**ENERGY EFFICIENCY LOAN FUND**

**EVALUATION – FINAL**

**8th December 2016**

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**APPENDICES (presented as an annex to this report)**

## List of Abbreviations

| Abbreviation | Definition |
|---|---|
| BIS | Department of Business, Innovation and Skills |
| DBEIS | Department for Business, Energy and Industrial Strategy |
| DfE | Department for the Economy |
| DECC | Department of Energy and Climate Change |
| DETI | Department for Enterprise Trade and Investment |
| DIUS | Department for Innovation, Universities and Skills |
| EAM | Economic Appraisal Methodology |
| EDO | External Delivery Organisation |
| EED | Energy Efficiency Directive |
| EELF | Energy Efficiency Loan Fund |
| ERDF | European Regional Development Fund |
| ESA | Energy Saving Assessment |
| ESIF | East of Scotland Investment Fund |
| FCA | Financial Conduct Authority |
| FIT | Feed-in Tariff |
| FSA | Financial Services Authority |
| GVA | Gross Value Added |
| IRR | Internal Rate of Return |
| KPI | Key Performance Indicators |
| LBA | Letter Before Action |
| NIGEAE | Northern Ireland Guide to Expenditure Appraisal and Evaluation |
| PfG | Programme for Government |
| PSA | Public Service Agreement |
| RHI | Renewable Heat Incentive |
| SDSP | Sustainable Development Support Programme |
| SEAP | Sustainable Energy Action Plan |
| SEF | Strategic Energy Framework |
| SFS | Siemens Financial Services |
| SLABLF | Scottish Local Authority Business Loan Fund |
| SLF | Scottish Loan Fund |
| SMEs | Small and Medium Sized Enterprises |
| SPP | Sustainable Productivity Programme |
| SUL | Start-up Loans |
| VAT | Value Added Tax |
| WDA | Welsh Development Agency |
| WSLF | West of Scotland Loan Fund |

## EXECUTIVE SUMMARY

### Introduction

Invest Northern Ireland (Invest NI) has commissioned Cogent Management Consulting LLP ('Cogent' or 'the Evaluation Team') to undertake an independent evaluation of its Energy Efficiency Loan Fund ('EELF' or 'the loan fund'), covering the period April 2010 to December 2015.

The evaluation has been undertaken in line with national and regional requirements and is compliant with Central Government guidance including:

- "The Green Book: Appraisal and Evaluation in Central Government", HM Treasury 2003;
- "The Northern Ireland Guide to Expenditure Appraisal and Evaluation (NIGEAE), Current Edition", Department of Finance and Personnel;
- "The Magenta Book: Guidance for Evaluation"; and
- Invest NI Economic Appraisal Methodology (EAM) guidance.

### The Energy Efficiency Loan Fund

Since its inception in 2002, Invest NI has provided a wide range of energy and resource efficiency support offerings to businesses in Northern Ireland in order to identify and realise cost saving opportunities in the use of materials, water and energy. These support offerings have been (and continue to be) aimed at improving businesses' productivity, competitiveness and sustainability.

The EELF was launched in 2003/04 as a 'recycling' or 'revolving' loan fund[1] that provides loans to businesses that are interested in investing in energy efficient equipment and/ or renewable technologies. At that time, one of the main barriers to businesses investing in such equipment or technologies was considered to be the lack of available finance[2].

Since its launch, an External Delivery Organisation (EDO), the Carbon Trust[3], has managed and administered the EELF (via Letter of Offers and various addenda) on behalf of Invest NI. Across the period, the EELF has been delivered (following the requisite approvals) as part of a suite of interventions, namely: Carbon Trust's Solutions Activity; the Sustainable Productivity Programme (SPP); and the Sustainable Development Support Programme (SDSP).

Key features of the EELF include:

| Key Features of the EELF | |
|---|---|
| **Eligible Equipment or Technologies** | • **Building technologies** such as: air conditioning; building insulation; heating; heating controls; heat recovery; lighting; pipe insulation; and solar thermal systems.<br>• **Industrial Process Technologies** such as: compressed air; materials handling equipment; motors; process heating; process controls; refrigeration and variable speed drives.<br>• **Renewables** such as: biogas; biomass; air and ground source heat pumps; solar PV; solar thermal; wind turbines; and hydroelectricity. |

[1] Whereby repayments earned by the loan fund are used to provide further loan commitments.
[2] The Evaluation of the Carbon Trust Programme, which included the Loan Fund (RSM, September 2010), indicated that the original rationale for the loan fund was predicated on the lack of appropriate resources (which included finance) within many businesses to identify and take forward energy efficiency measures.
[3] Which is an independent not for profit company (limited by guarantee) with a mission to *"accelerate the move to a low carbon economy by helping organisations reduce their carbon emissions and develop commercial low carbon technologies".* It is regulated by the Financial Conduct Authority (FCA) and its predecessor (pre 2013), the Financial Services Authority (FSA).

| Key Features of the EELF | |
|---|---|
| **Eligibility** | All private sector businesses based in Northern Ireland[4] are eligible to apply to the EELF, on the basis that they meet the following criteria:<br><br>• Incorporated businesses are required to have been trading for at least 12 months;<br>• Unincorporated businesses[5] are required to have been trading for at least 36 months;<br>• Businesses with an 'acceptable' credit history;<br>• Project replaces existing equipment and makes on-site fossil fuel savings; and<br>• Businesses operating in sectors permitted to receive 'de minimis' state aid under the current regulations, and who have not exceeded state aid limits[6]. |
| **Loan Range** | £3,000 to £400,000[7]. The value of a loan is based upon a project's anticipated annual cost and $CO_2$ savings (which are determined as part of the application and approval process, as detailed in Appendix I). |
| **Loan Period** | Loans are repaid within three or four years, although they must be repaid in full within four years. |
| **Loan Repayments** | Loan repayments are set in line with the anticipated energy savings from the project. For every 1.5 tonnes of carbon dioxide ($C0_2$) savings identified through an energy project, a business is eligible for a loan of £1,000. Repayments are made on a monthly basis. |
| **Loan Payment Options** | Loan payment options offered to businesses include:<br><br>• 1 payment i.e. 100% of the loan value;<br>• 2 payments i.e. 30% deposit and 70% upon commissioning date (which is the date when both the business and its supplier have approved that the project has been installed and is operational); or<br>• 3 payments i.e. 30% deposit, 60% on delivery and 10% upon completion[8]. |
| **Interest Rate Charged** | Loans are interest free (0%). |
| **Management** | The Carbon Trust manages and administers the EELF (via a Letter of Offer) on behalf of Invest NI. |
| **Additional Aspects** | • No establishment costs or administration fees.<br>• Loans are unsecured.<br>• Loans are designed so that, in the majority of cases, the monthly energy savings exceed the monthly repayments (please note, businesses are required to make loan repayments even if projected savings are not actually achieved).<br>• Multiple loans are available up to the maximum loan amount of £400,000.<br>• Loan amounts cannot be greater than the total project cost.<br>• Value Added Tax (VAT) is not included in the loan amount offered. |

**Strategic Context**

The strategy/ policy review (as per Section 2) clearly highlights the importance that the Northern Ireland Executive placed (and continues to place) on:

- Increasing the productivity of Northern Ireland businesses through, *inter alia*, reducing their cost base;
- Contributing towards more efficient use of energy within Northern Ireland businesses; and
- Reducing greenhouse gas emissions.

[4] Discussion with the Carbon Trust indicates that in a small number of instances (i.e. from 29/7/2010 to 16/8/2010 and from 1/4/2011 to 1/6/2012), the EELF was only available to Small and Medium Sized Enterprises (SMEs) in Northern Ireland. During these periods, an SME business was defined as having: fewer than 250 full time equivalent employees, an annual turnover not exceeding €50m (£35m) and/ or an annual balance sheet total not exceeding €43m (£30m).

[5] Which includes sole traders and partnerships.

[6] EU rules on state aid stipulate that loans are typically not available to businesses for the acquisition or adaptation of vehicles, to organisations involved in primary production of agricultural products (which includes horticulture, dairy, wine-making etc.), the fisheries and aquaculture sector, or for export-related activities.

[7] The original maximum loan amount (in 2003/04) was £200,000 which was increased to £400,000 in 2007. Discussion with the Carbon Trust and Invest NI indicates that there were times throughout the lifetime of the EELF when the maximum loan amount available was increased further (e.g. during 2010/ 2011 it was increased to £500,000 for a short period).

[8] Please note, this option was only available to businesses up until late 2014. The Carbon Trust advised the Evaluation Team that this option was removed in order to expedite the disbursement of loans.

In the Evaluation Team's view, there was, and continues to be, clear alignment between the aims and objectives of the EELF and the strategic imperatives of the Northern Ireland Government, including with Department for Enterprise Trade and Investment (now the Department for the Economy) and Invest NI's Corporate Plans. Specifically, in line with the Government's strategic focus, the activities supported by the EELF offered the potential to encourage businesses, through improved energy efficiency, to reduce their energy costs, energy consumption and carbon emissions, and thereby increase their overall productivity, and to *"support SMEs to identify £60 million of resource and waste prevention savings".*

**Operation and Delivery**

Discussion with representatives from the Carbon Trust indicates that, whilst the key features of the loan fund have remained largely unaltered since April 2010, there were a number of internal changes relating to how the loan fund was (and is) managed and governed. The Evaluation Team is of the view (and one which is shared by Invest NI) that the EELF was managed and delivered by the Carbon Trust in a proactive and efficient manner and that the governance and management arrangements implemented were robust.

Indeed, during consultation it was suggested by representatives from Invest NI that they instigated a number of non-material changes to the loan fund in recent years (i.e. post April 2013), which were subsequently adopted by the Carbon Trust and have resulted in a providing a more efficient support offering to businesses. During consultation, a number of Northern Ireland based suppliers involved in the EELF suggested that the application and assessment process (including the Energy Savings Assessment) was, as one might expect, stringent and appropriately proportionate with the levels of finance being sought.

Neither Invest NI nor the Carbon Trust had dedicated marketing budgets specifically for the EELF. Nonetheless, the Evaluation Team's review of monitoring materials indicates that there were certain types of activities undertaken by both parties during the period under review that would have assisted, to some extent, to market and promote the loan fund to businesses throughout Northern Ireland. These included, for example, various events focused on 'wider' resource and energy efficiency across Northern Ireland, workshops facilitated by Invest NI's Sustainable Development Team, promotion on Invest NI, the Carbon Trust and some of their partners websites etc.

Discussion with Invest NI and representatives from the Carbon Trust indicates that, whilst there was no dedicated marketing budget for the EELF, this did not adversely impact on the demand for loans during the period under review. Furthermore, during consultation, a representative from the Carbon Trust expressed their view that suppliers, and to a lesser extent Invest NI's Technical Advisors, have become important stakeholder groups in terms of raising awareness of, and stimulating demand for, the EELF throughout Northern Ireland.

Monitoring information provided by Invest NI indicates the following activity took place during the period April 2010 – December 2015 (further details are included in Section 3.5):

- 920 loans were offered to businesses with a total value of £27.7m.
- There were 775 loans, with a value of £23m, which were successfully accepted by 590 unique businesses. These loans contributed, or are contributing, towards delivering projects with an estimated total cost of £35.3m.
- The majority of businesses (94%) were offered either one or two loans through the EELF. However, there was a small proportion of businesses (circa 2%-3%) that were offered more than 5 loans during the period under review. In those small number of instances when a business received more than 5 loans, it is notable that they were typically used to purchase/ install the same type of equipment.
- The majority (91%) of the loans that were accepted by businesses were either 'live' (62% - N=775) or 'complete' (29% - N=775). These loans equated to a total value of £20.9m and contributed, or are contributing, towards delivering projects with an estimated total cost of £32.4m. There was a small proportion (4% - N=775) of the businesses that accepted loans that have been unavailable to make the stipulated repayments. These businesses are either: insolvent; escalated to management for a write off; legal proceeding commenced; or in arrears.
- There were 145 loans, with a value of £4.6m, offered to businesses that were subsequently withdrawn by either the applicant or the Carbon Trust. Discussion with the Carbon Trust suggests that there were a variety of reasons for withdrawal including, for example, insufficient/ incomplete information was provided (e.g. signed loan

agreements or suppliers invoice not provided), business' had other priorities etc.

- The number of applications made to the EELF per annum was broadly consistent across the period, albeit there was a marginal 'spike' in applications (N=380) between April 2014 and March 2015.
- There were 693 applications from businesses that were, for a variety of reasons, categorised as unsuccessful. Over a quarter (26% - N=693) were withdrawn by the Carbon Trust (e.g. insufficient information provided in application form etc.) and over a fifth (21% - N=693) did not pass the requisite credit checks.
- A review of monitoring materials provided by the Carbon Trust indicates that there were 228 unique equipment suppliers that were, or are, involved in installing energy efficient equipment and/ or renewable technologies[9]. Encouragingly, nearly all (90% - N=775) of those projects that were supported by an EELF loan were completed by suppliers based in Northern Ireland.
- Over a third (34% - N=775) of the businesses that were offered and accepted a loan operate within the retail sector, whilst 17% (N=775) operate within a variety of manufacturing sub-sectors. These loans equated to a total value of £4,884,774 and £6,049,187 respectively.
- The majority (59% - N=775) of loans offered and accepted were to invest in new lighting technology or equipment. The average loan value for this type of equipment equated to £20,058 and ranged from £3,004 - £144,122.

Invest NI has advised the Evaluation Team that circa £4.5m was invested or 'injected' into the revolving EELF between April 2010 and December 2015. Discussion with Invest NI indicates there were a range of other internal costs (e.g. staff costs, costs associated with economic appraisal and evaluation etc.) associated with delivery of the EELF, which equated to £310,330.

A review of monitoring materials provided by the Carbon Trust indicates that the £4.5m injection provided by Invest NI, along with monies previously invested in the loan fund since 2003, enabled 775 loans to be offered to businesses in Northern Ireland with a total value of circa £23m. The average percentage of bad debt across the live portfolio of loans during the period under review was 2.2%, although it peaked at 4.5% in 2014/15. During consultation, the Carbon Trust advised that the average default rate for the EELF (since its launch in 2003) was 3.3%.

Nearly all of those recipients that were offered, and have drawn down a loan indicated that they had applied to the EELF due the fact that there is no interest payable on the loan. This finding suggests that the EELF provides an attractive and alternative source of finance when more traditional sources (such as bank lending) are considered to be more expensive for businesses.

On an overall basis, recipient businesses were satisfied with the support provided through, and the terms and conditions of, the EELF. Similarly, businesses which applied to the EELF but subsequently withdrew and those that were unsuccessful or have yet to fully complete their application were satisfied with the EELF on an overall basis, but the levels of satisfaction were (perhaps understandably) lower amongst these businesses.

The survey analysis evidenced that over half (52% - N=141) of recipients indicated that they would be willing to pay some level of interest on an EELF Loan if it was required in the future (i.e. on subsequent loans). Nearly half (46% - N=39) of respondents who were able to give an indication of what interest rate (in percentage terms) they would be prepared to pay, indicated that they would pay an interest rate of 3% or greater.

**Performance and Impact**

Based on the feedback from those businesses in receipt of support, the following key conclusions can be drawn in relation to the impact made by the EELF during the period under review:

- The level of 'impact additionality' (65%) is greater than the level of 'activity additionality' (57%) indicating that respondents recognise the importance of being able to undertake their energy efficient

[9] As detailed in Appendix I, the Carbon Trust does not endorse any specific equipment suppliers albeit applicants can however refer to the Carbon Trust's list of Accredited Suppliers (which is not specific to the EELF).

equipment or renewable technology project sooner or to a greater extent than would have been the case in the absence of the EELF loan.

- Positively, from a monetary perspective the analysis suggests that the EELF is expected to contribute:
  - £9.6m in gross annual energy cost savings for businesses and £111m in gross lifetime energy cost savings; and
  - £72.4m in net additional lifetime energy cost savings.

- In addition, the EELF is expected to contribute, 682,000 $tCO_2$ in gross lifetime $CO_2$ savings and 443,000 $tCO_2$ in net additional $CO_2$ savings.

- The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including, *inter alia*, other cost reductions (e.g. reductions in equipment/ technology maintenance costs), enhanced business reputation, reductions in noise pollution and production of heat at businesses' premises and it led to new or more efficient processes within businesses.

- The EELF has also contributed to providing the Northern Ireland economy with a number of other wider (including knowledge transfers) and regional (including the innovative nature of the project) benefits.

**Return-on-Investment and Value for Money (VFM)**

The EELF is different to other grant type interventions offered by Invest NI, in terms of the cost incurred by Invest NI when account is taken for the repayment of loans.

For the purposes of this assignment, the Evaluation Team, in agreement with Invest NI, presented two return on investment scenarios, which are detailed in the following table. The first scenario relates to the full economic costs associated with the EELF projects (including Invest NI loan values, private match funding, all EDO management/ administrative costs and Invest NI internal costs). The second scenario relates to the economic costs excluding businesses' contributions.

| EELF Return-on-Investment | | |
|---|---|---|
| | **(£)** | **Return-on-Investment** |
| Net additional Lifetime Energy Cost Savings | £72,433,285 | £1:£2.10 |
| Full Economic Cost | £34,519,515[10] | |
| Net additional Lifetime Energy Cost Savings | £72,433,285 | £1:£3.15 |
| Economic Cost excluding businesses' contributions | £22,981,874[11] | |

The net additional lifetime energy cost savings (as presented above) will have been achieved at a full economic cost to the economy of circa £34.5m over the April 2010 to December 2015 period. On this basis, the return-on-investment will equate to £2.10 for every £1 invested.

The economic cost to Invest NI, of circa £23m, will generate circa £72.4m of net additional lifetime energy costs savings in the Northern Ireland economy. However, to reflect the 'recycling' or 'revolving' nature of the loan fund, and the fact that loans are interest free, the actual financial costs of the loan fund to Invest NI during the period under review are estimated to be:

- £2.3m (excluding Invest NI internal staff etc. costs of circa £310,330); or
- £2.6m (including Invest NI internal staff etc. costs of circa £310,330).

[10] This equates to the total value of the 707 loans disbursed (i.e. £14,418,870 + £6,474,380) plus businesses' contribution of £11,537,641 (i.e. £32,430,891 - £14,418,870 - £6,474,380) to the total project costs plus internal Invest NI costs (i.e. £310,330) plus the EDO Charges (i.e. £1,778,294) as per Sections 3.6.2 and 3.6.3.

[11] This equates to the total value of the 707 loans disbursed (i.e. £14,418,870 + £6,474,380) plus internal Invest NI costs (i.e. £310,330) plus the EDO Charges (i.e. £1,778,294) as per Sections 3.6.2 and 3.6.3.

It is the Evaluation Team's view, based upon all available evidence, that the EELF delivered VFM in respect of the costs incurred during the period under review.

**Recommendations**

The Evaluation Team has set out below a number of recommendations for Invest NI's consideration:

1. Moving forward, Invest NI should ensure that all monitoring data (e.g. contact details for applicants etc.) and manuals pertaining to how the EELF is managed and administered should, in line its data protection policy, be provided, when required, to Invest NI by the appointed EDO.

2. Linked to recommendation 1, as part of the application process, the appointed EDO should advise businesses that their details will be retained for monitoring and for internal and external evaluation (e.g. to assess customer satisfaction).

3. The merits and demerits of introducing some level(s) of interest should be factored into any decision making processes (i.e. any future economic appraisal or casework approvals) relating to any future iteration of the loan fund. An assessment should be undertaken to explore whether or not loans issued should, in all cases, be provided at 100% interest free. Consideration should be given to whether the level of interest could/ should vary in line with various factors such as: repeat loan for the same company; repeat loans for the same company for the same technology; size or sector of company etc.

4. Whilst the stipulations set out in the Letters of Offer suggests that the EDO, in managing the EELF, should be compliant with equality legislation, it does not necessarily indicate that the EDO was (or will be) compliant. Moving forward, loan applicants should complete an 'Equal Opportunities Monitoring Form' or equivalent and these should be held on file by the appointed EDO. The captured equality data should then be analysed appropriately, thereby providing specific assurance that there are no particular issues in relation to uptake.

5. Invest NI should, similar to the most recent approval documentation relating to the EELF[12], continue to place emphasis upon establishing an appropriate mix of Specific, Measurable, Achievable, Realistic and Time-dependent (SMART) activity, output and outcome targets for any future iteration of the EELF (i.e. any future economic appraisal or casework approvals). These should be focused and linked with the overarching aims and anticipated outcomes of the EELF.

[12] SDSP Economic Appraisal (Cogent, August 2015).

# 1. INTRODUCTION AND BACKGROUND

## 1.1 Introduction

Invest Northern Ireland (Invest NI) has commissioned Cogent Management Consulting LLP ('Cogent' or 'the Evaluation Team') to undertake an independent evaluation of its Energy Efficiency Loan Fund ('EELF' or 'the loan fund'), covering the period April 2010 to December 2015.

This section of the report considers the background to the EELF and the overall objectives of the Evaluation.

## 1.2 The Energy Efficiency Loan Fund

### *1.2.1 Background*

Since its inception in 2002, Invest NI has provided a wide range of energy and resource efficiency support offerings to businesses in Northern Ireland in order to identify and realise cost saving opportunities in the use of materials, water and energy. These support offerings have been (and continue to be) aimed at improving businesses' productivity, competitiveness and sustainability.

The EELF was launched in 2003/04 as a 'recycling' or 'revolving' loan fund[13] that provides loans to businesses that are interested in investing in energy efficient equipment and/ or renewable technologies. At that time, one of the main barriers to businesses investing in such equipment or technologies was considered to be the lack of available finance[14].

Since its launch, an External Delivery Organisation (EDO), the Carbon Trust[15], has managed and administered the EELF (via Letter of Offers and various addenda) on behalf of Invest NI. Across the period, the EELF has been delivered (following the requisite approvals) as part of a suite of interventions. These are as follows:

- **2003/04 – 31st March 2012:** The EELF was delivered, alongside a range of other energy efficiency support initiatives delivered by the Carbon Trust, on behalf of Invest NI. During this time the EELF formed part of the Carbon Trust's Solutions Activity.

- **1st April 2012 – 30th September 2015:** The EELF formed part of Invest NI's Sustainable Productivity Programme (SPP), together with three other key areas of energy efficiency related support[16].

- **1st October 2015 – 30th September 2018:** The EELF is currently one of four key areas of energy efficiency support offered through Invest NI's Sustainable Development Support Programme (SDSP)[17]. In April 2016, Invest NI (with support from the Central Procurement Directorate) commenced an open procurement exercise to source an EDO to manage and deliver the EELF from October 2016 onwards.

[13] Whereby repayments earned by the loan fund are used to provide further loan commitments.
[14] The Evaluation of the Carbon Trust Programme, which included the Loan Fund (RSM, September 2010), indicated that the original rationale for the loan fund was predicated on the lack of appropriate resources (which included finance) within many businesses to identify and take forward energy efficiency measures.
[15] Which is an independent not for profit company (limited by guarantee) with a mission to *"accelerate the move to a low carbon economy by helping organisations reduce their carbon emissions and develop commercial low carbon technologies".* It is regulated by the Financial Conduct Authority (FCA) and its predecessor (pre 2013), the Financial Services Authority (FSA).
[16] The SPP was the subject of an Economic Appraisal (DTZ, March 2011).
[17] The SDSP was the subject of an Economic Appraisal (Cogent, August 2015).

### *1.2.2 Key Features of the EELF*

Key features of the EELF include:

| Table 1.1: Key Features of the EELF | |
|---|---|
| **Eligible Equipment or Technologies** | • **Building technologies** such as: air conditioning; building insulation; heating; heating controls; heat recovery; lighting; pipe insulation; and solar thermal systems.<br>• **Industrial Process Technologies** such as: compressed air; materials handling equipment; motors; process heating; process controls; refrigeration and variable speed drives.<br>• **Renewables** such as: biogas; biomass; air and ground source heat pumps; solar PV; solar thermal; wind turbines; and hydroelectricity. |
| **Eligibility** | All private sector businesses based in Northern Ireland[18] are eligible to apply to the EELF, on the basis that they meet the following criteria:<br>• Incorporated businesses are required to have been trading for at least 12 months;<br>• Unincorporated businesses[19] are required to have been trading for at least 36 months;<br>• Businesses with an 'acceptable' credit history;<br>• Project replaces existing equipment and makes on-site fossil fuel savings; and<br>• Businesses operating in sectors permitted to receive 'de minimis' state aid under the current regulations, and who have not exceeded state aid limits[20]. |
| **Loan Range** | £3,000 to £400,000[21]. The value of a loan is based upon a project's anticipated annual cost and $CO_2$ savings (which are determined as part of the application and approval process, as detailed in Appendix I). |
| **Loan Period** | Loans are repaid within three or four years, although they must be repaid in full within four years. |
| **Loan Repayments** | Loan repayments are set in line with the anticipated energy savings from the project. For every 1.5 tonnes of carbon dioxide ($C0_2$) savings identified through an energy project, a business is eligible for a loan of £1,000. Repayments are made on a monthly basis. |
| **Loan Payment Options** | Loan payment options offered to businesses include:<br>• 1 payment i.e. 100% of the loan value;<br>• 2 payments i.e. 30% deposit and 70% upon commissioning date (which is the date when both the business and its supplier have approved that the project has been installed and is operational); or<br>• 3 payments i.e. 30% deposit, 60% on delivery and 10% upon completion[22]. |
| **Interest Rate Charged** | Loans are interest free (0%). |
| **Management** | The Carbon Trust manages and administers the EELF (via a Letter of Offer) on behalf of Invest NI. |
| **Additional Aspects** | • No establishment costs or administration fees.<br>• Loans are unsecured.<br>• Loans are designed so that, in the majority of cases, the monthly energy savings exceed the monthly repayments (please note, businesses are required to make loan repayments even if projected savings are not actually achieved).<br>• Multiple loans are available up to the maximum loan amount of £400,000.<br>• Loan amounts cannot be greater than the total project cost.<br>• Value Added Tax (VAT) is not included in the loan amount offered. |

[18] Discussion with the Carbon Trust indicates that in a small number of instances (i.e. from 29/7/2010 to 16/8/2010 and from 1/4/2011 to 1/6/2012), the EELF was only available to Small and Medium Sized Enterprises (SMEs) in Northern Ireland. During these periods, an SME business was defined as having: fewer than 250 full time equivalent employees, an annual turnover not exceeding €50m (£35m) and/ or an annual balance sheet total not exceeding €43m (£30m).
[19] Which includes sole traders and partnerships.
[20] EU rules on state aid stipulate that loans are typically not available to businesses for the acquisition or adaptation of vehicles, to organisations involved in primary production of agricultural products (which includes horticulture, dairy, wine-making etc.), the fisheries and aquaculture sector, or for export-related activities.
[21] The original maximum loan amount (in 2003/04) was £200,000 which was increased to £400,000 in 2007. Discussion with the Carbon Trust and Invest NI indicates that there were times throughout the lifetime of the EELF when the maximum loan amount available was increased further (e.g. during 2010/ 2011 it was increased to £500,000 for a short period).
[22] Please note, this option was only available to businesses up until late 2014. The Carbon Trust advised the Evaluation Team that this option was removed in order to expedite the disbursement of loans.

Discussion with Invest NI indicates that, at various junctures since the launch of the EELF, the Carbon Trust (as part of its ongoing management of the loan fund) submitted requests for funding (in the form of 'business plans') to Invest NI. A review of materials provided by Invest NI indicates that separate requests for funding were made to Invest NI for the following periods:

- 2008/09 to 2010/11 financial years;
- Quarter 1 of the 2011/12 financial year;
- Quarters 2 to 4 of the 2011/12 financial year;
- 2012/13 to 2014/15 financial years; and
- October 2015 to September 2016.

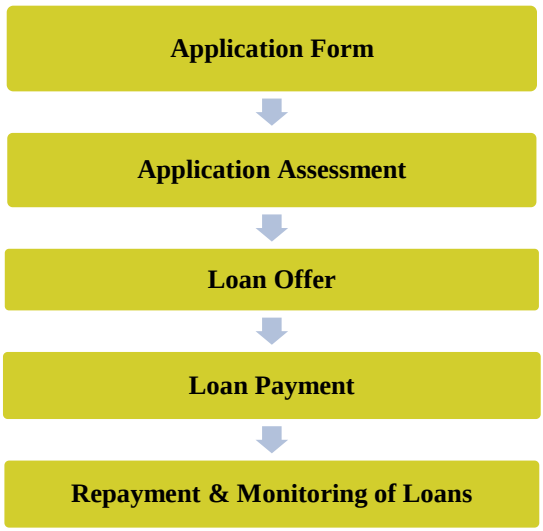
In response to each of these requests for funding, Invest NI provided the Carbon Trust with (typically on an annum basis) funding to 'inject' into the loan fund for the purposes of offering interest free loans. A review of materials provided by Invest NI indicates that the amount of funding was agreed (or amended accordingly) and then set out in a Letter of Offer or addenda to the Carbon Trust.

Each Letter of Offer or addenda also set out the agreed management and administration costs that were payable to the Carbon Trust per annum. The Letters of Offer covering the period up until September 2015 each stated that this cost would not exceed 7% (excluding VAT) of the total of the loan amounts which had been or are lent, committed or disbursed in Northern Ireland from the EELF[23] (please note, the Letter of Offer covering the period October 2015 to September 2016 stated that this cost was based on 'net commitments'). Furthermore, the Letter of Offer (dated 19th October 2012) and addenda[24] covering the period 1st October 2012 to 31st December 2015 included an additional stipulation, which stated that the management and administration costs would not be less than an agreed minimum of £277,000 (inclusive of VAT)[25].

### *1.2.3 Application and Approval Process*

The key stages of the EELF application and approval process are depicted in the following diagram, whilst full details of each stage are included in Appendix I:

**Figure 1.1: EELF Application and Approvals Process**




[23] Invest NI advised that the management and administration costs payable to the Carbon Trust (as set out in the Letters of Offers and addenda) were based on those that were payable since its launch in 2003. The percentage figure (i.e. the 7%) was in line with the National Programme and percentage paid in other UK counterparts at that time. No further rationale was provided to the Evaluation Team.
[24] Addendums dated 22nd January 2013, 27th February 2014, 9th March 2015, 26th June 2015 and 30th September 2015.
[25] The most recent addendum (30th September 2015) stated that *"for the nine month period 1st April 2015 to 31st December 2015, the agreed minimum annual charge will be pro-rata at £207,750 (inclusive of VAT)".*

As a regulated lending business, the Carbon Trust has in place compliance monitoring procedures to ensure adherence with Anti-Money Laundering, Data Protection Act and FCA regulations. A central compliance officer supports this process, alongside an Anti-Money Laundering Officer. On an annual basis reporting is provided to the FCA.

### 1.3 Invest NI's Requirements

Invest NI requires an Evaluation of the EELF covering the period April 2010 to December 2015.

According to the Terms of Reference, the Evaluation must be undertaken in line with National and regional requirements. It must be compliant with Central Government guidance including:

- The Green Book: Appraisal and Evaluation in Central Government, HM Treasury 2003;
- The Northern Ireland Guide to Expenditure Appraisal and Evaluation (NIGEAE), Current Edition, Department of Finance and Personnel;
- The Magenta Book: Guidance for Evaluation; and
- Invest NI Economic Appraisal Methodology (EAM) guidance.

Full details of Invest NI's specific requirements are detailed in Appendix II.

### 1.4 Methodology

In responding to Invest NI's Terms of Reference, the Evaluation Team's methodology has included:

- A robust desk-based analysis of pertinent materials relating to the EELF during the period under review. For example, this has included: previous Economic Appraisals (x2) and Evaluations (x2); monitoring reports (e.g. financial statement spreadsheets) and meeting minutes; various Letters of Offer and addenda; the Carbon Trust's Business Plans; the Department of Enterprise, Trade and Investment (DETI) EDO Inspection Report; and details of Carbon Trust's marketing/ promotional activity.

- In-depth face-to-face and telephone consultations with[26]:

  - The Evaluation Steering Group that was established for the evaluation. This included representation from Invest NI's Sustainable Development Team and its Strategy Group.
  - Director of Innovation and Technology Solutions.
  - The EELF Programme Managers within Invest NI.
  - Representatives from the Carbon Trust including: Head of Loans; Head of Technology and Delivery; Loans Manager; and Finance and MI Analyst.
  - Representatives from the Energy Efficiency Branch within the Department for the Economy (DfE).
  - Telephone consultations with representatives for a range of benchmark initiatives (N=9).
  - Two suppliers.

[26] Full details of those consultees participating in the research process is included at Appendix III.

- In-depth telephone surveys with 207 businesses that:

  - Were offered and have drawn down a loan i.e. categorised as either 'live' or 'complete';
  - Had been offered a loan but whose applications were subsequently withdrawn (either by the applicant or the Carbon Trust); and
  - Were unsuccessful with their application; and
  - Have yet to fully complete their application.

Please note, for the purposes of this evaluation, and in agreement with Invest NI, the Evaluation Team did not attempt to make contact with those businesses that:

  - Were offered investment through the EELF but had not (as of December 2015) drawn the investment down; or
  - Were categorised by the Carbon Trust (as of December 2015) as: insolvent; escalated to management for a write off; legal proceeding commenced; or in arrears.

The following table provides a summary of the Evaluation Team's primary research, including all associated response rates (for completeness this includes those cohorts that were not contacted as part of the primary research):

**Table 1.2: Survey Response Rates and Reliability**

| | | No. of Loans | No of unique businesses | No. of surveys required | No. Surveys Completed | Response rate | Confidence interval |
|---|---|---|---|---|---|---|---|
| Loans offered | Offered and drawn down | 707[27] | 537 | 130 | 141[28] | 109% | +/- 7.39% |
| | Loans approved but not yet disbursed | 40 | 40 | 0 | - | - | - |
| | Other e.g. insolvent, in arrears etc. | 28 | 21 | 0 | - | - | - |
| | Offered a loan but application was withdrawn | 145 | 123 | 50 | 16 | 32% | +/- 23.19% |
| Unsuccessful/ Incomplete applications | Applied to the EELF but the application was not successful | 693 | 535 | 50 | 34 | 100% | +/- 16.4% |
| | Started application but not yet to fully complete | 29 | 27 | | 16 | | +/- 16.69% |
| **Total** | | **1,642** | **1,097** | **230** | **207** | **90%** | **+/- 6.37%** |

[27] This includes 482 (68%) 'live' and 225 (32%) 'complete' loans.
[28] This includes 101 (72%) 'live' and 40 (28%) 'complete' loans.

## 2. STRATEGIC CONTEXT

Section 2 provides a high level overview of the strategic context within which the EELF operated during the period under review. In doing so, the section considers (amongst other things) the 'fit' of EELF with the DETI and Invest NI Corporate Plans that operated at that time. The Evaluation Team has identified the following strategies and stakeholders as having most strategic importance:

| Table 2.1: Policy/ Strategies Considered | |
|---|---|
| **EU and UK-level** | • Europe 2020: 'Europe's Growth Strategy' |
| | • Directive 2012/27EU of the European Parliament and of the Council (the Energy Efficiency Directive) |
| | • UK Sustainable Development Strategy 2013 |
| | • The Energy Efficiency Strategy: The Energy Efficiency Opportunity in the UK (2012) |
| | • Enabling the Transition to a Green Economy: Government and business working together 2011 |
| **NI-level** | • Northern Ireland Programme for Government (2008 – 2011) |
| | • Northern Ireland Programme for Government (2011 – 2015) |
| | • Northern Ireland Economic Strategy (March 2012) - Priorities for Sustainable Growth and Prosperity |
| | • DETI Strategic Energy Framework 2010 |
| | • DETI Sustainable Energy Action Plan: 2012 – 2015 and beyond |
| | • DETI Corporate Plan 2008 - 2011 |
| | • DETI Corporate Plan 2011 - 2015 |
| | • Invest NI Corporate Plan 2008 – 2011 |
| | • Invest NI Corporate Plan 2011 - 2015[29] |

Appendix IV provides a brief discussion on each of these documents, identifying their specific relevance to the EELF. However, in summary, the strategy/ policy review clearly highlights the importance that the Northern Ireland Executive placed (and continues to place) on:

- Increasing the productivity of Northern Ireland businesses through, *inter alia*, reducing their cost base;
- Contributing towards more efficient use of energy within Northern Ireland businesses; and
- Reducing greenhouse gas emissions.

In the Evaluation Team's view, there was, and continues to be, clear alignment between the aims and objectives of the EELF and the strategic imperatives of the Northern Ireland Government (including with DETI and Invest NI's Corporate Plans). Specifically, in line with the Government's strategic focus, the activities supported by the EELF offered the potential to:

- Encourage businesses, through improved energy efficiency, to reduce their energy costs, energy consumption and carbon emissions, and thereby increase their overall productivity.
- Support those suppliers/ contractors that were (and are) responsible for installing energy efficient equipment and/ or renewable technologies.
- Contribute towards securing a sustainable energy system where, amongst other things, energy efficiency is maximised.
- Contribute towards those specific targets outlined in Invest NI's Corporate Plan, namely to *"support SMEs to identify £60 million of resource and waste prevention savings"*.

[29] Invest NI advised that this Corporate Plan was extended by one year (i.e. up until 31st March 2016).

# 3. FUND IMPLEMENTATION, ACTIVITIES & FINANCES

## 3.1 Introduction

Section 3 considers the governance and management arrangements employed for the EELF, along with details of how the fund was promoted and resulting loan activity undertaken. The section also considers the actual costs incurred to date.

## 3.2 Governance, Management and Reporting

Discussion with representatives from the Carbon Trust indicates that, whilst the key features of the loan fund have remained largely unaltered since April 2010, there were a number of internal changes relating to how the loan fund was (and is) managed and governed. A brief synopsis of the governance, management and reporting arrangements (and any changes therein) is outlined below:

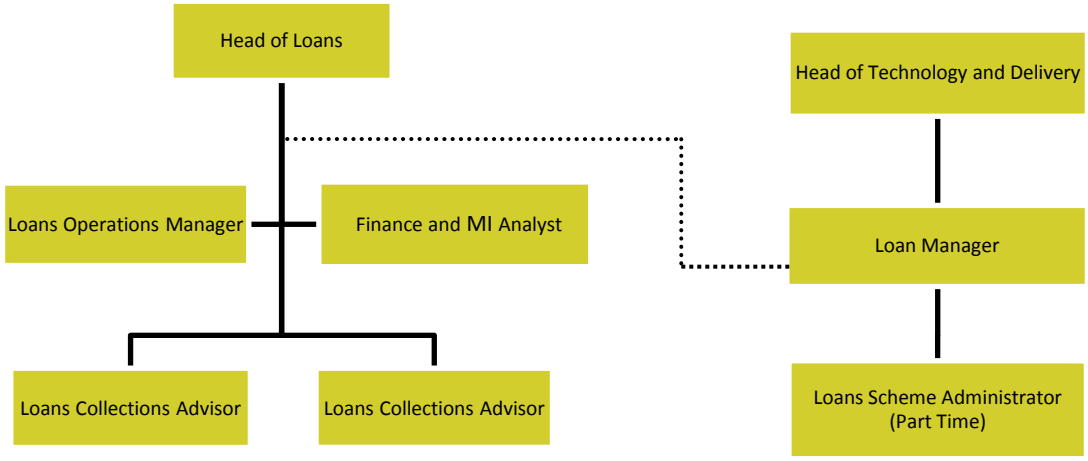
**Table 3.1: Overview of the EELF Management, Governance and Reporting Arrangements**

| | |
|---|---|
| **Pre April 2013** | Discussion with representatives from the Carbon Trust indicates that:<br>• The overall financial governance of the EELF was (and continues to be) provided by a Finance Director (based in London). This individual has overall accountability for the EELF.<br>• The Finance Director was (and is) supported by a Loans Operation Manager and a Finance and MI Analyst, who were (and are) responsible for maintaining Bluechip and Agresso, which are bespoke computerised Management Information Systems that are specifically designed for the EELF (further details are included in Appendix I). These individuals were (and are) also responsible for preparing all reports that were required to effectively manage the EELF.<br>• Between April 2010 and August 2011, the responsibility for processing applications and disbursements was outsourced by the Carbon Trust to a third party (WS Atkins Limited), whose sub-contractor (TLS) was responsible for the collection of repayments and management of defaults. During this time, the Carbon Trust Loans Manager was responsible for ensuring that Key Performance Indicators (KPIs) were achieved and that quality assurance was maintained.<br>• In September 2011, the Carbon Trust undertook an internal reorganisation (which was reportedly due to the closure of a loan scheme in England). At this time, the Carbon Trust Loans Manager assumed responsibility for processing all applications and disbursements. Alongside this, the Carbon Trust's Energy Consultants/ Energy Saving Assessors assumed responsibility for assessing the Energy Saving Assessments, whilst technical validation (of the Energy Saving Assessments) and loan approval was performed by the Head of Technology and Delivery.<br>• In parallel to the above, the Carbon Trust procured the services of Sitel to oversee its customer services and debt collection activities.<br>• In January 2013, a Loan Scheme Administrator (based in Belfast) was recruited to support the Loans Manager.<br>• In April 2013, all customer service and debt collection activities were brought 'in-house' by the Carbon Trust. A Head of Loans was also appointed to oversee the 'end to end' loan application to collection process. |
| **Post April 2013** | • Post April 2013, the loan fund was (and continues to be) managed by a Head of Loans (based in London), who is supported by a Head of Technology and Delivery, a Loan Scheme Manager and a Loan Administrator (these posts are based in Belfast). Their responsibilities include:<br>➢ A range of management and administrative functions (e.g. managing all incoming telephone and email enquiries relating to the EELF, administering loan offers etc.);<br>➢ Customer and supplier account management;<br>➢ Assessment of applications (in line with the EELF's regulations); and<br>➢ Some limited marketing activities.<br>• Financial and technical support was (and continues to be) provided, when required, by other individuals within the Carbon Trust. For example: |

| Table 3.1: Overview of the EELF Management, Governance and Reporting Arrangements | |
|---|---|
| | ➢ Energy Consultants/ Energy Saving Assessors were (and are) heavily involved in reviewing and assessing the Energy Saving Assessments (as per Appendix I); and<br>➢ Finance (including loan collections), audit, legal and IT systems support was (and is) provided from personnel based in the Carbon Trust's London office.<br><br>• In line with the stipulations set out in the Letters of Offers, representatives from the Carbon Trust were (and are) also responsible for preparing monthly progress reports for Invest NI and for subsequently meeting with Invest NI's Sustainable Development Team to discuss the report (the Head of Loans is, at the time of writing, the key point of contact for Invest NI). |

The EELF Management and Governance Structure (as of December 2015) is outlined below:

**Figure 3.1: EELF Management and Governance Structure**




During consultation, Invest NI expressed its view that the EELF was managed and delivered by the Carbon Trust in a proactive and efficient manner and that the governance and management arrangements implemented were robust. Indeed, during consultation it was suggested by representatives from Invest NI that they instigated a number of non-material changes to the loan fund in recent years (i.e. post April 2013), which were subsequently adopted by the Carbon Trust and have resulted in a providing a more efficient support offering to businesses.

During consultation, two Northern Ireland based suppliers involved in the EELF suggested that the application and assessment process (including the Energy Savings Assessment) was, as one might expect, stringent and appropriately proportionate with the levels of finance being sought.

The EELF was (and continues to be) overseen by the Sustainable Development Team within Invest NI, which included a proportion of time from:

- A Sustainable Development Manager who has overseen/ oversees the management of the Loan Fund;
- An EELF Programme Manager who managed/ manages the EDO in line with Letters of Offers, meets monthly with Carbon Trust to review loan activity etc.; and
- An Executive Officer who was/ is responsible for administering monthly activity, including recording savings etc.

### 3.3 Independent Review of Governance

In January 2014, the former Department for Enterprise Trade and Investment (DETI) commissioned an independent consultancy practice to undertake an inspection visit of the EELF EDO. The purpose of the review was to:

- Provide assurance that the EDO had adequate security policies and arrangements in place; and
- Review and inspect procedures and arrangements in relation to the following eight key areas:

| | |
|---|---|
| • Financial Controls<br>• Financial Reporting & MIS<br>• Related Parties<br>• Compliance with funding agreement & proper use of funds | • Management of public assets and dispersal of public money<br>• IT systems<br>• Corporate Governance<br>• Information Security |

In relation to each area, the report provided a risk grading/ prioritisation of issues (see Appendix V for details of the grading system). The report's 'overall internal audit opinion' in respect of the control environment at Carbon Trust was as follows: *"On the basis of our inspection and review, we have identified one issue relating to the internal control environment at Carbon Trust….As a result of control issues identified, we consider Carbon Trust to have established satisfactory risk management, control and governance arrangements"*.

The one issue identified by the Internal Audit Team is summarised below:

**Table 3.2: Governance Issues Identified by the Audit Team**

| Area | Priority Level | Issue Narrative Per Inspection Report |
|---|---|---|
| Information Security | 2 | ***Information Management*** - The Review noted that there were no formal arrangements in place in relation to the handling or misuse of personal and sensitive information. |

The Evaluation Team's discussions with Invest NI and the Carbon Trust indicates that the issue identified within the Inspection Report has subsequently been addressed and is no longer an issue. In this context formal arrangements for the investigation and reporting of incidents resulting in fraud or misuse of information were introduced.

### 3.4 Marketing and Promotion

It is understood that neither Invest NI nor the Carbon Trust had dedicated marketing budgets specifically for the EELF. Discussion with Invest NI and representatives from the Carbon Trust indicates that, whilst this was the case, there was no adverse impact on the demand for loans during the period under review. Furthermore, during consultation, a representative from the Carbon Trust expressed their view that suppliers, and to a lesser extent Invest NI's Technical Advisors, have become important stakeholder groups in terms of raising awareness of, and stimulating demand for, the EELF throughout Northern Ireland.

Furthermore, during consultation two of the Northern Ireland based suppliers expressed their views that additional marketing and promotion of the loan fund is required moving forward, and that any such activity should be targeted at smaller SMEs rather than large businesses, who are unlikely, in their view, to require an interest free loan. In considering this point, the Evaluation Team recognises that this view was only expressed by two suppliers and may reflect the fact that they have typically focused (or are focusing) on smaller SMEs, rather than large businesses.

Notwithstanding the above, the Evaluation Team's review of monitoring materials indicates that there were certain types of wider activities (whilst not specific to the EELF) undertaken by both parties

during the period under review that assisted, to some extent, to market and promote the loan fund to businesses throughout Northern Ireland. For example, this included the following types of activities:

- Various events across Northern Ireland that were focused on 'wider' resource and energy efficiency activities (rather than specifically EELF), which were organised by Invest NI or its delivery partners. For example, this included the Sustainex 'Maximising Savings for your Business' seminars held in Belfast in March 2013 and April 2014.
- Various workshops facilitated by Invest NI's Sustainable Development Team. For example:
  - Sustainable Development Workshops hosted at Ballymoney Borough Council (April 2010), Ballymena Borough Council, Carrickfergus Borough Council (both September 2010), Lisburn City Council, Coleraine Borough Council (both October 2010) and Ards Borough Council (November 2010).
  - 'Funding for Renewables' Workshops held in Craigavon, Belfast, Derry~Londonderry and Enniskillen during March 2013.
- During the period April 2012 to October 2015, the EELF, together with three other key areas of energy efficiency related support, were marketed and promoted under Invest NI's SPP. This included promotion on Invest NI, the Carbon Trust and some of their partners' websites. Members of the Invest NI's Sustainable Development Team also attended other business support events and were (and are) members of stakeholder forums. Invest NI also produced best practice guides which profiled the support available through the SPP (which included the EELF).
- More recently, since October 2015 the EELF has been (and continues to be) marketed and promoted as part of Invest NI's SDSP. The marketing and promotional channels remain largely similar to those utilised under the SPP e.g. awareness raising through websites etc.

## 3.5 EELF Loan Activity

### *3.5.1 Overview of Loans Offered and Disbursed*

The table below provides an overview of the loans offered and disbursed (i.e. paid out at the time of writing) during the period April 2010 – December 2015:

**Table 3.2: Overview of EELF Loans Offered and Disbursed**

| Period | Loans offered and withdrawn | | Approved but not yet disbursed/ paid out | | Other[30] | | Live | | Complete | | Total Loans | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value | No. | Value |
| Apr - Jun 2010 | 3 | £106,022 | - | - | 1 | £27,828 | - | - | 15 | £1,210,280 | 19 | £1,344,130 |
| Jul - Sept 2010 | 4 | £526,089 | - | - | 1 | £23,372 | - | - | 13 | £469,118 | 18 | £1,018,579 |
| Oct - Dec 2010 | - | - | - | - | - | - | - | - | - | - | - | - |
| Jan - Mar 2011 | 7 | £66,768 | - | - | - | - | - | - | 21 | £378,662 | 27 | £423,352 |
| **Year 1** | **14** | **£698,880** | **0** | **£0** | **2** | **£51,200** | **0** | **£0** | **49** | **£2,058,060** | **64** | **£2,786,061** |
| Apr - Jun 2011 | 9 | £212,034 | - | - | 1 | £12,072 | - | - | 30 | £597,827 | 41 | £844,011 |
| Jul - Sept 2011 | 1 | £38,392 | - | - | 1 | £19,564 | - | - | 15 | £277,600 | 17 | £335,556 |
| Oct - Dec 2011 | 9 | £318,167 | - | - | - | - | - | - | 22 | £408,963 | 31 | £727,130 |
| Jan - Mar 2012 | 8 | £151,006 | - | - | - | - | 10 | £306,467 | 21 | £554,821 | 39 | £1,012,294 |
| **Year 2** | **27** | **£719,599** | **0** | **£0** | **2** | **£31,636** | **10** | **£306,467** | **88** | **£1,839,211** | **128** | **£2,918,991** |
| Apr - Jun 2012 | 16 | £291,628 | - | - | 7 | £23,590 | 12 | £676,701 | 20 | £675,214 | 55 | £1,667,133 |
| Jul - Sept 2012 | 6 | £478,167 | - | - | 2 | £135,006 | 24 | £667,651 | 23 | £506,603 | 55 | £1,787,428 |
| Oct - Dec 2012 | 6 | £221,864 | - | - | 2 | £25,802 | 18 | £591,613 | 9 | £114,297 | 35 | £953,577 |
| Jan - Mar 2013 | 10 | £149,301 | - | - | 1 | £9,000 | 29 | £1,153,658 | 9 | £359,314 | 49 | £1,671,272 |
| **Year 3** | **38** | **£1,140,960** | **0** | **0** | **12** | **£193,398** | **83** | **£3,089,623** | **61** | **£1,655,428** | **194** | **£6,079,410** |
| Apr - Jun 2013 | 3 | £80,033 | - | - | - | - | 26 | £895,220 | 3 | £53,929 | 32 | £1,029,182 |
| Jul - Sept 2013 | 10 | £262,870 | - | - | - | - | 47 | £1,327,505 | 13 | £326,634 | 70 | £1,917,010 |
| Oct - Dec 2013 | 8 | £194,583 | - | - | 1 | £8,944 | 27 | £764,505 | 2 | £225,287 | 38 | £1,193,319 |
| Jan - Mar 2014 | 7 | £344,019 | - | - | 3 | £75,188 | 29 | £603,110 | 2 | £99,080 | 41 | £1,121,398 |
| **Year 4** | **28** | **£881,505** | **0** | **0** | **4** | **£84,132** | **129** | **£3,590,340** | **20** | **£704,930** | **181** | **£5,260,909** |
| Apr - Jun 2014 | 5 | £82,342 | - | - | 1 | £5,539 | 52 | £1,714,804 | 4 | £186,383 | 62 | £1,989,067 |
| Jul - Sept 2014 | 6 | £371,040 | - | - | - | - | 45 | £974,072 | 2 | £10,925 | 53 | £1,356,037 |
| Oct - Dec 2014 | 7 | £124,399 | - | - | 3 | £143,719 | 43 | £1,293,322 | - | - | 53 | £1,561,439 |
| Jan - Mar 2015 | 5 | £198,367 | 1 | £174,354 | 2 | £154,965 | 29 | £1,089,333 | 1 | £19,445 | 38 | £1,636,463 |
| **Year 5** | **23** | **£776,148** | **1** | **£174,354** | **6** | **£304,223** | **169** | **£5,071,531** | **7** | **£216,753** | **206** | **£6,543,006** |
| Apr - Jun 2015 | 8 | £202,796 | 2 | £271,748 | 1 | £70,181 | 35 | £803,173 | - | - | 46 | £1,347,898 |
| Jul - Sept 2015 | 4 | £120,460 | 1 | £9,899 | 1 | £10,667 | 43 | £1,272,192 | - | - | 49 | £1,413,218 |
| Oct - Dec 2015 | 3 | £99,433 | 36 | £989,810 | - | - | 13 | £285,544 | - | - | 52 | £1,374,787 |
| **Year 6 (9 months)** | **15** | **£422,689** | **39** | **£1,271,457** | **2** | **£80,848** | **91** | **£2,360,909** | **0** | **£0** | **147** | **£4,135,903** |
| **Subtotals** | **145** | **£4,639,781** | **40** | **£1,445,811** | **28** | **£745,437** | **482** | **£14,418,870** | **225** | **£6,474,380** | **920** | **£27,724,278** |
| **Total** | **145** | | **775** | | | | | | | | **920** | |

[30]Loans that were categorised by the Carbon Trust (as of December 2015) as either: insolvent; escalated to management for a write off; legal proceeding commenced; or in arrears.

The table below summaries those loans offered (excluding those that were subsequently withdrawn) during the period under review:

| Table 3.3: Summary of Loans Offered | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Period** | **No.** | **Value** | **Mean (incl. Outliers)** | **Mean (ex. Outliers)** | **Median (incl. Outliers)** | **Median (ex. Outliers)** | **Range** |
| Apr 10 – Mar 11 | 52 | £2,131,337 | £40,987 | £32,967 | £12,684 | £12,568 | £5,318 - £450,000 |
| Apr 11 – Mar 12 | 99 | £2,155,235 | £21,770 | £20,766 | £13,187 | £12,985 | £3,135 - £120,120 |
| Apr 12 – Mar 13 | 156 | £4,938,449 | £31,657 | £29,359 | £14,822 | £14,653 | £3,004 - £387,833 |
| Apr 13 – Mar 14 | 153 | £4,379,402 | £28,624 | £26,180 | £17,204 | £17,155 | £3,015 - £400,000 |
| Apr 14 – Mar 15 | 183 | £5,766,860 | £31,513 | £25,371 | £16,500 | £16,435 | £3,042 - £400,000 |
| Apr 15 – Dec 15 | 132 | £3,713,213 | £28,130 | £26,305 | £15,143 | £15,000 | £3,161 - £267,281 |
| **Total** | **775** | **£23,084,498** | **£29,786** | **£29,244** | **£15,740** | **£15,734** | **£3,004 - £450,000** |

In addition to the 920 total loans that were offered during the period under review, there were also:

- 693 unsuccessful applications; and
- 29 applications that have (at the time of writing) not yet been fully completed.

The table below summaries the total number of applications made to the EELF:

| Table 3.4: Total Number of Applications | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Financial year** | **Loan Offered** | | | | **No Loan Offered** | | **Total** |
| | **Offered and drawdown** | **Loans offered and withdrawn** | **Approved but not yet disbursed** | **Other[31]** | **Unsuccessful application** | **Not yet fully complete application** | |
| Apr 10 – Mar 11 | 49 | 13 | 0 | 2 | 120 | 0 | 184 |
| Apr 11 – Mar 12 | 98 | 28 | 0 | 2 | 92 | 0 | 220 |
| Apr 12 – Mar 13 | 144 | 38 | 0 | 12 | 140 | 0 | 334 |
| Apr 13 – Mar 14 | 149 | 28 | 0 | 4 | 96 | 0 | 277 |
| Apr 14 – Mar 15 | 176 | 23 | 1 | 6 | 174 | 0 | 380 |
| Apr 15 – Dec 15 | 91 | 15 | 39 | 2 | 71 | 29 | 247 |
| **Total loans** | **707** | **145** | **40** | **28** | **693** | **29** | **1,642** |
| | **920** | | | | **722** | | |
| **Value** | **£20,893,250** | **£4,639,781** | **£1,445,811** | **£745,437** | **-** | **-** | **£27,724,279** |

Key points arising from the previous analysis include:

**Table 3.5: Key Findings[32]**

- Between April 2010 and December 2015, 920 loans were offered to businesses with a total value of £27.7m.
- There were 775 loans, with a value of £23m, which were successfully accepted by 590 unique businesses. These loans contributed, or are contributing, towards delivering projects with an estimated total cost of £35.3m.
- The majority of businesses (94%) were offered either one or two loans through the EELF. However, there was a small proportion of businesses (circa 2%-3%) that were offered more than 5 loans during the period under review. As previously discussed, businesses were eligible to receive multiple loans through the EELF up to the value of £400,000. This is illustrated below:

| No. of loans offered per business | No. of Unique businesses | Individual loans offered | |
|---|---|---|---|
| | | No. | % |
| 1 | 482 | 482 | 82% |
| 2 | 71 | 142 | 12% |
| 3 | 17 | 51 | 3% |
| 4 | 9 | 36 | 2% |
| 5 | 4 | 20 | <1% |
| 6 | 5 | 30 | <1% |
| 7 | 2 | 14 | <1% |
| **Total** | **590** | **775** | **100%** |

- For those businesses that received multiple loans, the following table provides an indication of the extent

[31] i.e. insolvent; escalated to management for a write off; legal proceeding commenced; or in arrears.
[32] Please note, detailed activity analysis is included in Appendix VI.

**Table 3.5: Key Findings**[32]

to which the loans each business received were for the same, or different, types of equipment. In those small number of instances when a business received more than 5 loans, it is notable that they were typically used to purchase/ install the same type of equipment e.g. of the two businesses that received 7 loans, one business used the loans to purchase/ install lighting equipment on 7 occasions, whilst another purchased/ installed lighting equipment on 6 occasions and heating equipment on another.

| No. of loans offered per business | No. of Unique businesses | % of businesses receiving all loans for different types of equipment | % of businesses receiving 2 loans for the same type of equipment | % of businesses receiving 3 loans for the same type of equipment | % of businesses receiving 4 loans for the same type of equipment | % of businesses receiving 5 loans for the same type of equipment | % of businesses receiving 6 loans for the same type of equipment | % of businesses receiving 7 loans for the same type of equipment |
|---|---|---|---|---|---|---|---|---|
| 2 | 71 | 63% | 37% | | | | | |
| 3 | 17 | 41% | 35% | 24% | | | | |
| 4 | 9 | 33% | 33% | 0% | 33% | | | |
| 5 | 4 | 0% | 0% | 0% | 50% | 50% | | |
| 6 | 5 | 0% | 0% | 0% | 20% | 40% | 40% | |
| 7 | 2 | 0% | 0% | 0% | 0% | 0% | 50% | 50% |

- The majority (91%) of the loans that were accepted by businesses were either 'live' (62% - N=775) or 'complete' (29% - N=775). These loans equated to a total value of £20.9m and contributed, or are contributing, towards delivering projects with an estimated total cost of £32.4m.
- A small proportion (5% - N=775) of the loans accepted by businesses have not yet been disbursed (i.e. paid out at the time of writing). These loans equated to a total value of £1.5m. In the majority (88% - N=40) of these cases, the Carbon Trust is still awaiting receipt of either a signed loan agreement or a supplier's invoice from the applicant businesses. Discussion with the Carbon Trust suggests that this arises due to timing, rather than being considered a material issue.
- There was a small proportion (4% - N=775) of the businesses that accepted loans that were unavailable to make the stipulated repayments. Discussion with the Carbon Trust indicates that these businesses are either: insolvent (N=12); escalated to management for a write off (N=4); legal proceeding commenced (N=6); or in arrears (N=6). A review of monitoring materials indicates that the following loan balances remain outstanding:

  - Insolvent – £86,217;
  - Escalated to management for a write off - £20,832;
  - Legal proceeding commenced - £40,760; and
  - In arrears – £56,636.

- There were 145 loans, with a value of £4.6m, offered to businesses that were subsequently withdrawn by either the applicant or the Carbon Trust. Discussion with the Carbon Trust suggests that there were a variety of reasons for withdrawal including, for example, insufficient/ incomplete information was provided (e.g. signed loan agreements or suppliers invoice not provided), business' had other priorities etc.
- The average loan value accepted (including outliers) decreased from £40,987 in 2010/2011 to £28,130 in 2015/2016 (albeit the latter only represented nine months of activity).
- The number of applications made to the EELF per annum was broadly consistent across the period, albeit there was a marginal 'spike' in applications (N=380) between April 2014 and March 2015. Discussion with the Carbon Trust and Invest NI suggests that there were a variety of reasons that *may* have contributed towards this, including:

  - A Loan Administrator within the Carbon Trust was appointed during this period to support the Loan Manager in undertaking assessments of applications and some limited marketing activities.
  - Whilst not specific to the EELF, there were a number of activities undertaken by both parties during, or just prior to, this period that assisted, to some extent, to market and promote the loan fund to businesses throughout Northern Ireland.
  - It was suggested that there was an increase in energy prices in Northern Ireland during this period, which contributed to businesses exploring potential cost saving opportunities (e.g. financial support through the EELF to invest in energy efficient equipment and/ or renewable technologies).
  - The non-domestic Renewable Heat Incentive (RHI), which is further detailed in Section 8.3, was amended during this period (tariffs changes and annual caps on payments), which may have had a resultant impact on the number of applications for the EELF.

| Table 3.5: Key Findings[32] |
|---|
| • Over half of the loans approved (54% - N=775) are being, or have been, repaid over a 36 month term.<br>• Interestingly, the loans accepted by businesses supported projects that ranged in value from £3,004 to £2.3m, with the average project cost equating to £45,506.<br>• There were 693 applications from businesses that were, for a variety of reasons, categorised as unsuccessful. Over a quarter (26% - N=693) were withdrawn by the Carbon Trust (e.g. insufficient information provided in application form etc.) and over a fifth (21% - N=693) did not pass the requisite credit checks.<br>• A review of monitoring materials provided by the Carbon Trust indicates that there were 228 unique equipment suppliers that were, or are, involved in installing energy efficient equipment and/ or renewable technologies[33]. Encouragingly, nearly all (90% - N=775) of those projects that were supported by an EELF loan were completed by suppliers based in Northern Ireland. |

### *3.5.2 Profile of those Businesses that accepted an EELF loan*

The following provides a profile of those businesses (N=775) that were offered, and accepted, an EELF loan[34]:

- Over two fifths (43% - N=775) of the loans that were offered and accepted by businesses were categorised as being 'small' (i.e. a company that has between 10-49 employees). The value of the loans provided to these businesses equated to £8.6m and represented 37% of the overall total (£23.1m).
- Whilst businesses operating in a wide range of sectors received support through the EELF, over a third (34% - N=775) of the businesses that were offered and accepted a loan operate within the retail sector, whilst 17% (N=775) operate within a variety of manufacturing sub-sectors. These loans equated to a total value of £4,884,774 and £6,049,187 respectively. The average value accepted (including outliers) for those businesses operating in the retail sector was £18,433, whilst it was higher (£46,177) for those operating within variety of manufacturing sub-sectors.
- The majority (84% - N=265) of those loans that were accepted by businesses operating in the retail sector were used to either invest in new lighting technology (68% - N=265) or install new refrigeration equipment (16% - N=265).
- The majority (64% - N=131) of those loans that were accepted by businesses operating within various manufacturing sub-sectors were used to either invest in new lighting technology (49% - N=131) or compressed air (15% - N=131).
- The majority (73%) of those loans that were offered and accepted by businesses were by either private limited companies (60% - N=775) or sole traders (13% - N=775).
- Nearly a quarter (23% - N=775) of those loans that were accepted during the period under review were by businesses located in County Antrim, whilst nearly a fifth (17% - N=775) were located in Belfast[35]. Conversely, only 6% (N=775) of the loans accepted were by businesses located in County Fermanagh.
- The table overleaf provides details on the total number of loans accepted by businesses by type of technology. The majority (59% - N=775) of loans offered and accepted were for businesses to invest in a new form of lighting technology. The average loan value for this type of technology equated to £20,058 and ranged from £3,004 - £144,122. These loans equated to a total value of £9.1m.
- Those loans that were accepted by businesses to invest in 'wind generation' technology or equipment had the highest average loan value (£160,423). Conversely, loans associated with 'energy from waste' technology or equipment had the lowest average loan value (£4,230).

**Table 3.6: Loans accepted by technology**

| Technology | No. | % | Value | Average | Median | Range |
|---|---|---|---|---|---|---|
| Lighting | 454 | 59% | £9,106,507 | £20,058 | £13,187 | £3,004 - £144,122 |

[33] As detailed in Appendix I, the Carbon Trust does not endorse any specific equipment suppliers albeit applicants can however refer to the Carbon Trust's list of Accredited Suppliers (which is not specific to the EELF).
[34] Please note, detailed activity analysis is included in Appendix VI.
[35] Please note, the Carbon Trust recorded loan recipients by County and Belfast, rather than by individual Council area.

| Table 3.6: Loans accepted by technology | | | | | | |
|---|---|---|---|---|---|---|
| **Technology** | **No.** | **%** | **Value** | **Average** | **Median** | **Range** |
| Biomass | 68 | 9% | £2,715,967 | £39,941 | £38,743 | £4,200 - £128,113 |
| Refrigeration | 53 | 7% | £1,894,134 | £35,738 | £14,653 | £3,266 - £400,000 |
| Heating | 50 | 6% | £2,154,556 | £43,091 | £24,913 | £3,099 - £380,400 |
| Compressed Air | 29 | 4% | £382,808 | £13,200 | £7,920 | £4,865 - £77,273 |
| Process Heating and Cooling | 28 | 4% | £2,330,722 | £83,240 | £40,150 | £6,780 - £400,000 |
| All (BRS) | 13 | 2% | £366,914 | £28,224 | £15,120 | £8,500 - £105,040 |
| Solar Photovoltaic's | 9 | 1% | £132,053 | £14,673 | £11,420 | £4,106 - £36,360 |
| Air Condition | 9 | 1% | £128,978 | £14,331 | £12,424 | £3,420 - £3,553 |
| Building services distribution systems | 9 | 1% | £343,977 | £34,398 | £13,769 | £3,500 - £120,120 |
| All (IPT) | 7 | 1% | £1,101,104 | £157,301 | £84,657 | £10,800 - £400,000 |
| Drying and Evaporation | 7 | 1% | £456,049 | £65,150 | £32,087 | £8,290 - £199,860 |
| Motors and drives | 7 | 1% | £206,536 | £29,505 | £19,547 | £8,120 - £70,572 |
| Building instrumentation and control | 5 | 1% | £68,307 | £13,661 | £9,099 | £7,328 - £3,2300 |
| Materials Handling | 5 | 1% | £226,911 | £45,382 | £60,000 | £9,000 - £75,115 |
| Process design and optimisation | 5 | 1% | £445,148 | £89,030 | £77,150 | £27,600 - £174,353 |
| Wind Generation | 5 | 1% | £802,114 | £160,423 | £107,460 | £33,806 - £450,000 |
| Renewable energy sources | 4 | 1% | £76,100 | £19,025 | £3,290 | £3,100 - £66,420 |
| Ventilation | 2 | <1% | £8,690 | £4,345 | £4,345 | £4,223 - £4,466 |
| Building Fabric | 1 | <1% | £15,899 | £15,899 | £15,899 | £15,899 |
| Energy from Waste | 1 | <1% | £4,230 | £4,230 | £4,230 | £4,230 |
| Office Equipment | 1 | <1% | £6,694 | £6,694 | £6,694 | £6,694 |
| Process instrumentation and control systems | 1 | <1% | £27,828 | £27,828 | £27,828 | £27,828 |
| Not specified[36] | 2 | <1% | £82,272 | | | |
| **Total** | **775** | **100%** | **£23,084,498** | - | - | - |

## 3.6 EELF Finances

This Section considers the anticipated and actual financial performance of the EELF.

### *3.6.1 Requested Funding (as per Carbon Trust's Business Plans)*

As previously discussed, at various junctures during the period under review, the Carbon Trust (as part of its ongoing management of the loan fund) submitted requests for funding (in the form of 'business plans') to Invest NI. The following table sets out details of the funding that was requested by the Carbon Trust (as per its Business Plans):

| Table 3.4: Carbon Trust's Requests for Funding | |
|---|---|
| **Financial year** | **Amount of Funding Requested (£)** |
| Apr 2010 – Mar 2011 | £1,000,000 |
| Apr 2011 – Mar 2012 | £1,000,000 |
| Apr 2012 – Mar 2013 | £1,000,000 |
| Apr 2013 – Mar 2014 | £1,000,000 |
| Apr 2014 – Mar 2015 | £1,000,000 |
| Apr 2015 – Sept 2015 (6 months) | £0 |
| Oct 2015 – Dec 2015 (3 months) | £265,500 |
| **Total** | **£5,265,500** |

Salient points to note include:

- During the period under review, the Carbon Trust requested £5,265,500, which was to be 'injected' into the loan fund for the purposes of offering interest free loans.
- Discussion with Invest NI indicates that there was no funding requested or 'injected' into the loan fund during the period 1st April 2015 to 30th September 2015, as it was agreed that the Carbon Trust would, during that time, simply manage existing loans and continue to make new loan commitments using repayments earned up to that point.
- The total funding requested during the period 1st October 2015 – 31st March 2016 was £525,000[37]. For the purposes of this exercise, the Evaluation Team has assumed, in agreement with Invest NI, that £265,500 was requested during the period 1st October and 31st December 2015.

[36] The type of technology was not provided on the Carbon Trust database for 2 businesses.

- Management and administration costs were payable to the Carbon Trust per annum and were, as per the Letters of Offer and addenda, set at 7% (excluding VAT) of the total of the loan amounts which had been or are lent, committed or disbursed in Northern Ireland from the EELF (please note, the Letter of Offer covering the period October 2015 to September 2016 stated that this cost was based on 'net commitments'). For the purposes of clarity on this point, during consultation Invest NI advised the Evaluation Team that it paid (up until the end of the existing Letter of Offer, 30th September 2016) the Carbon Trust based on the percentage of net commitments made under the loan fund.
- Furthermore, alongside the maximum threshold previously outlined, the Letter of Offer (dated 19th October 2012) and addenda[38] covering the period 1st October 2012 to 31st December 2015 included an additional stipulation, which stated that the management and administration costs would not be less than an agreed minimum of £277,000 (inclusive of VAT)[39]. Whilst a full breakdown of the minimum annual payment figure (as provided to Invest NI by the Carbon Trust in December 2011) is included in Appendix VII, it is understood that this was to cover, *inter alia*, staff costs and costs associated with those support functions based in London (both of which represented 70% of the agreed minimum figure i.e. £194,758).

### *3.6.2 Actual Finances Associated with the EELF*

Invest NI has advised the Evaluation Team that circa £4.5m was invested or 'injected' into the revolving EELF between April 2010 and December 2015. This is detailed below:

**Table 3.5: Funding 'injected' into the EELF by Invest NI**

| Financial year | Amount of Funding Requested (£) |
|---|---|
| Apr 2010 – Mar 2011 | £500,000 |
| Apr 2011 – Mar 2012 | £500,000 |
| Apr 2012 – Mar 2013 | £1,000,000 |
| Apr 2013 – Mar 2014 | £1,699,395 |
| Apr 2014 – Mar 2015 | £300,000 |
| Apr 2015 – Sept 2015 (6 months) | £0 |
| Oct 2015 – Dec 2015 (3 months) | £525,000 |
| **Total** | **£4,524,395** |

In addition to the above, Invest NI has indicated that there were a range of other internal costs associated with delivery of the EELF. A summary of these are set out below (with full details included in Appendix VII):

**Table 3.6: Invest NI Internal Costs Associated with the delivery of the EELF**

| Financial year | Invest NI staff costs | Legal Costs | Evaluation Costs | Economic Appraisal Costs | Total |
|---|---|---|---|---|---|
| Apr 2010 – Mar 2011 | £46,428 | £2,163 | £0 | £0 | £48,591 |
| Apr 2011 – Mar 2012 | £47,691 | £2,163 | £0 | £0 | £49,854 |
| Apr 2012 – Mar 2013 | £48,889 | £2,163 | £0 | £0 | £51,052 |
| Apr 2013 – Mar 2014 | £50,220 | £2,163 | £0 | £0 | £52,383 |
| Apr 2014 – Mar 2015 | £51,510 | £2,163 | £8,685 | £0 | £62,358 |
| Apr 2015 – Dec 2015 (9 months) | £40,107 | £2,163 | £0 | £4,363 | £46,633 |
| **Total** | **£284,845** | **£12,437** | **£8,685** | **£4,363** | **£310,330** |

Salient points to note include:

[37] As per the SDSP Economic Appraisal (Cogent, August 2015).
[38] Addendums dated 22nd January 2013, 27th February 2014, 9th March 2015, 26th June 2015 and 30th September 2015.
[39] The most recent addendum (30th September 2015) stated that *"for the nine month period 1st April 2015 to 31st December 2015, the agreed minimum annual charge will be pro-rata at £207,750 (inclusive of VAT)".*

- Discussion with Invest NI indicates that there were three members of the Sustainable Development Team who contributed proportions of their time to the EELF during the period under review. There was also two members of Invest NI's Strategy Team that were involved in overseeing the delivery of an Evaluation[40] and Economic Appraisal[41] of the EELF. The analysis indicates that the total internal 'fully loaded' staff costs, which are reflective of the full economic costs of staff time including ERNI plus Superannuation, and loadings[42], equated to £284,845.
- There were also costs associated with the preparation of an external Evaluation and Economic Appraisal, both with which included, alongside other support offerings, the EELF.
- Invest NI also advised that there were 'ad-hoc' legal costs relating to the preparation of the Letters of Offer (and subsequent addenda) that were issued to the Carbon Trust. The legal costs equated to £12,437. In agreement with Invest NI, these costs have been equally distributed, given their 'ad-hoc' nature, across the period.

### *3.6.3 Summary Conclusions*

The loan fund is different to other grant type interventions offered by Invest NI, in terms of the cost incurred by Invest NI when account is taken for the repayment of loans. The Evaluation Team, in agreement with Invest NI, has utilised the following approach to estimate the financial cost to Invest NI, as of December 2015. This is set out in the following table:

**Table 3.6: Financial Position of the EELF (as of December 2015)[43]**

| | Loans Offered | | EDO Charges (£) | 'Bad Debt'* | | Bank Charges Incurred (£) | Bank Interest Accrued (£) |
|---|---|---|---|---|---|---|---|
| Year | No. | Value (£) | | (£) | % | | |
| 2010/ 2011 | 51 | £2,109,259 | £297,515[44] | £33,000 | 1.6% | £216 | £6,234 |
| 2011/ 2012 | 100 | £2,177,314 | £165,016 | £19,000 | 0.9% | £2,279 | £6,063 |
| 2012/ 2013 | 156 | £4,938,449 | £362,931 | £116,000 | 2.3% | £441 | £4,872 |
| 2013/ 2014 | 153 | £4,379,402 | £316,716 | £0 | 0.0% | £537 | £5,325 |
| 2014/ 2015 | 183 | £5,766,860 | £380,677 | £261,000 | 4.5% | £691 | £4,675 |
| 2015 – Dec 2015 | 132 | £3,713,213 | £255,439 | £70,000 | 1.9% | £693 | £1,984 |
| **Total** | **775** | **£23,084,497** | **£1,778,294** | **£499,000** | **2.2%** | **£4,857** | **£29,153** |

Salient points to note in relation to the evaluation period include:

- The £4.5m 'injected' by Invest NI, along with monies previously invested in the loan fund since 2003, enabled 775 loans to be offered to businesses in Northern Ireland with a total value of circa £23m.
- Circa £1.8m had been disbursed in management and administrative payments to the Carbon Trust, whilst circa £504,000 had been allocated as 'bad debt' and bank charges.
- Across the full review period, the average percentage of bad debt across the live portfolio of loans was 2.2%, although it peaked at 4.5% in 2014/15.
- [*the value of 'bad debt' presented in the table above relates to the loan values categorised as bad debt in that financial year i.e. the bad debt values are not related to the number/ value of loans offered to businesses in that same financial year. For example, in 2014/15, 183 loans were offered to businesses with a total value of circa £5.8m. However, the value of the 'bad debt' reported for the same period (£261,000 or 4.5%) is based on loans offered prior to that point in time].

[40] SPP Evaluation (SWQ, December 2014).
[41] SDSP Economic Appraisal (Cogent, August 2015).
[42] The Evaluation Team utilised DfC's Ready Reckoner of Staff Costs for the 2009/10 period, which has been uplifted for the periods under consideration (ERNI has been uplifted by the relevant percentage points and the superannuation and loadings have been uplifted using HMT's GDP deflators).
[43] As reported by the Carbon Trust.
[44] The Carbon Trust advised that this figure includes those management and administration fees not charged in prior years (i.e. pre 2010/11).

- Furthermore, it is notable that the level of 'bad debt' during the period under review was lower than the equivalent value for the EELF since its launch in 2003, which was reported by the Carbon Trust to be 3.3%.
- In April 2010, the EELF had a value of £7.8m (including loans outstanding and monies available for loans), which increased to £12.2m as of December 2015.

To reflect the 'recycling' or 'revolving' nature of the loan fund, and the fact that loans are interest free, the Evaluation Team has estimated the financial cost to Invest NI of the loan fund to broadly equate to the value of: management and administrative payments to the Carbon Trust (£1.8m) plus 'bad debt' and bank charges (£504,000) minus the bank interest accrued (£29,153). This equates to a total financial cost to Invest NI during the period under review of:

- £2.3m (excluding internal Invest NI staff etc. costs of circa £310,330); or
- £2.6m (including internal Invest NI staff etc. costs of circa £310,330).

## 3.7 Equality Considerations

Section 75 of the Northern Ireland Act 1998 requires that Invest NI shall, *"in carrying out its function relating to Northern Ireland, have due regard to the need to promote equality of opportunity"* between the following nine Section 75 groups:

- Persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation;
- Men and women generally;
- Persons with a disability and persons without; and
- Persons with dependents and persons without.

In addition and without prejudice to these obligations, in carrying out its functions, Invest NI is also committed to promote good relations between persons of different religious belief, political opinion or racial group.

Each Letter of Offer issued by Invest NI to the Carbon Trust stipulated that the:

*"Carbon Trust shall comply with the relevant statutory provisions from time to time in force in Northern Ireland imposing obligations on Carbon Trust in relation to discrimination on the grounds of religious belief, political opinion (including in relation to section 75 of the Northern Ireland Act 1998), racial group, marital status, age, sexual orientation, gender, disability and having dependants."*

Whilst this suggests that the Carbon Trust, in managing the EELF, should be compliant with equality legislation, it does not necessarily indicate that the Carbon Trust was (or is) compliant. However, the Evaluation Team notes that the EELF is available to businesses across all areas of Northern Ireland and operates with legal requirements, which limits the potential for some eligible businesses to be excluded from accessing it.

## 4. APPLICANTS' SATISFACTION WITH, & VIEWS OF, THE EELF

Section 4 provides a brief synopsis of the key findings emerging from the primary research with applicants and recipients of the EELF, in terms of their satisfaction with, and views of the loan fund. Please note, detailed survey findings are included in Appendices VIII and IX.

**Table 4.1: Key Findings**

- The survey analysis evidenced that nearly half (46% - N=141) of loan recipients surveyed first became aware of the EELF through a supplier of energy efficient equipment or renewable technology. This finding corroborates the view expressed by a representative from the Carbon Trust that suppliers have become an important stakeholder group in terms of raising awareness of, and stimulating demand for, the EELF throughout Northern Ireland.
- Over two fifths (44% - N=141) of those recipients that were offered, and have drawn down a loan, had applied for or sought to raise the necessary finance to implement the proposed project from elsewhere prior to applying for the EELF. The majority of these respondents secured finance from the businesses' own internal finances/ cash.
- Nearly three fifths (58% - N=141) of those recipients that were offered, and have drawn down a loan, received other support prior to applying to the EELF. Notably, nearly half (46% - N=82) of those received support as part of the Invest NI's Industrial Symbiosis Service (the purpose of which is to facilitate 'synergies' between businesses, whereby previously unused or discarded resources from one business are recovered, reprocessed and reused by others), whilst nearly two fifths received support direct from a supplier.
- Nearly all (99% - N=141) of those recipients that were offered, and have drawn down a loan indicated that they had applied to the EELF due the fact that there is no interest payable on the loan. This finding suggests that the EELF provides an attractive and alternative source of finance when more traditional sources (such as bank lending) are considered to be more expensive for businesses.
- Over two fifths (43% - N=141) of those recipients that were offered, and have drawn down a loan indicated that 'something else' encouraged them to apply to the EELF. Of these, nearly two fifths (38% - N=61) stated that a supplier of energy efficient equipment or renewable technology encouraged them to apply. This finding corroborates the view expressed by a representative from the Carbon Trust that suppliers have become an important stakeholder group in terms of stimulating demand for the EELF throughout Northern Ireland.
- On an overall basis, recipient businesses were satisfied with the support provided through, and the terms and conditions of, the EELF. Similarly, businesses which applied to the EELF but subsequently withdrew and those that were unsuccessful or have yet to fully complete their application were satisfied with the EELF on an overall basis, but the levels of satisfaction were (perhaps understandably) lower amongst these businesses.
- Positively, nearly all (95% - N=205) of the respondents indicated that they would recommend the EELF to other businesses who are in need of finance to support investment in energy efficiency and/ or renewable technologies.
- The survey analysis evidenced that over half (52% - N=141) of recipients indicated that they would be willing to pay some level of interest on an EELF Loan if it was required in the future (i.e. on subsequent loans). In considering this finding, it is the Evaluation Team's view that the merits and demerits of introducing some level(s) of interest should be factored into any decision making processes (i.e. any future economic appraisal or casework approvals) relating to any future iteration of the loan fund. An assessment should be undertaken to explore whether or not loans issued should, in all cases, be provided at 100% interest free. Consideration should be given to whether the level of interest could/ should vary in line with various factors such as: repeat loan for the same company; repeat loans for the same company for the same technology; size or sector of company etc. The findings from the Evaluation Team's benchmarking exercise of similar interventions (as per Section 7) should assist in informing this decision making process.
- In addition, nearly half (46% - N=39) of respondents who were able to give an indication of what interest rate (in percentage terms) they would be prepared to pay, indicated that they would pay an interest rate of 3% or greater. However, the Evaluation Team would urge caution in interpreting this finding given the small sample size (N=18) and the fact that those responding to the question posed have potentially developed some appreciation of the value provided by the loan and may be overly positive towards how much interest they would be willing to pay.

# 5. IMPACT OF THE EELF

Section 5 considers the impact of the EELF.

## 5.1 Influence on Undertaking Activities (Activity Deadweight)

### *5.1.1 Recipients' Views on EELF Influence*

The net impact of the EELF (i.e. its additionality) relating to businesses' decision to invest in an energy efficient equipment and/ or renewable technologies project, or where relevant, to make such an investment to a similar scale and/ or within a similar timescale, can only be measured after making allowances for what would have happened in the absence of receiving the loan through the EELF. That is, an allowance must be made for deadweight. 'Deadweight' refers to activity that would have occurred without the intervention i.e. receipt of the loan through the EELF.

Appendix X provides a detailed overview of the Evaluation Team's deadweight/ additionality calculations. However, in summary, the levels of activity deadweight have been calculated using a 'participant self-assessment' methodology. The methodology utilises a series of questions[45] within the participant survey and assigns weightings (agreed with DfE's Economist Team) to the individual responses.

The questions sought to ascertain respondents' views on the impact that the receipt of the loan (provided through the EELF) had on their decision to take forward an energy efficient equipment and/ or renewable technologies project. Options included:

- Whether they would have taken forward the project at all;
- Whether they would have taken forward the project but on a reduced scale;
- Whether they would have taken forward the project, but at a later date;
- Whether they would have taken forward the project but on a reduced scale and at a later date; and
- Whether they would have taken forward the project at the same scale and within the timescale regardless of receiving the loan.

Depending on the response provided, a level of additionality/ deadweight was applied. For example, a respondent who indicated that they definitely would not have taken forward an energy efficient equipment and/ or renewable technologies project in the absence of the loan would have been assigned a level of 100% additionality (i.e. full additionality). Conversely, a respondent who indicated that they definitely would have taken forward the project within the same timescale regardless of the receipt of the loan would have been assigned a level of 100% deadweight (i.e. no additionality). Other responses were given a weighting somewhere between these two extremes (i.e. a level of partial additionality/ deadweight).

The outcomes of the analysis are provided below:

**Table 5.1: Activity Additionality/ Deadweight (N=141)**

| Deadweight | Additionality |
|---|---|
| 43% | 57% |

[45] In-line with DfE guidance, these questions focused on identifying the likelihood that the businesses would have invested in an energy efficient equipment and/ or renewable technologies project, what scale of project would have been undertaken in the absence of support (if relevant) and how much later would the project would been undertaken (if relevant).

*"In the absence of the loan fund it would have been difficult for our business to secure the appropriate finance"*

*"We could have secured a bank loan, but that would have prolonged the project by a year"*

*"Business finance would have been an alternative source of funding that we could have received but the process to agree this funding in the business would have taken an estimated 6 months longer"*

*"We received a number of loans to implement new lighting in a number of our stores. If it was not for the EELF it would have taken the business longer to install the lighting in all of the stores as we would have had to do it over a number of years"*

*"We would have implemented the project to a smaller scale. Our business would not have been able to finance the project to the scale that we did without the EELF"*

*"It would have been cost prohibitive for the company to implement all of the project"*

*"Due to other business priorities, it may have taken us longer"*

*"We had recently implemented solar panels. If it was not for the EELF we probably would have waited another 2 years to introduce new lights in our business given the additional cost to the company"*

*"We would have got a loan from the bank, although it made sense to apply for a loan that was interest free"*

*"The company would have put their own financial resources into completing the project"*

*"We would not have been able to get an interest free loan anywhere else, so it is unlikely that we would have taken the project forward"*

*"Our business is committed to being energy efficient so we would have taken forward the project in the absence of the EELF"*

**Loan Recipients**

The level of deadweight associated with businesses' implementing their energy efficiency project appears somewhat high at 43%. However, it is the Evaluation Team's view that this should perhaps not be unexpected due to the following:

- A small proportion of respondents (3% - N=141) indicated that they would *'definitely have undertaken the project (to the same extent and within the same period) in the absence of the EELF loan'* i.e. four responses represented full deadweight.
- The survey analysis indicates that in the absence of the EELF, nearly three fifths (59%, N=141) of businesses could have secured the necessary finance elsewhere. However, the analysis indicates that it would have taken the business longer (i.e. 6 months or more) to secure the necessary finance. Similarly, a number of respondents indicated that they may have undertaken the project through their own business finance, however it may have inhibited the scale of which they could do so. The EELF has benefitted many businesses by allowing them to implement energy efficient equipment and/ or renewable technologies projects to a larger extent and in a shorter time period.

### *5.1.2 Progress Made in the Absence of the EELF*

The surveys undertaken with businesses that applied to the EELF but subsequently withdrew, and those that were unsuccessful or have yet to fully complete their application, sought to determine the extent to which progress was made by these businesses towards their project in the absence of receipt of loans through the EELF.

| Table 5.2: In the absence of receiving/ drawing down the Energy Efficiency Loan, what happened to the project that you were going to fund with the loan monies? (N=66) | | | | | | |
|---|---|---|---|---|---|---|
| | Withdrawn | | Unsuccessful/ Not yet complete | | Both | |
| | N= | % | N= | % | N= | % |
| None of the proposed project was undertaken | 11 | 69% | 26 | 52% | 37 | 56% |
| Some of the proposed project was undertaken, but to a lesser extent (i.e. reduced scale) | 1 | 6% | 0 | 0% | 1 | 2% |
| Some of the proposed project was undertaken, but at a later date than was originally planned | 3 | 19% | 9 | 18% | 12 | 18% |
| Some of the proposed project was undertaken, but to a lesser extent and at a later date than was originally planned | 0 | 0% | 0 | 0% | 0 | 0% |
| All of the proposed project was undertaken to the same extent and to the original timeframe as originally planned | 1 | 6% | 15 | 30% | 16 | 24% |
| **N=** | **16** | **100%** | **50** | **100%** | **66** | **100%** |

The table above indicates that over half (56% - N=66) of those businesses that applied to the EELF but subsequently withdrew, and those that were unsuccessful or have yet to fully complete their application, did not subsequently undertake any of the project proposed in their applications.

Specific explanations as to why no project was progressed included the following:

*"At that time our company would not have been able to afford to implement the project in the absence of receiving the funding"*

*"We had other business priorities that we proceeded on with. We might complete the project in the future with assistance through the EELF"*

*"After only partially completing the online application form and leaving it for a while, the company decided to invest money in other areas of the business"*

**Withdrawn & Unsuccessful/ Not yet complete Applicants**

One fifth (20% - N=66) of those businesses that applied to the EELF but subsequently withdrew, and those that were unsuccessful or have yet to fully complete their application, have undertaken **some, but not all,** of the project proposed but either to a lesser extent or at a later stage.

Businesses which undertook some, but not all, of the proposed project made the following comments:

*"Not receiving the funding restricted our company to only undertaking a proportion of the project. We simply did not have enough funds within the company and we were unable to secure funding from any other sources"*

*"It was something the business wanted to do, so regardless of the funding we were going to implement the new lighting technology to some extent within the business. It made sense to invest in this, as we were getting such a saving in return"*

**Withdrawn & Unsuccessful/ Not yet complete Applicants**

Nearly one quarter (24% - N=66) of these businesses undertook all of the project that they had proposed in the absence of the loan fund. Businesses that had completed all the proposed project provided the following rationale:

*"We were able to secure funds through the business' own finance, therefore we completed the project to the same extent as we would have if we received the EELF"*

*"We used our own finance and worked with the supplier"*

*"It was a business priority, so we took forward the project with our own finance"*

**Withdrawn & Unsuccessful/ Not yet complete Applicants**

Nearly four fifths (79% - N=29[46]) of those businesses which proceeded to undertake either all or some of the proposed project in the absence of the loan fund did so independently, with the remaining (21% - N=29) securing support from elsewhere (e.g. family, friends and banks) to enable them to achieve their plans.

**Table 5.3: Finance Secured to Undertake Activities in the Absence of the Loan Fund**

| | Withdrawn | | Rejected | | Total | |
|---|---|---|---|---|---|---|
| | **No.** | **%** | **No.** | **%** | **No.** | **%** |
| Independently | 3 | 60% | 20 | 83% | 23 | 79% |
| Support from Elsewhere | 2 | 40% | 4 | 17% | 6 | 21% |
| **Total** | **5** | **100%** | **24** | **100%** | **29** | **100%** |

## 5.2 Gross Impacts - Energy Cost Savings and $CO_2$ Savings

### *5.2.1 Introduction and Assumptions*

The Evaluation Team, in agreement with Invest NI, has applied the following approach in order to calculate the gross impact of the EELF i.e. energy cost savings and $CO_2$ savings:

1. During consultation, representatives from both Invest NI and the Carbon Trust expressed their view that individual businesses would be unlikely to be able to independently fully quantify the extent to which the project that was funded (in full or in part) by monies from the EELF has had, or is having, an impact on their business' annual cost savings i.e. their energy costs or $CO_2$ emissions.

2. On this basis, it was agreed with Invest NI and the Carbon Trust that the Evaluation Team would utilise those estimated annual energy cost savings (£) and annual $CO_2$ savings ($tCO_2$) that were captured as part of each business' completed Energy Saving Assessment Template (which were verified and validated by an Energy Consultant/ Energy Saving Assessor within the Carbon Trust[47]) and collated by the Carbon Trust. That is, the Evaluation Team has placed reliance on the figures collated and utilised by the Carbon Trust when establishing loan amounts and repayments (as per Section 1.2.2).

3. In order to provide an independent validation of those figures collated by the Carbon Trust, the Evaluation Team (through the business survey) sought to probe the extent to which individual business' annual energy cost savings were, or are, in line with those figures captured and reported by the Carbon Trust (based on its Energy Savings Assessment Template). Encouragingly, the survey analysis indicated that:

[46] As per Table 5.2, 66 respondents minus the 37 respondents (who reported that none one of the proposed project was undertaken in the absence of the loan fund) equates to 29.
[47] Full details on the Carbon Trust's validation and verification of applicants' Energy Savings Assessment Template are included in Appendix I.

- The majority of businesses (97% - N=141) considered that the energy efficient equipment or renewable technology project implemented has had, or is having, an impact on reducing their annual energy costs[48]; and:
- The majority of those businesses (86% - N=137) stated that the business' annual cost savings were in line with those anticipated at the time of application (and as recorded as part of the Energy Savings Assessment Template)[49].

4. For the purposes of determining gross impacts, the Evaluation Team collated the reported annual energy cost savings and $CO_2$ savings for those businesses that were offered and have drawn down a loan i.e. categorised as either 'live' or 'complete'(N=707).

5. Those businesses (N=28) that were categorised as either insolvent, escalated to management for a write off, legal proceeding commenced, or in arrears were excluded from the impact analysis on the basis that there was no information available to the Evaluation Team to determine if these businesses received, or are receiving, any impacts (and if so, to what extent)[50].

6. In addition, those business (N=40) that were offered a loan but it has yet to be disbursed have also been excluded from the impact analysis[51]. This is based on the fact that there is no certainty that the projects (as per the businesses' applications) will be successfully (and fully) implemented as planned and thereby achieve the level of impacts envisaged at the outset.

7. The EELF application process captures the estimated annual energy cost savings (£) and $CO_2$ savings ($tCO_2$) that are likely to arise as a result of the project being implemented within a business. It also calculates and reports on the lifetime savings (both energy cost savings and $CO_2$ savings) associated with each project.

   To do this, the Carbon Trust applies individual 'persistence factors' to the annual figures estimated. There are persistence factors (for both energy cost savings and $CO_2$ savings) for each of the 52 different types of equipment that were supported through the EELF during the period under review. For example, the persistence factors used for calculating lifetime energy cost savings ranged from 2.9 (for those projects categorised as 'office equipment') to 18.76 (for those categorised as 'electrical distribution and hot water services').

   Whilst full details on each of these persistence factors, across each type of equipment, are included in Appendix X, the following provides a brief synopsis of how the persistence factors have been determined by the Carbon Trust:

[48] A small proportion (3% - N=141) responded that they 'did not know'.
[49] A small proportion (14% - N=137) responded that they 'did not know'.
[50] As per Section 1.4, in agreement with Invest NI, the Evaluation Team did not attempt to make contact with these businesses.
[51] For these businesses, the Carbon Trust advised that, due to timing, it is still awaiting receipt of either a signed loan agreement or a supplier's invoice from the applicant businesses.

*"In order to determine the expected lifetime energy savings and $CO_2$ savings, it is necessary to understand the technology or action in question. To cater for this, our consultants classify each intervention according to a predefined taxonomy, which details the technology and relevant inherent and operational degradation factors relating to the intervention. Each entry in the taxonomy has an associated specific lifetime 'persistence factor' that indicates the period over which it is expected to deliver savings. The persistence factors are determined by:*

- *Maximum lifetime of action/ equipment; and*
- *Savings degradation rate (due to factors such as poor maintenance).*

*These inputs are used to calculate a decay curve, where the area under the decay curve represents the persisted (or lifetime) savings. This persistence factor is applied to the annual figure for energy savings and $CO_2$ savings to derive the lifetime savings on a consistent basis, and is used across all equipment. The model was reviewed in 2009/ 2010 by an independent Technical Advisory Group to update the technology categories and technology persistence factors with the most recent technical information available. Classification of technology and action types requires expert judgment by our consultants and, as such, is open to differences of opinion. We recognise that monetary savings for our customers in the future are not the same as savings that they can make now. We therefore apply a discount factor to the value of lifetime energy savings in monetary terms to show them at their net present value. When calculating this, we adapt each persistence factor to take account of the chosen discount rate (currently 3.5% as per the Treasury Green Book)."*

**Carbon Trust**

8. There *may* be instances when a piece(s) of equipment purchased and installed by a business is replaced or upgraded (with a similar or different type of equipment) prior to the end of its estimated lifetime (as determined by the individual persistence factor for each type of equipment). By way of illustration, a fan (ventilation) system installed and supported through the EELF, with an estimated lifetime (calculated persistence factor) of circa 16 years, may be replaced or upgraded by a business after, for example, 10 years. In this instance, the project would likely not have achieved the level of impacts envisaged at the outset (as reported by the Carbon Trust and featured within this impact analysis).

   Whilst the Evaluation Team recognises that instances such as the above may arise in the future, there is no information available to determine if, and how often, when and to what extent, this may happen. It is also noted that there could feasibly be instances where businesses continue to benefit from the project equipment supported through the EELF beyond the persistence period set out by the Carbon Trust. In the absence of any supplementary information, and on the basis that the Carbon Trust has expertise in this area, the Evaluation Team, in agreement with Invest NI, is content that the impact analysis presented has been undertaken based on the best available evidence/ information at the time of writing.

9. Gross Value Added (GVA) can be calculated by summing a business' EBITDA (calculated by summing operating profit, depreciation and amortisation) and wages and salaries. The Evaluation Team would typically calculate the GVA impacts for similar interventions supported by Invest NI. In these cases Northern Ireland sector appropriate GVA factors[52] would be applied to, for example, the calculated increases in turnover/ sales. However, given that the EELF was (and is) focused on cost savings (rather than direct support to businesses to increase turnover/ sales), the analysis assumes that a pound of cost saving is equivalent to a pound of GVA on the basis that it will typically provide a direct impact on a business' operating profits. This approach was agreed in conjunction with Invest NI.

[52] Source: Northern Ireland Annual Business Inquiry 2014 (December 2015).

### 5.2.2 *Gross Impacts – Energy Cost Savings*

The following table outlines the gross annual and lifetime energy cost savings associated with the EELF during the period under review (full details of the calculations are included in Appendix X):

| Table 5.4: Calculation of Gross Energy Cost Savings | | |
|---|---|---|
| **Year** | **Gross Annual Energy Cost Savings (£)** | **Gross Lifetime Energy Cost Savings (£)** |
| Apr 10 – Mar 11 | £991,925 | £11,093,742 |
| Apr 11 – Mar 12 | £1,053,581 | £13,036,457 |
| Apr 12 – Mar 13 | £1,798,946 | £20,352,611 |
| Apr 13 – Mar 14 | £1,961,040 | £23,729,080 |
| Apr 14 – Mar 15 | £2,768,480 | £31,518,038 |
| Apr 15 – Dec 15 (9 months) | £1,005,022 | £11,705,896 |
| **Total** | **£9,578,994** | **£111,435,824** |

The Evaluation Team's analysis indicates that, during the period under review, the EELF is expected to contribute £9.6m in gross annual energy cost savings for businesses and £111m in gross lifetime energy cost savings.

### 5.2.3 *Gross Impact - $CO_2$ Savings*

The following table outlines the gross annual and lifetime $CO_2$ savings associated with the EELF during the period under review (full details of the calculations are included in Appendix X):

| Table 5.5: Calculation of Gross $CO_2$ Savings | | |
|---|---|---|
| **Year** | **Annual $CO_2$ Savings ($tCO_2$)** | **Lifetime $CO_2$ Savings ($tCO_2$)** |
| Apr 10 – Mar 11 | 5,247 | 82,118 |
| Apr 11 – Mar 12 | 5,097 | 88,240 |
| Apr 12 – Mar 13 | 8,625 | 132,208 |
| Apr 13 – Mar 14 | 8,209 | 131,943 |
| Apr 14 – Mar 15 | 11,514 | 185,333 |
| Apr 15 – Dec 15 (9 months) | 3,919 | 62,461 |
| **Total** | **42,612** | **682,303** |

The Evaluation Team's analysis indicates that, during the period under review, the EELF is expected to contribute 42,600 $tCO_2$ in gross annual $CO_2$ savings and 682,000 $tCO_2$ in gross lifetime $CO_2$ savings.

## 5.3 Influence on Energy Savings Impacts (Impact Additionality/ Deadweight)

The net impact of the EELF (i.e. its additionality) on recipient businesses' energy cost savings and $CO_2$ savings can only be measured after making allowances for what would have happened in the absence of the intervention. That is, the impact must allow for deadweight. 'Deadweight' refers to outcomes that would have occurred without the intervention.

Please note, given that most evaluations are undertaken some time after an activity is implemented, the Evaluation Team does not consider it appropriate to apply 'activity additionality' to impact measures. The reason being that, in the intervening period any variety of factors (and support interventions) may have had an impact on a business. Therefore, an impact additionality measure was used to ascertain the level of deadweight/ additionality relating to energy saving outturns.

The analysis of individual survey responses and application of the same 'participant self-assessment' methodology used to assess 'activity additionality', results in the following levels of 'impact deadweight and additionality'[53]:

[53] See Appendix X for further details.

| Table 5.6: Impact Additionality/ deadweight (N=138)[54] | |
|---|---|
| **Deadweight** | **Additionality** |
| 35% | 65% |

The Evaluation Team notes that the level of 'impact additionality' (65%) is greater than the level of 'activity additionality' (57%) indicating that respondents recognise the importance of being able to undertake their energy efficient equipment or renewable technology project sooner or to a greater extent than would have been the case in the absence of the EELF loan.

## 5.4 Net Additional Impacts - Energy Cost Savings and $CO_2$ Savings

The application of the calculated levels of impact additionality to the previous gross impacts suggests that the EELF is expected to contribute to the following:

| Table 5.7: Summary of the Gross and Net additional Lifetime Energy and $CO_2$ Savings | | |
|---|---|---|
| **Metric** | **Lifetime Energy Cost Savings (£)** | **Lifetime $CO_2$ Savings ($tCO_2$)** |
| Gross Lifetime Impacts | £111,435,824 | 682,303 |
| Less deadweight (35%) | £39,002,538 | 238,806 |
| Net additional impact | £72,433,285 | 443,497 |

## 5.5 Return-on-Investment

For the purposes of this assignment, the Evaluation Team, in agreement with Invest NI, has presented two return on investment scenarios, which are detailed in the following table. The first scenario relates to the full economic costs associated with the EELF project (including Invest NI loan values, private match funding, all EDO management/ administrative costs and Invest NI internal costs). The second scenario relates to the economic costs excluding businesses' contributions.

| Table 5.8: EELF Return-on-Investment | | |
|---|---|---|
| | **(£)** | **Return-on-Investment** |
| Net additional Lifetime Energy Cost Savings | £72,433,285 | £1:£2.10 |
| Full Economic Cost | £34,519,515[55] | |
| Net additional Lifetime Energy Cost Savings | £72,433,285 | £1:£3.15 |
| Economic Cost excluding businesses' contributions | £22,981,874[56] | |

The net additional lifetime energy cost savings (as presented above) will have been achieved at a full economic cost to the economy of circa £34.5m over the April 2010 to December 2015 period. On this basis, the return-on-investment will equate to £2.10 for every £1 invested.

Whilst the economic cost to Invest NI, of circa £23m, will generate circa £72.4m of net additional lifetime energy costs savings in the Northern Ireland economy, it is important to note that, as per Section 3.6.3, the actual financial costs of the loan fund to Invest NI during the period under review was:

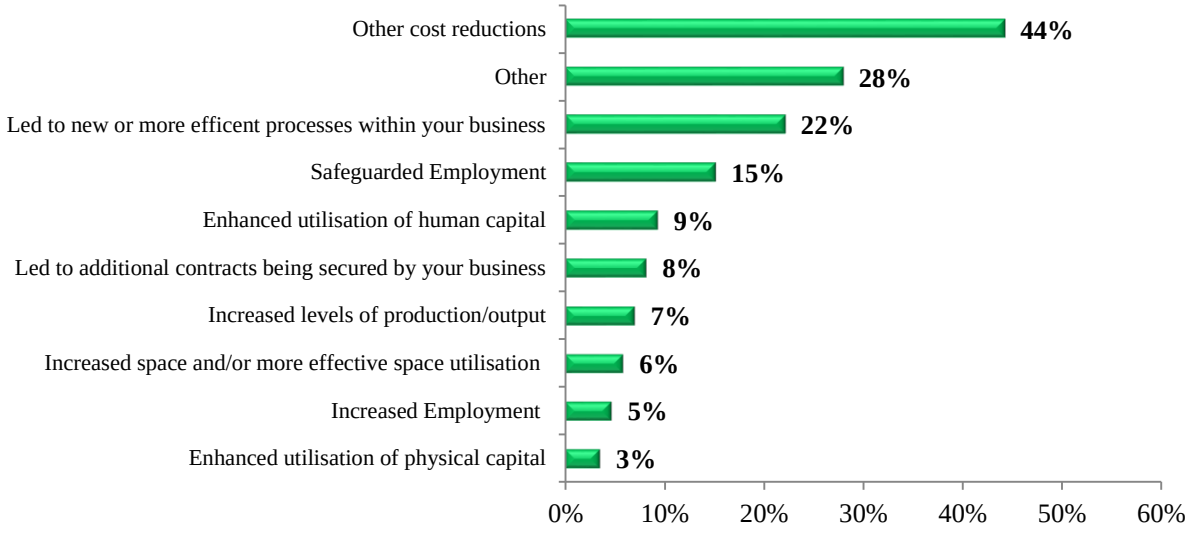
- £2.3m (excluding internal Invest NI staff etc. costs of circa £310,330); or
- £2.6m (including internal Invest NI staff etc. costs of circa £310,330).

[54] Please note, three recipients did not know whether or not the project that they implemented as a result of the EELF has had, or is having, an impact on reducing their annual energy costs, and therefore they did not answer this question.
[55] This equates to the total value of the 707 loans disbursed (i.e. £14,418,870 + £6,474,380) plus businesses' contribution of £11,537,641 (i.e. £32,430,891 - £14,418,870 - £6,474,380) to the total project costs plus internal Invest NI costs (i.e. £310,330) plus the EDO Charges (i.e. £1,778,294) as per Sections 3.6.2 and 3.6.3.
[56] This equates to the total value of the 707 loans disbursed (i.e. £14,418,870 + £6,474,380) plus internal Invest NI costs (i.e. £310,330) plus the EDO Charges (i.e. £1,778,294) as per Sections 3.6.2 and 3.6.3.

## 5.6 Other or Unexpected Benefits Achieved

Nearly two thirds (61% - N=141) of those recipients that were offered, and have drawn down a loan indicated that receipt of the loan support had led to other benefits or unexpected impacts/ benefits for them or their business, other than those relating to energy savings previously discussed.

**Figure 5.1: Did the receipt of Loan Fund support lead to any other benefits or unexpected impacts/ benefits for you or your business?**




N= 86

Nearly two fifths (37% - N=86) of recipients indicated that they received other cost reductions (e.g. reductions in equipment/ technology maintenance costs), whilst over one fifth (22% - N=86) suggested that it contributed to new or more efficient processes within their business.

Also, over two fifths (28% - N=86) of recipients indicated that they received 'other' types of benefits as a result of the loan support they received e.g. it enhanced the reputation of the business in terms of being more environmentally friendly (N=3), it reduced noise pollution and heat produced at the business' premises (N=4), it made their business more appealing to customers (N=9), the lower energy cost helped to offset other financial pressures in the business (N=5), and working conditions are safer (N=3).

*"We now have less maintenance cost on our light bulbs. Prior to the EELF we would have been changing our light bulbs constantly but with the new lighting implemented we have cut back on that cost"*

*"We have benefited from our customers now seeing us being environmentally friendly"*

*"Having the new lights installed has had our shop more appealing to customers and also reduces the amount of heat that comes off our lights"*

*"The new air compressor we have gives off less noise in comparison to our old compressor"*

*"Our old lights produced a lot of heat in our shop, which meant we had to have our air condition on more when it got too warm. However now, due to having the new lights installed we do not need the air condition on as much"*

**Loan Recipients**

## 5.7 Wider and Regional Benefits

Based on the feedback from businesses, the table below provides an overview of the contribution of the EELF to delivering wider and regional benefits:

| Table 5.9: Contribution of the EELF to wider and regional benefits | |
|---|---|
| ***Wider benefits*** | |
| Knowledge transfers | The analysis suggests that the EELF supported, to some extent, knowledge transfer between applicant businesses/ loan recipients, the Carbon Trust and suppliers. This is evidenced by the feedback provided by businesses (as per Section 4 and Appendix VIII). |
| ***Regional benefits*** | |
| Innovative nature of the project | The EELF, by its very nature, provides Northern Ireland businesses with finance to purchase or install innovative energy efficient equipment and/ or renewable technologies, in order reduce energy costs and stimulate higher levels of productivity. |

## 5.8 Summary Conclusions

Based on the feedback from those businesses in receipt of support, the following key conclusions can be drawn in relation to the impact made by the EELF during the period under review:

- The level of 'impact additionality' (65%) is greater than the level of 'activity additionality' (57%) indicating that respondents recognise the importance of being able to undertake their energy efficient equipment or renewable technology project sooner or to a greater extent than would have been the case in the absence of the EELF loan.

- Positively, from a monetary perspective the analysis suggests that the EELF is expected to contribute:

  - £9.6m in gross annual energy costs savings for businesses and £111m in gross lifetime energy cost savings; and
  - £72.4m in net additional lifetime energy savings.

- In addition, the EELF is expected to contribute 682,000 $tCO_2$ in gross lifetime $CO_2$ savings and 443,000 $tCO_2$ in net additional $CO_2$ savings.

- The net additional lifetime energy cost savings will have been achieved at a full economic cost to the economy of circa £34.5m over the April 2010 to December 2015 period. On this basis, the return-on-investment will equate to £2.10 for every £1 invested. Whilst the economic cost to Invest NI, of circa £23m, will generate circa £72.4m of net additional lifetime energy costs savings in the Northern Ireland economy, it is important to note that, as per Section 3.6.3, the actual financial costs of the loan fund to Invest NI during the period under review was:

  - £2.3m (excluding internal Invest NI staff etc. costs of circa £310,330); or
  - £2.6m (including internal Invest NI staff etc. costs of circa £310,330).

- The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including, *inter alia*, other cost reductions (e.g. reductions in equipment/ technology maintenance costs), enhanced business reputation, reductions in noise pollution and production of heat at businesses' premises and it led to new or more efficient processes within businesses.

- The EELF has also contributed to providing the Northern Ireland economy with a number of other wider (including knowledge transfers) and regional (including the innovative nature of the project) benefits.

## 6. ACHIEVEMENT OF OBJECTIVES

As previously discussed, during the period under review the approval for, and delivery of, the EELF was (and continues to be) as part of a suite of energy and resource efficiency support offerings to businesses in Northern Ireland. As such, in agreement with Invest NI, the following objectives are considered to be of relevance to the EELF[57]:

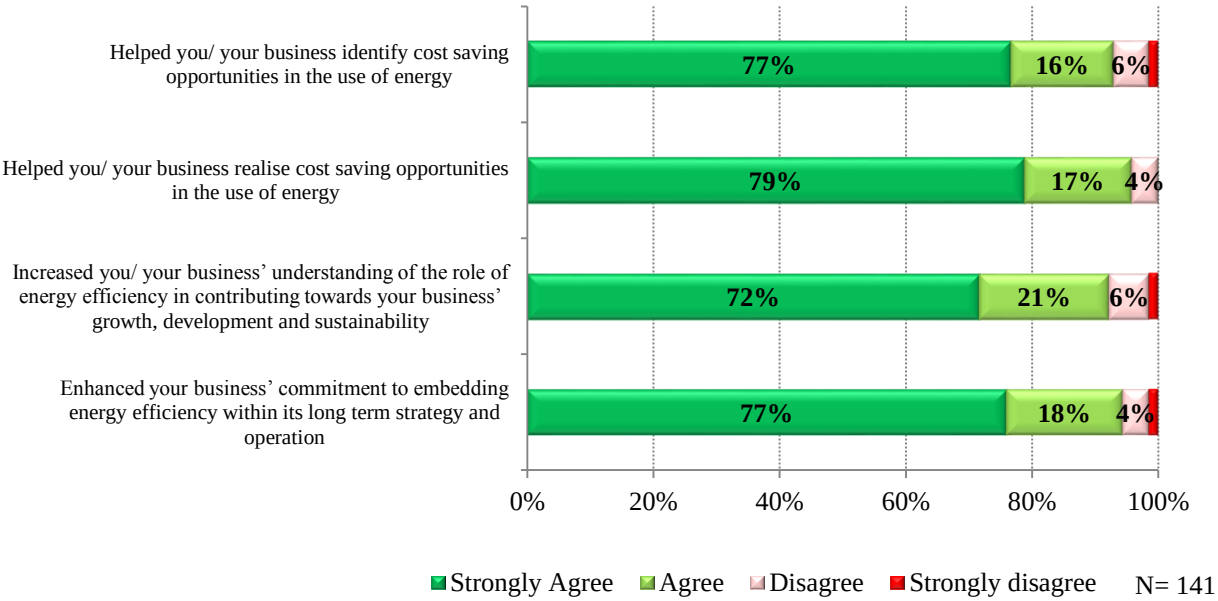
- Increase the number of businesses that implement resource efficiency projects that result in cost savings and/ or increased turnover;
- Improve the productivity, competitiveness and sustainability of businesses in Northern Ireland through the identification and realisation of cost saving opportunities in the use of energy;
- Increase businesses' understanding of the role of energy efficiency in contributing to their growth, development and sustainability; and
- Enhance businesses' commitment to embedding energy efficiency within their longer-term strategy and operations.

This section of the report considers the extent to which the principle aims and objectives of the EELF, as part of a suite of support offerings, have been met for the period under review.

It is the Evaluation Team's view that the objectives relating to the EELF, as set out above, have been achieved. This view is predicated on the following:

- Based upon the survey findings, the majority (90%+ - N=141) of those recipients that were offered, and have drawn down a loan, indicated that receipt of the loan support has:
  - Helped them or their business to identify cost saving opportunities in the use of energy (93%);
  - Helped them or their business realise cost saving opportunities in the use of energy (96%);
  - Increased their or their business' understanding of the role of energy efficiency in contributing towards your business' growth, development and sustainability (93%); and
  - Enhanced their or their business' commitment to embedding energy efficiency within its long term strategy and operation (95%).

**Figure 6.1: In general, to what extent would you agree that the receipt of Loan Fund support has…**




[57] The Evaluation Team understands that there were no specific SMART (Specific, Measurable, Achievable, Realistic and Time bound) objectives established for the EELF.

*"The loan fund support encouraged our company to look at more ways that we could become more efficient with energy in the future"*

*"We are definitely more aware of ways to reduce our energy costs"*

*"Our company was able to identify ways to save costs in relation to energy efficiency but this loan fund helped us realise these cost savings"*

*"We got a significant reduction in our costs as a result of the loan fund. Now we are continuously looking at other ways to be more efficient in order to put the money we save towards other business priorities"*

*"The loan fund has most certainly helped us identify and realise cost saving opportunities in our business"*

*"Our company always had a good understanding of energy efficiency"*

*"Our company is constantly thinking of new ways to reduce costs and become more efficient. However, at present I do not think there is much more than we can currently do"*

*"We are currently thinking of ways to become more efficient, and should we think of a project we would definitely apply for an energy efficiency loan fund again"*

**Loan Recipients**

In addition to the above, as per Section 5.4, the survey findings suggests that two fifths (37% - N=86) of recipients indicated that they received other cost reductions (e.g. reductions in equipment/ technology maintenance costs).

Looking specifically at the first of the two objectives set out above, the Evaluation Team's notes that the EELF is expected to contribute to the following impacts gross and net additional lifetime energy cost savings:

| **Table 6.1: Summary of the Gross and Net additional Lifetime Energy Cost Savings** | |
|---|---|
| **Lifetime Energy Cost Savings (£)** | |
| **Gross Lifetime Impacts** | **Net additional impact** |
| £111,435,824 | £72,433,285 |

# 7. BENCHMARKING

## 7.1 Introduction

As part of the research process, the Evaluation Team benchmarked the support provided through the EELF against the following:

- Those initiatives/ interventions that seek to provide loans to businesses in order to invest in energy efficient equipment and/ or renewable technologies; and
- Those initiatives/ interventions that provide loans (covering a loan value of up to £400k) to businesses and have a broader 'access to finance' focus, thereby enabling us to examine different delivery models and fund management and administration processes.

The table overleaf provides a brief synopsis of the various interventions considered by the Evaluation Team, whilst a detailed description of each initiative is included as Appendix XI[58][59].

[58] It should be noted that in a number of cases information was not available or benchmarking consultees were unwilling to provide commercially sensitive information (e.g. management fees and default rates). Information has been provided where available, and where information was not available it has been noted (N/K).
[59] Please note, the Green Deal has not been included in the table overleaf (but has been discussed, in detail, in the Appendix XI) as, in July 2015, it ceased to issue new loans (although it continues to manage the portfolio of outstanding loans).

| Table 7.1: Benchmarking Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Energy Efficiency Loan Funds | | | | | Other Loan Funds | | | | |
| | NI | Wales | | Scotland | UK Wide | Scotland | | NE of England | | Wales |
| | EELF | EELF | Energy Efficiency Financing[60] | Resource Efficient Scotland Programme | ReEnergise Finance | Loan Fund | Local Authority Loan Fund[61] | NE Growth Fund | Micro-Loan Fund | Welsh Micro Loan Fund |
| **Funder** | Invest NI | Welsh Assembly Government | Siemens Financial Services and Carbon Trust | Scottish Government | ReEnergise Finance | ERDF and Scottish Government and banks/ pension funds | ERDF, Banks and Local Authorities | ERDF, DBIS and EIB under a JEREMIE Initiative | ERDF, BIS and EIB under a JEREMIE Initiative | Welsh Assembly Government |
| **Fund/ Scheme Manager** | Carbon Trust | Carbon Trust | | | | Scottish Enterprise | Local Authorities | North East Finance manages the JEREMIE Initiative | North East Finance manages the JEREMIE | Finance Wales |
| **Fund/ Scheme Delivery Agent** | Carbon Trust | Carbon Trust | | Zero Waste Scotland | | Maven Capital Partners | Business Loans Scotland Ltd. | NEL Fund Managers | River Capital Partners | |
| **Size of Fund/ Scheme** | Circa £12m | Circa £4m | N/K | N/K | Circa £2.5m | £113m | £18m (£5.4m - local authorities, £5.4m -banks and £7.2m ERDF) | £30m | £6.5m (as part of £125m suite of seven funds under a JEREMIE) | £6m since 2013 (another £6m confirmed) |
| **Composition of Fund (% publicly backed where applicable)** | 100% Public | 100% Public | N/K | 100% Public | 100% private | 100% not-for-profit (ERDF and EIB) | 50% public sector (Scottish Enterprise and ERDF) and 50% private sector (across 4 high-street banks and 2 pension funds) | 100% not-for-profit (ERDF and EIB) | 100% not-for-profit (ERDF and EIB) | 100% public |
| **Fund Management Costs as a % of funds under management** | 7% (excluding VAT) | 7% | N/K | N/K | N/K | 1.3% | Fund Management (and any other operating costs) equate to c. 3% of the 6% interest received on each loan. | The Fund Manager did not wish to disclose fund management fees. | The Fund Manager was unwilling to comment on fund management fees. | Annual Accounts of Finance Wales (2014/15) show total annual staff costs of £6.8m for total funds of £539.5m but the staff costs cannot be attributed to any one fund within the suite. |
| **Investment Period** | 13 years (2003/04 to present) | 16 years (2001/02 to present) | 5 year (2011 to present) | 8 years (2008 to present) | 3 years (2013 to present) | 6 years (Feb 2011 – Jan 2017) (extended from 5 years due to Year 1 ramp-up) | Anticipated to be 3 years (June 2016 – May 2019) | 7 years (Jan 2010 to Dec 2016 at present) | 6 years (2011 to Dec 2016 at present) | 4.5 years (Jan 2013 – Apr 2016) |

[60] During consultation, representatives from Carbon Trust advised the Evaluation Team that information relating to the performance of the Energy Efficiency Financing was commercially sensitive to Siemens Financial Services and therefore were unable to share full details on this.

[61] It should be noted that this Fund has not yet commenced but the indicators below are anticipated by the Scottish Local Authorities based on recent experience of the West of Scotland Loan Fund (WSLF) and East Scotland Investment Fund (ESIF).

| Table 7.1: Benchmarking Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Energy Efficiency Loan Funds | | | | | Other Loan Funds | | | | |
| | NI | Wales | | Scotland | UK Wide | Scotland | | NE of England | | Wales |
| | EELF | EELF | Energy Efficiency Financing[60] | Resource Efficient Scotland Programme | ReEnergise Finance | Loan Fund | Local Authority Loan Fund[61] | NE Growth Fund | Micro-Loan Fund | Welsh Micro Loan Fund |
| **Investment Range** | £3,000 - £400,000 | £3,000 - £200,000 | £50,000 minimum value. There is no upper limit | £1,000 - £100,000 | £25,000 (excluding VAT) upwards[62] | £250,000 - £5m | £10,000 to £100k | £50k - £400k | £1k - £25k and £50k in exceptional circumstances | £1,000 - £50,000 |
| **Secured or Unsecured** | Unsecured | Unsecured | Unsecured | Unsecured | Both | Typically secured | Usually secured | Unsecured | Unsecured | Both – interest rate is affected by level of security provided. |
| **Interest Rates (Typical)** | 0% | 0% | N/K | 0%[63] | N/K | 8% - 10% | 6% fixed rate | Typically 10% fixed rate | 7% fixed rate up to £5k and 9% fixed rate up to £25k | Between 5% and 12% with an average of c. 8% |
| **Arrangement Fees** | No | No | No | No | No | 1% - 2% of capital | No | 1 - 2% of capital | 1% on loans over £25k | Yes average of 1.3% |
| **Loan Repayment Period** | 3 – 4 years | 3 – 4 years | Dependent on the technology funded[64] | N/K | 5 years | 3 to 7 years including flexibility for capital repayment holidays with average duration of 5 years | Up to 5 years | Flexible but usually 2-5 years | 3 years | 1-5 years |
| **Typical Target Audiences** | All private sector businesses based in Northern Ireland | All businesses except large businesses and public sector organisations | All organisations that have been trading for a minimum of 36 months | All Scottish business that falls within the EC definition of SME as well as private sector landlords, not-for-profit organisations and charities | Commercial customers throughout the UK, primarily to SMEs | • Export-focused established SMEs<br>• Annual turnover of at least £1m in the preceding 12 months of trading | Both start-up and existing businesses | • Manufacturing and professional services sectors<br>• Experienced management teams | • Start-up/ existing businesses<br>• Individuals in disadvantaged areas<br>• Sole traders, partnerships and SEEs | • Micro businesses across all eligible sectors |
| **Annual No. of Loans Disbursed** | 155 (based on 775 over 5 years) | 70 in 2015/16 | N/K | 95 (based on 760 over 8 years) | N/K | 6 (based on 29 loans to date) | Anticipated to be 150 per annum | 24 | 88 (476 loans across 5 years to date) | 50 (based on 200 over 4 years) |
| **Average Value of Loans Disbursed** | £29,786 | N/K | N/K | N/K | N/K | £2m | Anticipated to be between £25,000 - £40,000 | £212k per business | £11,000 | c. £20k (£1m across 50 loans per annum) |

[62] Limits exist depending on technology and type of finance.

[63] Please note, the loans are interest free unless the recipient is applying for renewable technology for which they are receiving the Feed-in Tariff (FIT) or the Renewable Heat Incentive (RHI). In these cases an interest rate of 5% applies.

[64] It was noted that 'energy efficiency' (e.g. Lighting) assets can be funded over a maximum term of 5 years, whilst 'energy generation' assets (e.g. Solar PV) can be funded up to a maximum term of 7 years.

| Table 7.1: Benchmarking Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Energy Efficiency Loan Funds | | | | | Other Loan Funds | | | | |
| | NI | Wales | | Scotland | UK Wide | Scotland | | NE of England | | Wales |
| | EELF | EELF | Energy Efficiency Financing[60] | Resource Efficient Scotland Programme | ReEnergise Finance | Loan Fund | Local Authority Loan Fund[61] | NE Growth Fund | Micro-Loan Fund | Welsh Micro Loan Fund |
| **Average Investment Per Annum** | Circa £4m | N/K | N/K | N/K | N/K | £12m | Anticipated to be £6m per annum. | £5m | £1m (£5m across 5 years) | £1m |
| **Default Rates – No.** | 2.2%[65] | N/K (although reported to be 1% higher than NI EELF | N/K | N/K | No | 10% | Fund not yet commenced | The North East Growth Fund primarily measures defaults based on value, rather than number of loans. | 32% as at 2014 | 19% of loan value provided for across all Finance Wales loans (but cannot disaggregate by Fund). |

[65] Across the live portfolio of loans during the period under review. Carbon Trust advised that the average default rate for the EELF (since its launch in 2003) was 3.3%

## 7.2 Summary Conclusions

In considering the preceding findings from the benchmarking analysis, the following salient points are noted:

**Table 7.1: Key Findings from the Benchmarking Analysis**

- The Evaluation Team considers that caution should be taken when seeking to elicit lessons for Northern Ireland in relation to the scale and performance of loan funds elsewhere, as the scale of market failure and need and demand within one region is unlikely (in the Evaluation Team's view) to be replicated exactly in another. A considerable number of factors influence this conclusion, including:

  - The number, scale and sector profile of businesses in a given region;
  - The role of the banking sector in a given region, and its appetite for lending; or
  - The number of active banks in a region also has an impact.

  Ultimately, full market/ regional studies would be required to fully compare and contrast the performance of the EELF with similar products elsewhere, but such depth analysis is beyond the scope of this project.

- At an overarching level, it is clear that other regions provide a range of support interventions which seek to encourage improved energy and resource efficiency amongst businesses. Amongst those interventions is the provision of loan funds (e.g. Wales and Scotland). This suggests that this type of intervention continues to have some form of strategic role to play in supporting businesses in this area.

- The most comparable model is the Welsh EELF (also delivered by the Carbon Trust), with the only notable difference being that only SMEs are eligible to apply, and that the loans available are capped at £200,000 (vis-à-vis £400,000 under the EELF). Discussion with the Carbon Trust suggests that since the loan fund in Northern Ireland was established, its key aim was to target both SMEs and large businesses, which subsequently necessitated a higher maximum loan amount to be made available to businesses (i.e. £400k in Northern Ireland versus £200k in Wales).

- Interestingly, since 2001/02, the EELF in Wales has been delivered by the Carbon Trust. During consultation as part of this Evaluation, a representative from the Welsh Government (People and Environment Division) indicated that in 2009 it was agreed that, similar to the EELF in Northern Ireland, the Carbon Trust would operate the Loan Fund as a 'recyclable' Fund. It was further suggested that, up until October 2014, the Carbon Trust was funded, via direct grant funding, by the Welsh Government to manage and administer the Loan Fund (with regular business plans/ application forms being submitted by the Carbon Trust to the Welsh Government setting out its request for funding). However, from October 2014 onwards[66], it was agreed that the Welsh Government would inject no new monies into the Loan Fund. That is, it was solely operating (and continues to operate) as a diminishing Loan Fund.

  As of June 2016, it is understood that the Welsh Government is liaising with the Carbon Trust in relation to future arrangements relating to the Loan Fund e.g. potential preparation of an Exit Plan. In considering this finding, the representative also indicated that there is still a perceived need for interest free loans to be provided to SMEs in Wales in order to implement energy efficient equipment and/ or renewable technologies, albeit the practical outworkings of how this will happen is unknown at the time of writing.

- The default rate for the Northern Ireland EELF (since 2003) has been marginally lower (circa one percentage point) than the default rate for the Wales EELF (albeit it was suggested that it is difficult to explain why this is the case).

- Discussion with the Carbon Trust also indicated that, unlike Northern Ireland, there has been very little, if any, engagement with suppliers and it is (and has been) reliant on various marketing activity being undertaken directly by the Carbon Trust (although this activity tends to be relatively 'low cost'). It was further suggested suppliers in Northern Ireland have become an important stakeholder in terms of stimulating demand for the Loan Fund.
- Similar to the model in Wales, large businesses are not eligible for assistance under the Resource

[66] Following a UK wide review undertaken by Department of Energy & Climate Change (DECC) in 2012 (which stimulated the reduction of grant funding throughout the UK) and a subsequent review undertaken by the Welsh Government (2012).

**Table 7.1: Key Findings from the Benchmarking Analysis**

Efficiency Scotland SME Loan, which provides unsecured and interest free loans of between £1,000 and £100,000. Unlike the EELF, there is no specific carbon savings requirement for the SME Loan Scheme in Scotland, however each project does have to save carbon to be eligible for funding. That is, carbon savings are not linked to the value of finance the loan recipient can receive.

- Whilst not a Government funded initiative, ReEnergise Finance is an independent financial services business focused exclusively on supporting the energy efficiency and renewable energy market. Using its own managed funds, it offers loans and leases to commercial customers throughout the UK, primarily to SMEs, to support their investment in renewable energy generation, improvements in energy efficiency and the reduction of energy expenditure. Importantly, unlike the EELF, loans are subject to competitive fixed or variable interest rates. During consultation, a representative from ReEnergise Finance indicated that its portfolio has developed over the last three years although it is still relatively small. The value of its loan book is currently circa £2.5m, with deals typically being between £100,000 and £150,000, although some have been upwards of £500,000. Loans are typically repaid over 5 years. Similar to the EELF, it was suggested that prospective applicants are typically referred to ReEnergise Finance by suppliers or installers.

- The Green Deal (when fully operational) in England had a number of notable differences to the EELF. For example, there was interest payable on a loan provided through the Green Deal (vis-à-vis interest free loans under the EELF) and the repayments were linked to the electricity meter and were paid back over time through savings on energy bills (which stayed with whoever pays the electricity bill at the property). Under the EELF, the loan is the responsibility of the recipient business and not directly linked to a business premises.

- Discussion with officials from the Department for Business, Energy and Industrial Strategy (BEIS) (Industrial Energy Use Team) indicates that whilst the UK Government has not formed a view on the need for additional financial support to businesses for industrial energy efficiency, it was suggested that there is an awareness of barriers for businesses accessing finance for industrial energy efficiency and decarbonisation investments (which is drawn from BEIS's ongoing work on the Industrial Decarbonisation and Energy Efficiency Roadmaps Project). It was also suggested that BEIS, as part of the Roadmap Action Plans it is developing, is considering how to respond to industry concerns regarding these barriers.

- Looking specifically at those initiatives/ interventions that provide loans (covering a loan value of up to £400k) to businesses and have a broader 'access to finance' focus, the following findings are noted:

  - The loans offered by each of the benchmark funds are subject to various forms and scales of interest rates (e.g. competitive fixed or variable) e.g. the Scottish Local Authority Business Loan Fund offers loans to SMEs at a fixed rate of 6% per annum and the North East Micro-Loan Fund offers fixed interest rates of 7% or 9% (depending on loan size).
  - Similar to the EELF, the majority of those interventions reviewed by the Evaluation Team have a holistic delivery/ management model i.e. they are managed and delivered by external delivery agents who are appointed, typically through a competitive procurement exercise, by Government departments/ agencies.
  - The EELF is a smaller fund than many of the other non-energy efficiency loan funds examined by the Evaluation Team e.g. the Scottish Loan Fund (£113m).
  - Benchmarking consultees were typically either unwilling or unable to provide details on fund management fees thereby making it difficult to compare the cost effectiveness of the EELF management fees with other funds.
  - The EELF offers a more flexible investment range (i.e. £3,000 to £400,000) than the majority of the benchmark funds considered (e.g. the North East Micro-Loan Fund typically offers up to £25,000 and the Scottish Local Authority Business Loan Fund is proposing to offer up to £50,000). Discussions with the fund managers/ delivery agents for the benchmark funds suggest that restrictions applied on the investment range are typically a function of either adherence to EU guidelines (such as support to microenterprises, rather than SMEs) and/ or actions to mitigate against risk of duplication with other offerings in the marketplace.

# 8. NEED & RATIONALE

## 8.1 Introduction

This section of the report considers the ongoing need and rationale for the EELF. It also examines the degree of complementarity with other Invest NI interventions and the extent to which the intervention overlapped, or duplicated, other publicly funded support.

## 8.2 Need and Rationale

A review of the approval documentation[67] provided by Invest NI, along with consultations with Invest NI and the Carbon Trust, suggests that a number of factors combined to provide a strong rationale for Government intervention in the form of the EELF.

At the time of the approvals, research[68] suggested that the transition to a low carbon and more resource efficient economy would require a significant transformation in products, processes and organisations. But it would also create new market opportunities for low carbon and energy efficient products and processes that could benefit new and existing businesses in the UK.

The approval documentation cited the following market failures which provided the rationale for Government intervention in form of the proposed EELF (as part of a suite of support offerings):

- **Information Asymmetry and Risk Aversion leading to Capital Market Imperfection –** It was highlighted that one major source of capital market imperfection was asymmetric information and risk aversion between finance providers and those seeking finance. It was suggested that lenders and investors often lack adequate information to assess the quality of a business proposal (e.g. the initial capital costs and the potential long payback periods associated with investment in energy/ resource efficiency projects) and equally those seeking finance often find it difficult to prove the quality to investors and lenders. As a result, it was noted that the supply of finance may be constrained for businesses investing in resource/ energy efficiency.

  In addition, it was reported that SMEs are particularly susceptible to a lack of available finance for the purposes of introducing energy efficiency measures for the following interrelated reasons:

  - Cost: Savings can be significant, however it was reported that energy costs are often one of the smaller costs in the profit and loss account. Given SMEs operate with little time-resource already, management time was suggested to be often focused on more material areas of cost reduction.
  - Finance: For smaller companies, SMEs in particular, finance was an obstacle. Whilst there was some evidence that the finance industry is lending to SMEs, finance was simply unavailable or at a cost that is prohibitive for many SMEs, and could crowd out other investment considered to be more essential to the growth of the business.
  - It was cited that SMEs in particular often have smaller amounts of cash available for upfront investment. A recent survey[69] was cited whereby 26% of SME-respondents stated that they did not have the cash resources, or management time, required to make energy efficiency investments.

- **Information failures** – It was highlighted that the existence of information failures may mean that businesses would be unable to identify potential efficiency gains, which would translate into cost savings and better environmental performance. According to the approval documentation, many

[67] Including: the SPP Economic Appraisal (DTZ, March 2011) and the SDSP Economic Appraisal (Cogent, August 2015).
[68] DIUS (2008) ”Manufacturing: New Challenges, New Opportunities”.
[69] Source: npower (2013) ‘npower Small Business Energy Index 2013’.

businesses face the challenge of reducing their negative impact on the environment without adversely affecting the viability of their business. However, the complexity of environmental components coupled with inadequate information may result in sub-optimal social outcomes. Moreover, even where the information is understood, inertia may still persist – cited in the Stern Review[70] as a key reason for requiring further interventions to complement those aimed at addressing externalities. For instance, it was cited that businesses may perceive the effort associated with realising resource efficiency savings to be far greater than it really is, leading to lower than optimal take-up of resource efficiency opportunities. Therefore, it was suggested that Government support to businesses in the form of advice or funding may be required.

- **Externalities –** It was reported that businesses often only take into account their 'private' costs and benefits i.e. those that affect them and their business. They may not even be aware that their actions have implications on society. Both negative and positive externalities were cited as being generated as a by-product of business outputs. It was stated that Government intervention is therefore required to 'internalise' these externalities, so that the social costs and benefits are taken into account in decision making by businesses, and goods and services are provided at a socially optimal level.

It is the Evaluation Team's view that, based upon its research and consultation with key stakeholders, that these market failures still exist and the rationale for EELF remains valid. Indeed, the following research findings indicate that there is a continued rationale for interventions such as the EELF:

| | |
|---|---|
| **Quarterly Transparency Report[71]** | The findings from the most recent quarterly transparency report suggest that industrial and commercial (I&C) electricity prices in Northern Ireland are still amongst the highest in the European Union. For example, in Northern Ireland the majority (65%) of I&C customers are categorised as being 'very small' i.e. with annual consumption <20 MWh. For these 'very small' I&C customers, electricity prices are reported to be above the EU-15 and UK medians and only marginally lower than Ireland.<br><br>Furthermore, findings from the approval documentation (and previous evaluations) provided by Invest NI indicates that since 2010, energy prices have continued to rise, which Invest NI indicated through consultation presents a significant challenge for Northern Ireland businesses in terms of improving their productivity. Discussion with the Sustainable Development Team also suggests that this issue has been compounded by the fact that there are relatively more electricity providers in Great Britain vis-à-vis Northern Ireland.<br><br>Furthermore, it is reported[72] that investment in energy efficiency measures provides a significant tool for businesses to make the most of an opportunity to protect themselves from future increases in energy demand, price volatility, regulatory compliance costs and ultimately maintaining competitiveness on operating margins with rivals. |
| **'The Business of Energy Efficiency'[73]** | This paper suggests that large UK businesses are paying out more than £1.6bn too much on their energy bills every year because many are yet to seize the full opportunity to cut bills by around 15% through energy efficiency measures. The analysis suggests that energy efficiency is a good financial opportunity for most companies. The paper reports that costs of at least £1.6bn could be saved by the UK's large businesses and that investment is required to seize these savings.<br><br>However, despite potential attractive returns, the report suggests that most companies are yet to fully exploit the cost-saving potential of basic energy efficiency measures. It also suggests that a typical large organisation has the opportunity to save an average of 15% (and often more) cost-effectively on its annual energy bill. This saving is available from approaches and technologies that are well established and understood, such as lighting, heating etc. |

[70] HMT (2006) "Stern Review: On the Economics of Climate Change". Jacobs (2008).
[71] Published by the Utility Regulator (Quarter 4: October – December 2015, published February 2016).
[72] Westminster Sustainable Business Forum and Carbon Connect – 'Building Efficiency: Reducing Energy Demand in the Commercial Sector' (November 2013).
[73] Carbon Trust Advisory Services (December 2010).

| | |
|---|---|
| **Growing a circular economy: 'Ending the throwaway society'[74]** | The UK Government is involved in a number of initiatives to support a more circular economy. However, this report states that the Government should learn from the strategic vision and ambitious targets that other countries have adopted. It should embrace the EU's ambitious targets for improving resource productivity by 30% and support business in achieving the economic and environmental benefits this would bring. It should also support the European's Commission's proposals for recycling and the accompanying targets, and use these to drive change.<br><br>The report suggests that many businesses to do not have specialist skills or experience to know how to apply circular economy thinking, which is particularly important for SMEs. It was cited that *"for the SMEs that are the backbone of industry and commerce, time and resources for innovation are often hard to find and they are more reliant on support and encouragement from Government. To this end, maintaining support for businesses through* ***funding mechanisms*** *remain important".* |
| **Economic Advisory Group Research** | In 2012, the Economic Advisory Group (EAG) undertook a review of access to finance for businesses within Northern Ireland. The review considered the availability of finance to Northern Ireland SMEs, the level of uptake and the potential reasons for deficiencies in the market. Subsequently, during 2014, EAG considered it appropriate to re-run the survey to gauge the extent to which conditions in relation to access to finance had changed. In addition, it was intended that the 2014 update[75] would seek to address issues being taken forward by the Access to Finance Implementation Panel, which was set up following the recommendations contained within EAG's March 2013 report.<br><br>This 2014 report presented analyses of data on SMEs' business performance, reliance on external finance, demand for bank loan finance and success rates, as well as collating data on the level of discouraged borrowers, informal applications and extent to which property debt was impacting of SMEs' ability to raise new finance. Key findings contained within that report and which the Evaluation Team considers have a bearing ongoing need for the EELF include:<br><br>• Between 2012 and 2014, there was a substantial increase in the proportion of SMEs that reported that they were 'growing' (40% compared with 16% in 2012) and a decrease in the proportion that described themselves as 'reducing/survival at all costs/winding down' (13% compared with 45%). This applied to all categories of SMEs (i.e. micro businesses, small firms and medium sized firm).<br>• Despite many more SMEs reporting that they were growing, 'access to finance' was ranked only 11th of 13 potential current issues for respondents' businesses, with only 12% of SMEs considering it to be a significant issue in 2014[76]. More prevalent issues for NI SMEs included, *inter alia*, **rising energy costs**.<br>• **Discouraged Borrowers -** Almost 5% of SMEs[77] had considered applying for bank loan finance in 2014 but chose not to. Some 16% of these decided not to apply because they thought the bank would reject their application. 18% cited the 'cost of obtaining finance being too high' as a reason for not applying, however only 12% cited 'uncertainty about the economic climate' as a reason for not proceeding with an application (down from 23% in 2012).<br>• Other factors influencing demand for finance:<br><br>➢ **Terms and Conditions of Finance** - Over half (55%) of SMEs believe that bank terms, conditions and information requirements are more onerous now than was previously the case, though this is greatly down from over 80% who agreed to the same statement in the 2012 survey. |

[74] House of Commons Environmental Audit Committee (17 July 2014).
[75] Business Access to Finance 2014, Economic Research, DETI, March 2015.
[76] This category was not on the 2012 survey, so no comparison is possible. However, the report notes that 'access to finance' was first included on the list of issues on InterTradeIreland's Business Monitor survey in Quarter 2 2013. At this time, approximately 20% of SMEs in Northern Ireland indicated that it was a significant issue for their business.
[77] Please note, the report indicates that caution should be exercised in relation to this analysis, as the numbers being analysed in this section were small. It is not clear within the report which subset of respondents were asked this question.

| | |
|---|---|
| | ➢ **Perceptions of Bank Lending** - Some 40% (N=1,006) of SMEs agreed that banks are currently lending to viable businesses, a large increase from 28% in 2012. As in the 2012 survey, views vary by business size with larger businesses more likely to agree that banks are lending (39% for micro, 49% for small and 64% for medium in 2014).<br>➢ There was evidence that views on conditions of finance and bank lending differed depending on whether SMEs described themselves as 'growing', 'stable' or 'reducing/survival/winding down'. For example, almost half of SMEs who described themselves as 'growing' agreed that banks are currently lending to viable businesses compared to less than a fifth of SMEs who were 'reducing/survival/winding down'. |

Discussion with Invest NI suggest that, whilst there is increasing awareness of the issues around energy and resource efficiency (not least because high and increasing energy costs have a disproportionate effect on the Northern Ireland economy), businesses continue to require support in identifying and implementing improvements. However, as per the findings in Section 4 and Appendix VIII, it is the Evaluation Team's view that the merits and demerits of introducing some level(s) of interest should be factored into any decision making processes (i.e. any future economic appraisal or casework approvals) relating to any future iteration of the loan fund. An assessment should be undertaken to explore whether or not loans issued should, in all cases, be provided at 100% interest free. Consideration should be given to whether the level of interest could/ should vary in line with various factors such as: repeat loan for the same company; repeat loans for the same company for the same technology; size or sector of company etc.

## 8.3 Duplication and Complementarity

This section examines the degree of complementarity with other Invest NI interventions and the extent to which the EELF overlapped, or duplicated, other publicly funded support during the period under review.

In terms of the support available at the Northern Ireland level, the Evaluation Team notes that many of the individual programmes/ initiatives available to businesses in Northern Ireland formed (and continue to form) part of a 'continuum' of support. By way of example, there were (and are) a range of Invest NI Access to Finance initiatives which formed/ form a continuum of support and funding to businesses from pre-seed stage through to full commercial operation[78]. Similarly, programmes such as the Innovation Vouchers Programme, the Collaborative Networks Programme and Competence Centres complement each other, and form part of an 'Innovation Escalator' for businesses to progress from innovation awareness (stage 1) through to a stage whereby they are driving new knowledge in Northern Ireland (stage 5).

Rather than forming part of a continuum of support, discussion with Invest NI and a review of the approval documentation[79] indicates that the EELF, as part of a suite of support offerings (i.e. under the SPP and subsequently the SDSP umbrella) had a distinctive role to play, alongside those other support offerings such as the Industrial Symbiosis Service, the resource efficiency capital grant and the resource efficiency and implementation support (i.e. resource efficiency audits and technical consultancy projects), in terms of assisting businesses to identify and realise cost saving opportunities.

Based on its discussions with Invest NI, the Evaluation Team is of the view that the EELF complemented a range of Invest NI programme/ offerings, including, amongst others, the following:

[78] For example, the Northern Ireland Small Business Loan Fund was launched in 2013 to provide unsecured debt funding (loans ranging from £1,000 to £50,000) to start-up and established micro enterprises, whilst the Growth Loan Fund was launched in May 2012 to provide mezzanine loan finance (loans ranging from £50,000 to £500,000) to SMEs in Northern Ireland demonstrating sales and profitability growth, or growth potential.

[79] Including: the SPP Economic Appraisal (DTZ, March 2011) and the SDSP Economic Appraisal (Cogent, August 2015).

- Productivity Improvement Service;
- Technical Advisory Services and Technical Development Incentive (TDI) Grant Scheme; and
- Innovation Vouchers.

During consultation with Invest NI and representatives from DfE's Energy Efficiency Branch, it is understood that businesses that received a loan through the EELF could, up until it closed for new application in early 2016[80], access DfE's non-domestic Renewable Heat Incentive (RHI)[81] (but only on the basis that the estimated amount of RHI, when coupled with the interest benefit of the loans, was within the EU 'de minimis' limits). Where 'de minimis' limits would have been exceeded, applicants had the option of repaying the loans (or other public support) and receive RHI payments. It is the view of the Sustainable Development Team, and one shared by the Evaluation Team, that the EELF complemented the non-domestic Renewable Heat Incentive.

In considering the above findings, it is the Evaluation Team's view, and one shared by key stakeholders, that the risk of duplication was minimal and that the other interventions available in the marketplace offered the potential to complement the support provided through the EELF and vice versa.

[80] DfE suspended the RHI for new applications from 29th February 2016 onwards but will continue to administer those existing obligations.

[81] The RHI was introduced in November 2012 to the non-domestic sector in order to encourage the uptake of renewable heat in pursuit of the targets outlined in the Programme for Government targets (i.e. to encourage electricity to be generated from renewable sources and renewable heat). Support was provided through a technology based tariff structure (for a 20 year period) for eligible technologies, which was paid on a quarterly basis based on metered heat. The rate was fixed at the point of entry to the scheme and subject to an annual review in line with the Retail Price Index. It is understood that the following technologies were supported: Biomass (reportedly the most popular technology); Biomethane (injection and combustion); Ground Source Heat Pumps; and Solar Thermal.

## 9. VALUE FOR MONEY

This section provides a summary of key Value for Money indicators for the EELF. Based on the preceding analysis, it is the Evaluation Team's view that the EELF delivered Value for Money during the period under review. More specifically, this view is based on each of the following inter-related factors.

**Table 9.1: Summary of Value for Money for the EELF**

| VFM Indicator | Conclusion |
|---|---|
| **Strategic Fit** | In the Evaluation Team's view, there was, and continues to be, clear alignment between the aims and objectives of the EELF and the strategic imperatives of the Northern Ireland Government (including with DETI and Invest NI's Corporate Plans). Specifically, in line with the Government's strategic focus, the activities supported by the EELF offered the potential to encourage businesses, through improved energy efficiency, to reduce their energy costs, energy consumption and carbon emissions, and thereby increase their overall productivity, and to *"support SMEs to identify £60 million of resource and waste prevention savings".* |
| **Need & Market Failure** | Allied to the above, the Evaluation Team considers that the EELF has been successful in contributing to addressing the market failure in relation to the provision of finance to businesses in Northern Ireland in order to implement energy efficiency measures. |
| **Additionality** | Whilst the level of deadweight associated with businesses' implementing their energy efficiency project appears somewhat high at 43%, it is the Evaluation Team's view that this should perhaps not be unexpected due to the following:<br><br>• Only a small proportion of respondents (3% - N=141) indicated that they would *'definitely have undertaken the project (to the same extent and within the same period) in the absence of the EELF loan'* i.e. four responses represented full deadweight.<br>• The survey analysis indicates that in the absence of the EELF, nearly three fifths (59%, N=141) of businesses could have secured the necessary finance elsewhere. However, the analysis indicates that it would have taken the business longer (i.e. 6 months or more) to secure the necessary finance. Similarly, a number of respondents indicated that they may have undertaken the project through their own business finance, however it may have inhibited the scale of which they could do so. The EELF has benefitted many businesses by allowing them to implement energy efficient equipment and/ or renewable technologies projects to a larger extent and in a shorter time period.<br><br>As such, the level of activity additionality (57%) should be viewed positively. Furthermore, the level of impact (65%) additionality indicates that the EELF enabled businesses to realise benefits from the energy efficiency projects that they have implemented. |
| **Duplication and complementarity** | It is the Evaluation Team's view, and one shared by key stakeholders, that the risk of duplication was minimal and that the other interventions available in the marketplace offered the potential to complement the support provided through the EELF and vice versa. |
| **Economy Efficiency and Effectiveness** | **Indicator** \| **Evaluation Team's Commentary** |

| Table 9.1: Summary of Value for Money for the EELF | | |
|---|---|---|
| **VFM Indicator** | **Conclusion** | |
| | **Economy** measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost | As detailed in Section 1, the EELF was appraised and approved as part of a suite of support offerings. The outcomes of the approvals (and appraisal processes) suggested that the level of funding committed by Invest NI during the period under review (i.e. £4.52m) represented the least cost necessary to deliver the required activity levels.<br><br>The contract for the management of the EELF was administered via Letters of Offer (and subsequent addenda), which were based upon requests for funding (in the form of business plans) from the EDO. The Evaluation Team notes that each Letter of Offer or addenda also set out the agreed management and administration costs that were payable to the Carbon Trust per annum. Furthermore, the findings emanating from the benchmarking exercise indicate that the management costs were set in line (i.e. set at 7%) with the most comparable model i.e. the Welsh EELF, which is also delivered by the Carbon Trust.<br><br>On the basis of the above, the Evaluation Team is content that Invest NI has made appropriate effort to ensure that inputs have been obtained at least cost to NI. |
| | **Efficiency** relates to measures that are concerned with achieving the maximum output from a given set of inputs | Each individual loan approved through the EELF was subject to a stringent application and appraisal process (as per Appendix I). These processes sought to ensure that the overall loan fund would be utilised for the maximum possible benefit to Northern Ireland.<br><br>As previously discussed, during the period under review the approval for the EELF was (and continues to be) as part of a suite of energy and resource efficiency support offerings to businesses in Northern Ireland. In doing so, the approval documentation did not calculate the estimated economic benefits that would be solely attributable to the EELF.<br><br>Therefore, it is not possible to compare whether the actual outputs are in line with those anticipated at the outset of the loan fund.<br><br>However, the monetary analysis undertaken as part of this Evaluation estimates that the loans disbursed up to and including December 2015 is expected to deliver £111m in gross lifetime energy cost savings and £72m in net additional lifetime energy cost savings.<br><br>As such, the EELF activity up to December 2015 is expected to return at least £2.10 for every £1 of full economic cost. Therefore, the EELF is considered to have delivered maximum outputs from the inputs and therefore has offered cost efficiency. |

<table>
<tr><th colspan="2">Table 9.1: Summary of Value for Money for the EELF</th></tr>
<tr><th>VFM Indicator</th><th>Conclusion</th></tr>
<tr><td></td><td>
<table>
<tr><th>Indicator</th><th>Evaluation Team's Commentary</th></tr>
<tr><td>Effectiveness measures are concerned with showing the extent to which aims, objectives and targets of the project are being achieved</td><td>At this stage, each of those objectives that are considered relevant to the EELF have been achieved. Therefore, the effectiveness measure of VFM was achieved.</td></tr>
</table>
</td></tr>
<tr><td>Cost effectiveness</td><td>Given the level of net additional lifetime energy cost savings (i.e. £72m) and the full economic costs (i.e. £34,519,515) during the period under review, the expected return-on-investment is at least £2.10 for every £1 invested.</td></tr>
<tr><td>Economic Efficiency test results</td><td>From a monetary perspective the analysis suggests that the EELF is expected to contribute:<br><br>• £9.6m in gross annual energy cost savings for businesses and £111m in gross lifetime energy cost savings; and<br>• £72.4m in net additional lifetime energy cost savings.<br><br>In addition, the EELF is expected to contribute 682,000 $tCO_2$ in gross lifetime $CO_2$ savings and 443,000 $tCO_2$ in net additional $CO_2$ savings.<br><br>The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including, inter alia, other cost reductions (e.g. reductions in equipment/ technology maintenance costs), enhanced business reputation, reductions in noise pollution and production of heat at businesses' premises and it led to new or more efficient processes within businesses.<br><br>The EELF has also contributed to providing the Northern Ireland economy with a number of other wider (including knowledge transfers) and regional (including the innovative nature of the project) benefits.</td></tr>
</table>

# 10. CONCLUSIONS & RECOMMENDATIONS

## 10.1 Introduction

The section presents the Evaluation Team's key conclusions and recommendations arising from the evaluation process.

## 10.2 Conclusions

### *10.2.1 Strategic Context*

The strategy/ policy review clearly highlights the importance that the Northern Ireland Executive placed (and continues to place) on:

- Increasing the productivity of Northern Ireland businesses through, *inter alia*, reducing their cost base;
- Contributing towards more efficient use of energy within Northern Ireland businesses; and
- Reducing greenhouse gas emissions.

In the Evaluation Team's view, there was, and continues to be, clear alignment between the aims and objectives of the EELF and the strategic imperatives of the Northern Ireland Government (including with DETI and Invest NI's Corporate Plans). Specifically, in line with the Government's strategic focus, the activities supported by the EELF offered the potential to encourage businesses, through improved energy efficiency, to reduce their energy costs, energy consumption and carbon emissions, and thereby increase their overall productivity, and to *"support SMEs to identify £60 million of resource and waste prevention savings".*

### *10.2.2 Operation and Delivery*

Discussion with representatives from the Carbon Trust indicates that, whilst the key features of the loan fund have remained largely unaltered since April 2010, there were a number of internal changes relating to how the loan fund was (and is) managed and governed. The Evaluation Team is of the view (and one which is shared by Invest NI) that the EELF was managed and delivered by the Carbon Trust in a proactive and efficient manner and that the governance and management arrangements implemented were robust.

Indeed, during consultation it was suggested by representatives from Invest NI that they instigated a number of non-material changes to the loan fund in recent years (i.e. post April 2013), which were subsequently adopted by the Carbon Trust and have resulted in a providing a more efficient support offering to businesses. During consultation, a number of Northern Ireland based suppliers involved in the EELF suggested that the application and assessment process (including the Energy Savings Assessment) was, as one might expect, stringent and appropriately proportionate with the levels of finance being sought.

Neither Invest NI nor the Carbon Trust had dedicated marketing budgets specifically for the EELF. Nonetheless, the Evaluation Team's review of monitoring materials indicates that there were certain types of activities undertaken by both parties during the period under review that would have assisted, to some extent, to market and promote the loan fund to businesses throughout Northern Ireland. These included, for example, various events focused on 'wider' resource and energy efficiency across Northern Ireland, workshops facilitated by Invest NI's Sustainable Development Team, promotion on Invest NI, the Carbon Trust and some of their partners websites etc.

Discussion with Invest NI and representatives from the Carbon Trust indicates that, whilst there was no dedicated marketing budget for the EELF, this did not adversely impact on the demand for loans during the period under review. Furthermore, during consultation, a representative from the Carbon

Trust expressed their view that suppliers, and to a lesser extent Invest NI's Technical Advisors, have become important stakeholder groups in terms of raising awareness of, and stimulating demand for, the EELF throughout Northern Ireland.

Monitoring information provided by Invest NI indicates the following activity took place during the period April 2010 – December 2015:

- 920 loans were offered to businesses with a total value of £27.7m.
- There were 775 loans, with a value of £23m, which were successfully accepted by 590 unique businesses. These loans contributed, or are contributing, towards delivering projects with an estimated total cost of £35.3m.
- The majority of businesses (94%) were offered either one or two loans through the EELF. However, there was a small proportion of businesses (circa 2%-3%) that were offered more than 5 loans during the period under review. In those small number of instances when a business received more than 5 loans, it is notable that they were typically used to purchase/ install the same type of equipment.
- The majority (91%) of the loans that were accepted by businesses were either 'live' (62% - N=775) or 'complete' (29% - N=775). These loans equated to a total value of £20.9m and contributed, or are contributing, towards delivering projects with an estimated total cost of £32.4m.
- There were 145 loans, with a value of £4.6m, offered to businesses that were subsequently withdrawn by either the applicant or the Carbon Trust. Discussion with the Carbon Trust suggests that there were a variety of reasons for withdrawal including, for example, insufficient/ incomplete information was provided (e.g. signed loan agreements or suppliers invoice not provided), business' had other priorities etc.
- There was a small proportion (4% - N=775) of the businesses that accepted loans that have been unavailable to make the stipulated repayments. These businesses are either: insolvent; escalated to management for a write off; legal proceeding commenced; or in arrears.
- The number of applications made to the EELF per annum was broadly consistent across the period, albeit there was a marginal 'spike' in applications (N=380) between April 2014 and March 2015.
- There were 693 applications from businesses that were, for a variety of reasons, categorised as unsuccessful. Over a quarter (26% - N=693) were withdrawn by the Carbon Trust (e.g. insufficient information provided in application form etc.) and over a fifth (21% - N=693) did not pass the requisite credit checks.
- A review of monitoring materials provided by the Carbon Trust indicates that there were 228 unique equipment suppliers that were, or are, involved in installing energy efficient equipment and/ or renewable technologies[82]. Encouragingly, nearly all (90% - N=775) of those projects that were supported by an EELF loan were completed by suppliers based in Northern Ireland.
- Over a third (34% - N=775) of the businesses that were offered and accepted a loan operate within the retail sector, whilst 17% (N=775) operate within a variety of manufacturing sub-sectors. These loans equated to a total value of £4,884,774 and £6,049,187 respectively.
- The majority (59% - N=775) of loans offered and accepted were to invest in new lighting technology or equipment. The average loan value for this type of equipment equated to £20,058 and ranged from £3,004 - £144,122.

Invest NI has advised the Evaluation Team that circa £4.5m was invested or 'injected' into the EELF between April 2010 and December 2015. Discussion with Invest NI indicates there were a range of other internal costs (e.g. staff costs, costs associated with economic appraisal and evaluation etc.) associated with delivery of the EELF, which equated to £310,330.

A review of monitoring materials provided by the Carbon Trust indicates that the £4.5m injection provided by Invest NI, along with monies previously invested in the loan fund since 2003, enabled 775 loans to be offered to businesses in Northern Ireland with a total value of circa £23m. The average percentage of bad debt during the period under review was 2.2%, although it peaked at 4.5% in 2014/15. During consultation, the Carbon Trust advised that the average default rate for the EELF (since its launch in 2003) was 3.3%.

[82] As detailed in Appendix I, the Carbon Trust does not endorse any specific equipment suppliers albeit applicants can however refer to the Carbon Trust's list of Accredited Suppliers (which is not specific to the EELF).

Nearly all of those recipients that were offered, and have drawn down a loan indicated that they had applied to the EELF due the fact that there is no interest payable on the loan. This finding suggests that the EELF provides an attractive and alternative source of finance when more traditional sources (such as bank lending) are considered to be more expensive for businesses.

On an overall basis, recipient businesses were satisfied with the support provided through, and the terms and conditions of, the EELF. Similarly, businesses which applied to the EELF but subsequently withdrew and those that were unsuccessful or have yet to fully complete their application were satisfied with the EELF on an overall basis, but the levels of satisfaction were (perhaps understandably) lower amongst these businesses.

The survey analysis evidenced that over half (52% - N=141) of recipients indicated that they would be willing to pay some level of interest on an EELF Loan if it was required in the future (i.e. on subsequent loans). Nearly half (46% - N=39) of respondents who were able to give an indication of what interest rate (in percentage terms) they would be prepared to pay, indicated that they would pay an interest rate of 3% or greater.

### *10.2.3 Duplication and Complementarity*

It is the Evaluation Team's view, and one shared by key stakeholders, that the risk of duplication was minimal and that the other interventions available in the marketplace offered the potential to complement the support provided through the EELF and vice versa.

### *10.2.4 Performance and Impact*

Based on the feedback from those businesses in receipt of support, the following key conclusions can be drawn in relation to the impact made by the EELF during the period under review:

- The level of 'impact additionality' (65%) is greater than the level of 'activity additionality' (57%) indicating that respondents recognise the importance of being able to undertake their energy efficient equipment or renewable technology project sooner or to a greater extent than would have been the case in the absence of the EELF loan.

- Positively, from a monetary perspective the analysis suggests that the EELF is expected to contribute:

  - £9.6m in gross annual energy cost savings for businesses and £111m in gross lifetime energy cost savings; and
  - £72.4m in net additional lifetime energy savings.

- In addition, the EELF is expected to contribute 682,000 $tCO_2$ in gross lifetime $CO_2$ savings and 443,000 $tCO_2$ in net additional $CO_2$ savings.

- The feedback from businesses also suggests that the support has assisted them to realise a number of non-monetary benefits including, *inter alia*, other cost reductions (e.g. reductions in equipment/ technology maintenance costs), enhanced business reputation, reductions in noise pollution and production of heat at businesses' premises and it led to new or more efficient processes within businesses.

- The EELF has also contributed to providing the Northern Ireland economy with a number of other wider (including knowledge transfers) and regional (including the innovative nature of the project) benefits.

*10.2.5 Return-on-Investment and VFM*

The EELF is different to other grant type interventions offered by Invest NI, in terms of the cost incurred by Invest NI when account is taken for the repayment of loans.

For the purposes of this assignment, the Evaluation Team, in agreement with Invest NI, presented two return on investment scenarios, which are detailed in the following table. The first scenario relates to the full economic costs associated with the EELF project (including Invest NI loan values, private match funding, all EDO management/ administrative costs and Invest NI internal costs). The second scenario relates to the economic costs excluding businesses' contributions.

| **EELF Return-on-Investment** | | |
|---|---|---|
| | **(£)** | **Return-on-Investment** |
| Net additional Lifetime Energy Cost Savings | £72,433,285 | £1:£2.10 |
| Full Economic Cost | £34,519,515[83] | |
| Net additional Lifetime Energy Cost Savings | £72,433,285 | £1:£3.15 |
| Economic Cost excluding businesses' contributions | £22,981,874[84] | |

The net additional lifetime energy cost savings (as presented above) will have been achieved at a full economic cost to the economy of circa £34.5m over the April 2010 to December 2015 period. On this basis, the return-on-investment will equate to £2.10 for every £1 invested.

The economic cost to Invest NI, of circa £23m, will generate circa £72.4m of net additional lifetime energy costs savings in the Northern Ireland economy. However, to reflect the 'recycling' or 'revolving' nature of the loan fund, and the fact that loans are interest free, the actual financial costs of the loan fund to Invest NI during the period under review are estimated to be:

- £2.3m (excluding Invest NI internal staff etc. costs of circa £310,330); or
- £2.6m (including Invest NI internal staff etc. costs of circa £310,330).

It is the Evaluation Team's view, based upon all available evidence, that the EELF delivered VFM in respect of the costs incurred during the period under review.

[83] This equates to the total value of the 707 loans disbursed (i.e. £14,418,870 + £6,474,380) plus businesses' contribution of £11,537,641 (i.e. £32,430,891 - £14,418,870 - £6,474,380) to the total project costs plus internal Invest NI costs (i.e. £310,330) plus the EDO Charges (i.e. £1,778,294) as per Sections 3.6.2 and 3.6.3.

[84] This equates to the total value of the 707 loans disbursed (i.e. £14,418,870 + £6,474,380) plus internal Invest NI costs (i.e. £310,330) plus the EDO Charges (i.e. £1,778,294) as per Sections 3.6.2 and 3.6.3.

## 10.3 Recommendations

The Evaluation Team has set out below a number of recommendations for Invest NI's consideration:

1. Moving forward, Invest NI should ensure that all monitoring data (e.g. contact details for applicants etc.) and manuals pertaining to how the EELF is managed and administered should, in line its data protection policy, be provided, when required, to Invest NI by the appointed EDO.

2. Linked to recommendation 1, as part of the application process, the appointed EDO should advise businesses that their details will be retained for monitoring and for internal and external evaluation (e.g. to assess customer satisfaction).

3. The merits and demerits of introducing some level(s) of interest should be factored into any decision making processes (i.e. any future economic appraisal or casework approvals) relating to any future iteration of the loan fund. An assessment should be undertaken to explore whether or not loans issued should, in all cases, be provided at 100% interest free. Consideration should be given to whether the level of interest could/ should vary in line with various factors such as: repeat loan for the same company; repeat loans for the same company for the same technology; size or sector of company etc.

4. Whilst the stipulations set out in the Letters of Offer suggests that the EDO, in managing the EELF, should be compliant with equality legislation, it does not necessarily indicate that the EDO was (or will be) compliant. Moving forward, loan applicants should complete an 'Equal Opportunities Monitoring Form' or equivalent and these should be held on file by the appointed EDO. The captured equality data should then be analysed appropriately, thereby providing specific assurance that there are no particular issues in relation to uptake.

5. Invest NI should, similar to the most recent approval documentation relating to the EELF[85], continue to place emphasis upon establishing an appropriate mix of Specific, Measurable, Achievable, Realistic and Time-dependent (SMART) activity, output and outcome targets for any future iteration of the EELF (i.e. any future economic appraisal or casework approvals). These should be focused and linked with the overarching aims and anticipated outcomes of the EELF.

[85] SDSP Economic Appraisal (Cogent, August 2015).