thermostat. For packages C – F, TRVs are assumed to be fitted on each radiator in the property.

Installations of heating controls must meet the basic level, which is set out in Central Heating System Specifications – CHeSS (CE51, June 2008). Such installations will meet the standards outlined in the guidelines to the Building Regulations 2000 (Scotland 2004) as amended. The guidance note can be obtained by calling the Energy Saving Trust's Energy Efficiency Publication Hotline on 0845 120 7799 by visiting www.energysavingtrust.org.uk/housingbuildings

In addition, heating controls must all be installed in line with **BS 7671:2008** – 'Requirements for electrical installations, IEE wiring regulations, 17th Edition' and BS 5449:1990 – 'Specification for forced circulation hot water central heating systems for domestic purposes.'

Best Practice guidelines
The Energy Saving Trust refers applicants to the following guides for information on the different types of controls available, including descriptions of advanced functions:

Energy Efficiency Best Practice in Housing Domestic heating by oil: boiler systems (CE29, January 2008).

Energy Efficiency Best Practice in Housing Domestic heating by gas: boiler systems (CE30, January 2008).

Energy Efficiency Best Practice in Housing Domestic heating: solid fuel systems (CE47, March 2005).

A lifetime of 15 years is assumed for heating controls.

The Scheme Submission Spreadsheet should be used to calculate the energy savings from heating controls. The spreadsheet contains savings options for either installing heating controls in tandem with a new boiler or installing

controls only. The numbers of each type of control package to be installed should be entered into the relevant worksheet. The results are linked automatically to the main spreadsheet.

The best practice guidance set out in the CheSS document states that TRVs should be fitted on all radiators in a dwelling except in rooms where there is a room thermostat. The number of TRVs that can be fitted in a dwelling is dependent on a number of factors such as the number of rooms and the number of radiators present. To allow flexibility when reporting on heating projects involving TRVs, the Scheme Submission Spreadsheet has a section where the total number of TRVs installed under a scheme can be inputted. The spreadsheet calculates the energy savings by multiplying the number of TRVs installed by the savings attributable to a single TRV.

4.0 ENERGY EFFICIENT APPLIANCES

4.1 Introduction

As a general rule, efficient cold and wet appliances provided by NISEP schemes must have achieved ESR status. A list of ESR products can be viewed on the Energy Saving Trust's website, at the following link:

www.est.org.uk/myhome/efficientproducts/recommended

Applicants should contact the Programme Administrator if further details of the Endorsement Programme are required or if an appliance they wish to use in a scheme does not appear on the Energy Saving Trust's website. The ESR application process for new appliances is straightforward, and manufacturers of qualifying products who have not yet applied can quickly and easily do so.

4.2 Energy Saving Data for Cold Appliance Schemes

This section explains the methodology for calculating savings for appliance schemes. The two most common scenarios for delivering appliance projects are:

- An incentive to purchase a more efficient appliance.
- A trade-in of a working appliance.

The lifetime for freezers or fridge-freezers is 15 years. For refrigerators/larders it is 12 years, however, when refrigerators/larders are provided to customers classed as falling within the priority group, a lifetime of 15 years (rather than 12) should be assumed. This is based on the assumption that these customer groups will retain the appliance for a longer time period prior to replacement.

For 'Trade-in' schemes, the lifetime of the appliance must be reduced by 1/3.

The matrix below lists the average annual consumption of different refrigeration appliances by label for products currently on sale in the UK, the sales weighted average (this means the average consumption based on the different numbers rated appliances that are sold in the marketplace) and the consumption of existing appliances.

Energy consumption data for cold appliances

Non Fuel Standardised kWh/yr	A Rated	Sales Wte Ave	Existing Appliances	Incentive saving (kWh/yr)	Trade-in saving (kWh/yr)
Dishwasher (Compact/Tabletop)	113	167	-	54	-
Dishwasher (Slimline)	157	183	-	26	-
Dishwasher (Full Size)	214	249	377	35	163
Washing Machine	163	182	243	19	80

	Annual Electricity Consumption (kWh/yr)					Incentive savings from Sales Wte Ave (kWh/yr)			Trade-in savings from Existing Average (kWh/yr)		
Non Fuel Standardised kWh/yr	A++	A+	A	Sales Wte Ave	Existing Appliances	To A++	To A+	To A	To A++	To A+	To A
Fridge Freezer (Frost Free)	149	223	301	379	852	231	156	79	703	628	551
Fridge Freezer (Standard)	136	204	275	357	572	221	153	82	435	367	296
US Style (Side by Side)	220	330	445	531	-	311	201	86	-	-	-
US Style (Top/Bottom)	177	265	358	504	-	327	238	146	-	-	-
Chest Freezer	77	115	155	266	442	189	150	110	365	326	286
Upright Freezer (Frost Free)	113	170	228	331	641	218	162	103	528	471	413
Upright Freezer (Standard)	98	146	197	290	425	193	144	93	327	278	228
Refrigerator (Icebox)	74	112	151	216	295	142	104	66	221	184	145
Refrigerator (Larder)	68	101	137	176	277	109	75	40	209	175	140

Source: GfK Q4 2001 sales data for the average 'A' rating and sales weighted average; DEFRA (now DECC) Market Transformation Programme website 2002.

When calculating energy savings for cold appliance schemes, applicants should follow the following guidelines.

4.2.1 Incentive Schemes

Customers in the market for a new appliance, normally buy the average product currently sold within the range of energy labels. In this scenario they are incentivised to purchase a more efficient appliance. The savings will be the difference between the sales weighted average consumption and the consumption of the promoted product.

For example:

'A' Rated frost free fridge freezer = 295 kWh/a consumption.
Sales weighted average for frost free fridge freezer = 516 kWh/a.

Energy Saving = 516 - 295 = 221 kWh/a over a 15 year lifetime.

4.2.2 'Trade-in' Schemes

Under trade-in schemes, customers are able to trade in a working appliance for a more efficient appliance. To qualify, the appliance is assumed to be working at the time of trade in and then be destroyed (in an environmentally acceptable manner) to avoid entry into the second hand market. The savings will be the difference between the average consumption of the existing population of that particular product and the more efficient product.

There is a two-fold saving; firstly, by removing the existing, inefficient appliance from the market, the consumption over the remainder of the product life is avoided; and secondly, a more efficient appliance is purchased than would normally be the case. Estimating the remaining lifetime of the existing appliance is subject to considerable uncertainty. On the one hand, it could be argued that only very old appliances will be traded-in, so the lifetime will be relatively short. On the other hand, once an appliance enters the second hand market, its lifetime will tend to be longer than the normal average lifetime.

The Energy Saving Trust has analysed a number of scenarios taking account of the two elements of savings. The conclusion is that a simple basis for estimating the total savings from trade-in schemes is to apply the savings from existing appliance to the promoted product for two thirds of the appliance life.

For example:

An 'A' rated frost-free fridge freezer is provided by the scheme = 295kWh/a consumption.
Existing frost-free fridge freezer = 785 kWh/a consumption.

Energy saving = 785 - 295 = 490 kWh/a over a 10 year (15 year lifetime for a fridge freezer discounted by 1/3) lifetime.

4.2.3 Cold Appliance Disposal

Councils have a responsibility to remove old domestic appliances from customer's homes, although a cost may be levied.

Applicants undertaking appliance schemes should provide the customer with the relevant contact details and appropriate guidance as to appliance disposal.

4.3 Wet Appliances

The following energy consumption figures should be used when considering a scheme that will provide a washing machine or dishwasher. Data is provided that illustrates the average energy consumption of 'A' rated washing machines and dishwashers, and the typical energy consumption of the existing appliances that they will replace in a trade-in scenario. A sales weighted average value is also provided. If the energy consumption of the appliance provided by the scheme is known, this figure can be used in place of the average 'A' rated consumption. The lifetime for these types of appliance is

assumed to be 15 years. In a trade in scenario, as with cold appliances, this would be reduced by 1/3.

Washing Machines:

Average 'A' rated energy consumption:	165kWh/annum.
Energy consumption of existing appliances:	237kWh/annum.
Sales weighted average:	201kWh/annum.

Dishwashers:

Average 'A' rated energy consumption:	228kWh/annum.
Energy consumption of existing appliances:	415kWh/annum.
Sales weighted average:	297kWh/annum.

Source: GfK home audit; ECI Oxford.

5.0 RENEWABLE ENERGY SCHEMES

This section provides information on factors taken into account when quantifying the benefits of installing microgeneration measures. It also sets out technical standards to be met when delivering these measures and includes specific Best Practice guidelines.

This section will not provide energy saving data for all microgeneration measures. The Energy Saving Trust is undertaking a number of different field trials of microgeneration measures and is continually updating energy saving assumptions based on the results. Applicants wishing to undertake a scheme involving microgeneration measures should contact the Programme Administrator to discuss their proposal.

The Microgeneration Certification Scheme (MCS) has been set up to ensure that the quality of microgeneration products and their installation is of an appropriate standard.

Microgeneration products installed in NISEP schemes must be accredited by the MCS and they must be installed by a MCS accredited installer.

Further details on the MCS can be found at the following web link:

http://www.microgenerationcertification.org/

5.1 Solar Thermal Hot Water

Solar panels, used for the purposes of domestic hot water heating are an eligible measure for use in NISEP schemes.

The tables below illustrate the energy savings attributable to installations of the two different types of solar panel, namely the 'flat plate' and 'evacuated tube'

variants. The savings are presented in two formats. Energy savings for a typical installation are given

FLAT PLATE COLLECTORS		Water Heating Fuel				
		Gas	Electricity	Oil	LPG	Solid
Average kWh/yr saving per square metre of panel		**454**	**304**	**400**	**441**	**553**
Typical dwelling types, average occupancy levels and typical daily hot water requirements	**l/day**	**Energy Saving (kWh/yr)**				
FLAT 2.1	90.5	**1791**	**1200**	**1579**	**1739**	**2182**
MID-TERRACED 2.6	103	**1824**	**1222**	**1608**	**1771**	**2222**
END-TERRACED 2.6	103	**1824**	**1222**	**1608**	**1771**	**2222**
SEMI-DETACHED BUNGALOW 2.2	93	**1791**	**1200**	**1579**	**1739**	**2182**
DETACHED BUNGALOW 2.3	95.5	**1824**	**1222**	**1608**	**1771**	**2222**
SEMI-DETACHED HOUSE 2.9	110.5	**1824**	**1222**	**1608**	**1771**	**2222**
DETACHED HOUSE 3.3	120.5	**1824**	**1222**	**1608**	**1771**	**2222**

EVACUATED TUBE COLLECTORS		Water Heating Fuel				
		Gas	Electricity	Oil	LPG	Solid
Average kWh/yr saving per square metre of panel		**582**	**390**	**513**	**565**	**709**
Typical dwelling types, average occupancy levels and typical daily hot water requirements	**l/day**	**Energy Saving (kWh/yr)**				
FLAT 2.1	90.5	**2214**	**1483**	**1952**	**2150**	**2697**
MID-TERRACED 2.6	103	**2284**	**1530**	**2013**	**2217**	**2782**
END-TERRACED 2.6	103	**2284**	**1530**	**2013**	**2217**	**2782**
SEMI-DETACHED BUNGALOW 2.2	93	**2214**	**1483**	**1952**	**2150**	**2697**
DETACHED BUNGALOW 2.3	95.5	**2284**	**1530**	**2013**	**2217**	**2782**
SEMI-DETACHED HOUSE 2.9	110.5	**2343**	**1570**	**2066**	**2275**	**2855**
DETACHED HOUSE 3.3	120.5	**2378**	**1593**	**2096**	**2309**	**2897**

for the different property types, and the different heating fuels. The savings are also shown on a 'per square metre installed' basis, again for the different heating fuels. Applicants can enter measures in either format into the Scheme Submission Spreadsheet, using the 'Other Heating' sections of the worksheets.

Applicants may find it easier to submit new schemes using the savings estimates for the different property types. Once a scheme has been completed it should be possible to calculate the total area of solar panels installed, in which case the 'per square metre installed' data should be used in the completion report. However, if this information is not accurately available, applicants can also use the property type data when submitting completion reports.

The lifetime of solar water heating is 25 years.

Technical standards or specific requirements

Solar water heating must be compliant with the following British or European Standards, as specified by MCS:

EN 12975-1:2006 - Thermal solar system and components. Solar collectors. General requirements.

EN 12976-1:2006 - Thermal solar systems and components. Factory made systems.

BS 5918:1989 - Code of practice for solar heating systems for domestic hot water; these standards contain recommendations for the design, construction, installation and commissioning of components and systems for domestic hot water preheating for single family dwellings.

'Solar water heating systems – guidance for professionals, conventional indirect systems' (CE131, 2006) provides advice on installing solar thermal systems that transfer heat to an indirect cylinder.

5.2 Biomass Heating

Domestic biomass heating must comply with the guidance to The Building (Amendment) Regulations(Northern Ireland) 2006) and The Building (Amendment No 2) Regulations (Northern Ireland) 2006, including the minimum efficiencies specified.

The reduction in energy use (as with heat pumps based on a comparison of the carbon content of the new and replaced fuel) is available in a spreadsheet supplied by the Energy Saving Trust.

The lifetime of domestic biomass boilers is 20 years.

Technical standards and specific requirements

Installations of biomass appliances must meet the standards outlined in the guidance to the The Building (Amendment) Regulations (Northern Ireland) 2006 and The Building (Amendment No2) Regulations (Northern Ireland) 2006.

Biomass boilers must be compliant with the following standards:

BS EN 303-5:1999 - Heating boilers. Heating boilers with forced draught burners. Heating boilers for solid fuels, hand and automatically fired, nominal heat output of up to 300 kW. Terminology, requirements, testing and marking.

BS EN 13240:2001 - Room heaters fired by solid fuel. Requirements and test methods.

6.0 OTHER RELEVANT LEGISLATION

The following legislation (not an exhaustive list) may or may not apply to works carried out during a NISEP scheme. The legislation can be reviewed at the following website: http://www.hmso.gov.uk/

It is the responsibility of each applicant to ensure that they have carried out their schemes in accordance with appropriate legislation.

Construction (Health Safety & Welfare) Regulations 1996

These regulations are aimed at protecting the health, safety and welfare of everyone who carries out construction work. They also give protection to other people who may be affected by the work.

Health and Safety at Work Act 1974

(HASAWA) provides a wide, embracing, enabling framework for health, safety and welfare in the UK.

Construction Design and Management (CDM) Regulations 1994

These regulations have been produced to ensure that Health, Safety and Environmental issues are addressed during the life-cycle of a building or plant.

Control of Substances Hazardous to Health 1994 (COSHH)

This legislation prohibits work involving exposure to hazardous materials (chemicals, microorganisms, gases, etc.) unless a 'suitable and sufficient' assessment of these exposures has been carried out.

Noise at Work Regulations 1989

These regulations aim to protect workers from the risk of hearing damage due to excessive noise.

Electricity at Work Regulations 1989

The purpose of these regulations is to ensure precautions are taken against the risk of death or personal injury from electricity in work activities.

Environmental Protection Act 1990

The aim of this Act is to ensure that any potential polluting process has an authorisation from either the Environment Agency or Local Authority and that control measures are in place to prevent, minimise or render harmless emissions into the surrounding environment.

Ozone depleting substances (ODS) regulation 2000

This regulation affects users, producers, applicants, maintenance and servicing engineers, and those involved in the disposal of all ODS. These include chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, 1,1,1 trichloroethane, carbon tetrachloride and bromochloromethane (CBM). These substances are mainly used in refrigeration, air-conditioning, foam blowing, as solvents and in fire fighting.