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Deliverable Report
Deliverable No. D1.14
Eco-Building Retrofitting - Final Report

CONCERTO INITIATIVE
SERVE

Sustainable Energy for the Rural Village Environment

Date: 31st October 2011

Author: North Tipperary County Council

Version: 1.0

CONCERTO is co-funded by the European Commission

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1 Introduction

This report presents the final conclusions from the eco building retrofitting actions. It presents the work completed in the final period of the work package and presents the overall results in terms of works implemented. The analysis of energy and CO2 savings from the actions are being assessed as part of the monitoring aspects of the SERVE Project.

This report can be read in conjunction with the following previous reports

- SERVE D1.1 EcoBuildings Retrofitting Phase 1
- SERVE D1.8 WP1 Summary of Options HES Cooperation Final
- SERVE_D1.11 Quality Assurance and Standards
- SERVE_D1.12 Eco Building Retrofitting Progress Report Final

These reports are included in the appendices or are available at www.servecommunity.ie

The retrofitting actions are divided into residential and non-residential buildings and the results from each category are presented.

2 Residential Grant Scheme

The SERVE Retrofitting Grant Scheme continued on from 2010 (Year 3 of SERVE) with applications being processed, works inspected and grants paid on a weekly basis. The SERVE Grant Scheme stopped taking applications in Month 42 (April 2011) and works continued to be carried out until Month 47 and payments were made up until Month 48 (October 20110.

Year 4 of the SERE Retrofitting Grant Scheme continued to operate in conjunction with Sustainable Energy Authority of Ireland's (SEAI) Home Energy Saving Scheme for most of the year. In Month 42 SEAI changed their scheme to the Better Energy Homes scheme which combined their Energy Efficiency and Renewable Schemes. It also reduced its grant levels for the energy efficiency and renewable grant aided measures. However this had no impact in the operation of the SERVE Grant Scheme.

The residential grant scheme covered all types of housing including detached; semi detached and terraced houses. Applications came from homeowners, landlords and local authorities and this ensured that funding was distributed to a large range of housing stock.

Pictured to the left are representatives of North Tipperary County Council and a homeowner who availed of SERVE Funding.

The scheme was promoted throughout the year with additional promotion to announce the closing of the scheme. The scheme was promoted through local press, radio, newsletters, community information meetings, poster and leaflets.

Figure 2-1: Sample promotional material

2.1 Results Achieved

In period 4, 199 residential applicants were processed and paid. This amounted to 31,826.40 m^2. The final number of applications was 428 with 347 proceeding to complete works. The majority of applicants who withdrew from the scheme did so due to financial constraints. The final breakdown of houses with works completed is:

Phase/Year	*No. of Houses*	*m2*
Pilot Phase – Year 1	2	276.64
Pilot Phase – Year 2	35	6,904.39
Phase 2 – Year 2	22	3,212.71
Phase 2 – Year 3	28	3,948.94
Phase 3 – Year 3	60	8,578.26
Phase 3 - Year 4	199	31,826.40
Total	**346**	**54,747.34**
Target		55,000
% of Target Achieved		**99.54%**

Table 2-1: Summary of Residential Applications

The significant level of engagement and works completed in Year 4 of the project is evident from the data above. This was driven by a number of factors including

- Building up a critical mass of retrofitting actions in the region as that interest grew in the action
- Addressing issues with National Schemes during Year 1 and 2 which restricted activity

- The fact that the availability of financial support was ending in April 2011

The measures carried out and their frequency is detailed in the chart below. It is clear that the main areas of activity were in relation to insulation (attic and wall) and heating systems (new boilers and controls). Lower numbers of building owners implemented the more advanced or alternative solutions e.g. external wall insulation or advanced heating controls

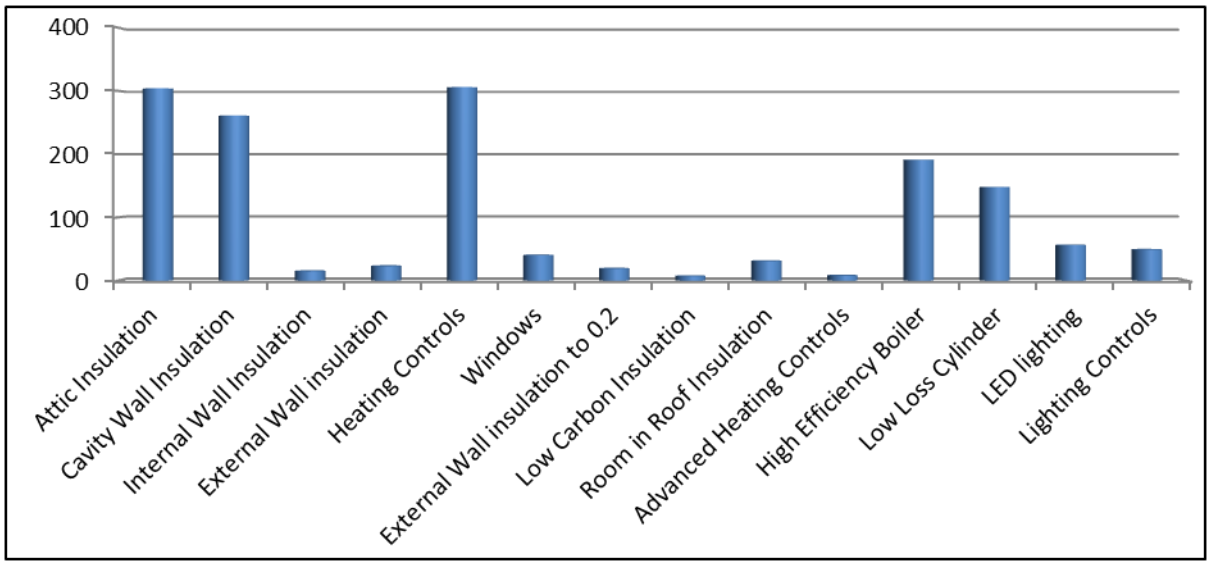

Figure 2-2: Measures Implemented and their frequency

2.1.1 Register of Suppliers/Installers

The scheme continued to use the SEAI's National Register of Contractors under the Home Energy Saving Scheme and to use the SERVE Register of Suppliers/Installers for Windows.

2.2 Inspections & Technical issues

The total number of Work Package 1 residential inspections completed in Period 4 was 36. This is an inspection rate of 18%.

The number that required works to be rectified/improved ("call back") is 4. This is 11% of units inspected and 1% of overall applicants.

The issues encountered were as follows:

- Attic Ventilation
- Pipe Insulation on Primary Pipe work

In all cases the contractor returned to inspect the issue and the items identified were easily rectified. The repeat work of the contractor notably improved.

Figure 2-3: Sample Installations (Hot water Cylinder, Attic Insulation, Heating Controls)

3 Non Residential Scheme

The Non Residential Grant Scheme gathered momentum in Period 4 with 9 building carrying out works under the SERVE Scheme. These included Public Buildings, Schools, Community Buildings and Commercial Buildings.

The final number of applications for the Non Residential Grant Scheme was 25. The number of applicants who had works carried out is 11. These included Public Buildings, Schools, Community Buildings and Commercial Buildings.

Figure 3-1: SERVE Non Residential Building Upgrade

14 of the applicants were ineligible or withdrew their application. This included a large hotel and community school with combined square meters of 10,152. The non residential applicants withdrew their applications primarily due to inability to secure co-funding for the works or other funding issues. Every effort was made by the SERVE project team to achieve the targets (or perhaps exceed the targets). However, as the larger building withdrew their applications at a late stage no alternative allocations of funds is possible, as any works would not have been completed within the SERVE timeframe.

Phase/Year	*No. of Buildings*	*M2*
Phase 2	2	1477
Phase 3	9	8,449.50
Total	**11**	**9,926.50**
Target		10,500
% of Target Achieved		**94.54%**

Table 3-1: SERVE Non Residential Achievements – Final m^2

The measures carried out and their frequency is detailed in the chart below. Similar to the residential scheme the key focus was on insulation (walls and attic) and heating systems. To a greater extent there was potential to implement a greater range of lighting actions in the non-residential buildings.

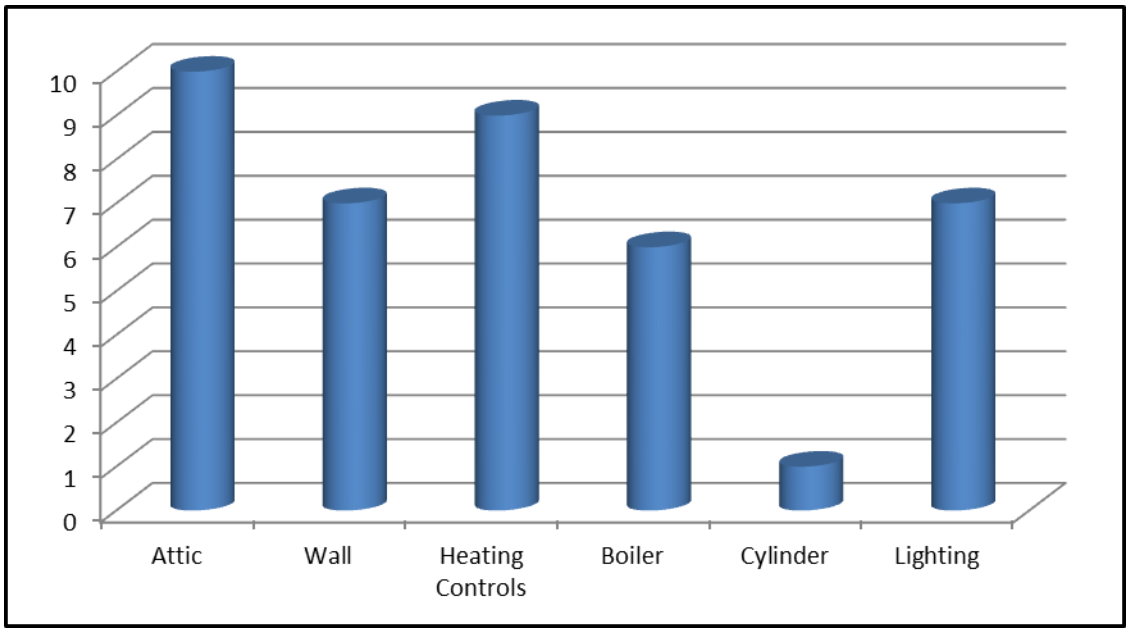

Figure 3-2: Measures and Frequency – Non Residential

3.1 Inspections & Technical issues

There were 11 non residential projects completed through SERVE in Work Package 1. The TEA completed inspections on all projects post works.
In the main the projects were completed to a good standard with minor items arising in 4 inspections.

- Ventilation in attics
- Draught stripping
- Primary pipe work insulation omitted

There were some major issues encountered in the Energy Efficiency works completed on the agricultural college. Tipperary Energy Agency worked with the college and the contractor to resolve the items arising and through cooperation and additional works the measures were resolved.

4 Conclusion

The final overall figures for Work Package are outlined in the table below. In principle the eco building retrofitting action has been a success. The anticipated targets were all but achieve with an overall completion rate of approximately 99%. The partners involved had to work extremely hard during Year 2 and 3 of the project to generate significant momentum within the SERVE region. The project team overcame a number of barriers including

- Developing a suitable model to work with the National Retrofitting Scheme
- Organising a range of promotional activities to spread the word about the SERVE Project and the supports available
- Dealing with building owners who had to withdraw from the scheme despite having committed to completing works.
- Working with the constraints of the financial crisis in Ireland

Square Meters	*Residential*	*Non Residential*	*Overall Total*
Total	54,747.36	9,926.50	64,673.86
Target	55,000	10,500	65,500
% Achieved	99.54%	94.54%	98.74%

Table 4-1: Overall WP1 m^2 completed works

Appendix 1: SERVE D1.1 EcoBuildings Retrofitting Phase 1

Project Acronym: SERVE REF EC: (Project Number) TREN07/FP6EN/S.07.71106/038382 REF (project coordinator org.): DOCUMENT: REF.:	Project Coordinator: Seamus Hoyne Project coordination org.: Tipperary Rural and Business Development Institute Date: 25th November 2008 Revision: 1

Deliverable Report
Deliverable No.: 1.1
Work Package No: 1

CONCERTO INITIATIVE
SERVE
Sustainable Energy for the Rural Village Environment

Integrated Project

PRIORITY 6: Sustainable development, global change and ecosystems. Sub-priority: Sustainable energy systems.

Eco Building Retrofitting Phase 1 Progress Report

Date: 25th November 2008

Author: Attracta Lyons (NTCC), Sheila Healy (NTCC), Paul Kenny (TEA)

Version: Final

CONCERTO is co-funded by the European Commission

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1 Introduction

The Objectives of WP1 within the SERVE project are.

- To target 500 buildings the Community Cluster (residential, commercial and public buildings) which will represent a typical profile of the residential, commercial and public buildings in the region. 90% of buildings will be residential. 40% of buildings (200) will be retrofitted by Month 18 and 100% completed by Month 36.
- Residential buildings will be selected based on age, building type (detached, semi-detached, communal building etc.), ownership type (owned, rented etc) and accessibility for demonstration. Tertiary buildings will be selected from a pool of 12 schools, five Local Authority Buildings, 100 Commercial Buildings and five public health buildings.
- Heat Energy Rating (HER) of the residential buildings to be reduced from 170 kWh/m²/yr to 100kWh/m²/yr for heating (space and water heating) (in line with 2006 National Building Standards).
- High performance insulation materials to be used (Argon Low-E Glazing, Low embodied energy insulation materials, high percentage of recycled materials) to achieve the following U-Values: Windows <2.2 W/m^2 K , Walls < 0.27 W/m^2 K and Roofs < 0.16 W/m^2 K(in line with 2006 National Building Standards)..
- New wireless heating control systems (developed by an Irish SME (www.comeraghcontrols.com) to be utilised in 20% of all buildings.
- All heating systems installed will demonstrate the most efficient technology (oil fired condensing boilers (80% efficient), wood stoves/boilers (60-90% efficient).
- To demonstrate the implementation the EU Energy Performance of Buildings Directive (EPBD) for existing buildings in Ireland 12 months ahead of the National proposed date (January, 2009). 200 Buildings to be rated by Month 18 with all buildings to be rated by Month 36.
- To reduce energy demand for target buildings from 15,700MWh/yr to 10,000MWh/yr by Month 36.

The original plan was for the WP to have two phases. Phase 1 would run from M0 to M18 and Phase 2 from M19 to M36.

It has been necessary to adjust the time periods of the Phases to reflect changes and evolving measures in the area of retro-fitting in Ireland. In particular the development of similar National support scheme for energy upgrades of existing dwellings has affected the SERVE WP1. Details of how the SERVE project has had to adjust its targets and work programme as a result of this are outlined below.

The WP Team have now determined that the following are more appropriate Phases to implement the programme over

- Phase 1: M0 to M13
- Phase 2: M13 to M25
- Phase 3: M25 to M36

Details of the actions and results in Phase 1 (Section 2) are provided below along with plans for Phase 2 (Section 3).

2 Phase 1 Results – Month 0 to 12.

2.1 The SERVE Region

2.1.1 Demographics

According to the 2006 census the population of North Tipperary in 66,023 and this represents an increase of 8.2% or 5,013 on the 2002 figure. The SERVE region has a total of 24 District Electoral Divisions (DEDs). The population in the SERVE region in 2002 was 10,893 and the initial focus on the project was on the major population areas targeting a population of approximately 4,700 people.

Full details of the populations within the SERVE Region are provided in Appendix 4.

2.1.2 Household Types & Ages

Following the Census of 2006 additional information is now available to the SERVE partners with regard to household types. This data provides for information to the WP team to focus their activities. The data re-emphasises the fact that 92% of dwellings in the SERVE region are houses or bungalows with the remainder being apartments/other or not stated (Appendix 6).

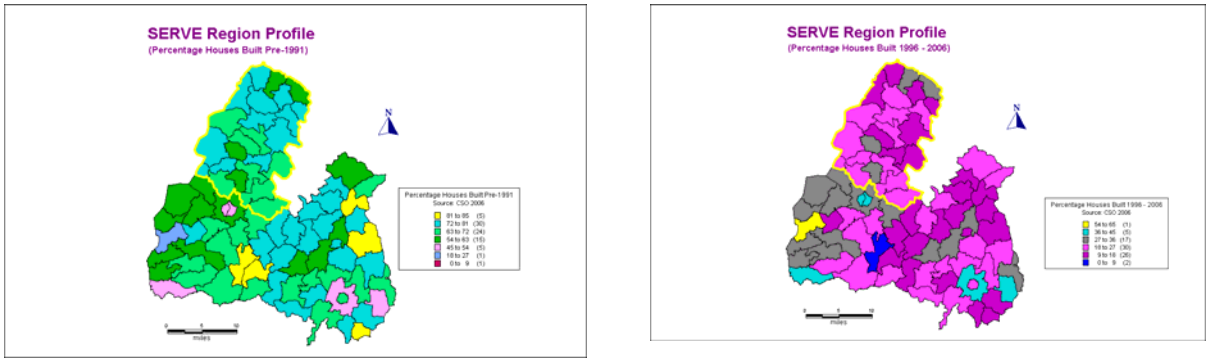


Figure 2-1: House Age (Pre 1991 – left); (1996 – 2006 – right)

Analysis has also been completed to determine the age cohorts of the dwellings within the region (See Figure above). This confirms the fact that a high percentage of dwellings have been built pre 1991 (approx 60%). Building standards in relation to energy were poor prior to 1991 and therefore these houses offer significant potential for energy efficiency upgrades.

2.2 Action Packages and Support Scheme Establishment

NTCC and the TEA completed considerable work from November 2007 to February 2008 on defining and developing details of the Action Packages (hereafter called grant support packages) to be provided in the SERVE region as part of Work Package 1 (WP1). Plans were in place in March 2008 to launch the scheme with actions identified, register of suppliers in place and a PR campaign identified. In February 2008 the Minister of Communications Energy and Natural Resources announced that he would be implementing a Pilot Home Insulation Scheme (hereafter called the Home Energy Savings Scheme). The WP1 partners identified the opportunity to work with the Pilot scheme to ensure close cooperation and avoid confusion for the building owners.

- Dormer Bungalow built in 1994
- 100mm cavity wall with 50mm HD EPS in the cavity
- 100mm Fibreglass between joists over gorund floor
- 100mm Fibreglass between rafters around dormers and between joists over 1st floor roof.

- Dormer Bungalow Built in 1970
- 75mm Cavity Walls. Cavity walls were filled with bead insulation 1999.
- No insulation around dormer rooms
- Adjoining Garage on South Gable with flat roof.

- 3 bedroom bungalow built in 1979
- 100mm Cavity with 50mm Polystyrene in cavity
- 100mm fibreglass between joists in attic
- Single Glazed Pine Windows
- Sun room built on in 2002 with 100mm cavity

Figure 2-2: Typical Houses in SERVE Region

Sustainable Energy Ireland (SEI) were directed by the Department to implement the Home Energy Saving Pilot Scheme (HESS). Both WP1 and the Pilot Scheme focused on providing grant support to homeowners based on energy efficiency recommendations made following an energy assessment of their home. SERVE were invited to discuss with SEI how both programmes could work together. The benefits for the SERVE Project in working with SEI on the HESS were:

- Creating synergies between SERVE CONCERTO funding and additional National funding streams for energy assessment and support for high cost measures e.g. window upgrades
- National prominence due its involvement with this pilot scheme launched by the Minister of Communications, Energy and Natural Resources. The SERVE Project received national and local media coverage, coverage on promotional material and websites, all of which contributed to increased information dissemination.
- Reduced energy assessment cost for the homeowner. The cost of the assessment has been reduced from €250 to €100 for Phase 1 of the SERVE Project as the Pilot HESS has supported this aspect
- Involvement in the development of the nationally approved methodology for Building Energy Ratings (BER). This methodology was used for all of the energy assessment carried out in the SERVE area.
- Influence and impact on future policy relating to the implementation of the EPBD for existing dwellings in Ireland from January 1st 2009 and the national rollout of the Home Energy Saving Scheme under the Programme for Government in 2009.
- Potential for comparison of data from SERVE with other areas under the HESS Pilot, namely Limerick and Clare Counties, and Dundalk Town.

The WP team decided that it would be appropriate to proceed with working with SEI on the implementation of the pilot HESS. This did however necessitate some adjustment of the timelines for Phase 1 of WP1. This was due to the following factors:

- Need to finalise administrative systems with SEI
- Definition of agreed support measures and levels of support between SERVE and SEI
- Definition of the methodology for completion of energy assessments.

Figure 2-3: Minister Announces Pilot Insulation Scheme

As a result the finalised timelines for Phase 1 of the SERVE WP1 were:

- Launch of scheme: 24th April 2008
- Expression of Interest Period: 8th May 2008 to 30th September
- Grant Claim Deadline: 21st November 2008

Working with Sustainable Energy Ireland on the Home Energy Saving Scheme delayed the roll-out of Work Package 1. In addition, another condition of the SERVE involvement with the HESS was the

need to have all works completed by 21st November 2008 to allow payments to be made via the Local Authorities. However, the WP1 partners determined that the benefits outlined above, outweighed the disadvantages and would also allow the SERVE project to further refine Phase 2 of its grant scheme in 2009.

During the process of working with the National Home Energy Savings Pilot Scheme the SERVE project team insured that the principles of the SERVE and CONCERTO targets were not affected. The SERVE Project and WP1 team had a strong influence on the structure of the National Pilot. The key aspects which the SERVE project influenced

- Definition of the survey methodology and systems to be used for energy assessments.
- Revising the Advisory Report received by the homeowner so that it demonstrated actual energy savings as a result of measures implemented.
- Continued feedback to National EPBD team on technical and administrative issues.

This has culminated in the fact that a significant portion of the design of the next year's national scheme is to be completed by the Tipperary Energy Agency. This will allow for ease of integration of the SERVE project with the National HES Scheme. An additional deliverable report has been produced which summarised the input to the National Programmes on Retro-Fitting (D1.4). The TEA is currently producing a number of reports for Sustainable Energy Ireland with recommendations for future schemes. These reports address the quality control issue with regard to energy assessments and also measures which should be supported and to what level in future programmes.

2.3 Phase 1 implementation and take-up

The SERVE Grant Scheme, in conjunction with the National Home Energy Saving Pilot Scheme was launched on the 24th April 2008 and opened for expressions on interest on the 8th May.

- There were 191 Expressions of Interest received in the SERVE region.
- Of these 191 expressions of Interest, 170 proceeded to have an energy assessment of their building completed and subsequently were offered grant-aid.
- 42 people accepted the offer of grant-aid.
- 127 people officially rejected the offer. The majority of rejections of offer were due to an inability of the homeowner to have the necessary retrofitting works completed in the short timeframe of the pilot project. As a result, 80 of these homeowners want to be contacted regarding Phase 2 of the SERVE Grant Scheme in 2009. 1 applicant is actually a commercial applicant and will be eligible in phase 2
- There are 2 houses with works completed and requests for payment made in the period covered by this report(1st November 2007 to 31st October 2008). The remaining 40 dwellings will have their claims processed by December 2008 (Month 14).

There was extensive dissemination activities undertaken to promote the WP1 Grant Support scheme and details of the various activities are provided in Appendix 7. Dissemination and promotional activities included:

- Meetings with Community Leaders as identified in Annex I
- Mailings to members of Community and Voluntary Forum
- Radio Interviews
- Advertisements and articles in Local Press
- Article in National Magazine – Construct Ireland
- Poster Display in SERVE region
- Local Information Notes

Figure 2-4: Minister Eamon Ryan visits North Tipperary to review progress on SERVE project.

The application process and corresponding documents are outlined in Deliverable 1.1 but in summary the scheme supported the following measures within a dwelling:

- Roof insulation
- Wall insulation
- Heating controls

The SERVE project did not support window/glazing upgrades from CONCERTO funds but the SEI HESS funds did support window upgrades and NTCC administered these grants for SEI.

The following Appendices include details of all of the documentation utilised during the administration of the scheme.

- Appendix 8: Application Process For Grant Aid
- Appendix 9: Serve Phase 1 Application Process Documents
- A9.1: Expression Of Interest Forms – Phase 1
- A9.2: Assessor Letter
- Appendix 10: Energy Data Usage Authorisation Forms
- Appendix 11: Advisory Report
- Appendix 12: Letter Of Offer
- Appendix 1: Acceptance Of Offer
- Appendix 14: Request For Payment Letter
- Appendix 15: Request For Payment Form
- Appendix 16: Declaration Of Works

In addition a technical guidance document was produced and this had been converted into an additional WP 1 Deliverable – see deliverable report D1.7.

2.4 Installers and Suppliers

Suppliers and installers who wanted to be registered for the SERVE Project Grant Scheme were required to submit an application form together with tax compliance details, insurance, safety statement and evidence of product quality and experience. To date there are 26 suppliers/installers on the list. The register is continuously updated with suppliers/installers of insulation, heating controls and windows[1]. This register is available on the SERVE Project website www.servecommunity.ie, and from North Tipperary County Council. All applicants received a copy of same.

The current list of suppliers is provided in Appendix 3 along with the process involved in joining the list.


Comhairle Contae Thiobraid Árann Thuaidh
North Tipperary County Council

REGISTER OF SUSTAINABLE ENERGY SUPPLIERS & INSTALLERS

Under the EU funded Sustainable Energy in the Rural Environment Project North Tipperary County Council will be administering a grant-aid scheme supporting energy efficiency (cavity wall and attic insulation, heating controls) and renewable energy (solid wood stoves, wood pellet boilers and solar thermal systems) measures. These measures will be undertaken by 500 homeowners in a specific area of North Tipperary. NTCC now wishes to compile a register of contractors eligible to carry out such works on behalf of homeowners. This register will be made available to grant-aid applicants to facilitate them in their appointment of a contractor.

Information on registration process available from:
www.servecommunity.ie

Signed: Marcus O' Connor
A/Director of Services Planning, Community & Enterprise

Aertel Page 622 Website: www.tipperarynorth.ie
"Working with the Community"

Figure 2-5: Advertisement for Installers/Suppliers Register

[1] During Phase 1 support for glazing upgrades was provided via SEI and the Pilot HESS.

2.5 Energy Assessment Methodology

The houses were surveyed using the pilot methodology for existing dwellings which was being developed as part of the Irish implementation of the Energy Performance of Buildings Directive (EPBD) implementation for existing dwellings. The WP1 partners, in particular the TEA, supported by TI, worked with SEI to train energy assessors who were recruited by SEI as part of the HESS.

The SERVE Project and HESS agreed that only houses which were constructed prior to 2002 would be eligible to participate in the scheme. This date was chosen as it was prior to the introduction of significantly improved building regulations in Ireland. There were many challenges to the introduction of the methodology as testing had to be completed on

- The appropriate survey methodology and defaults to be used in the dwellings
- The revised software for evaluation of results
- The structure of the homeowner Advisor Report
- The National Database for collation of results

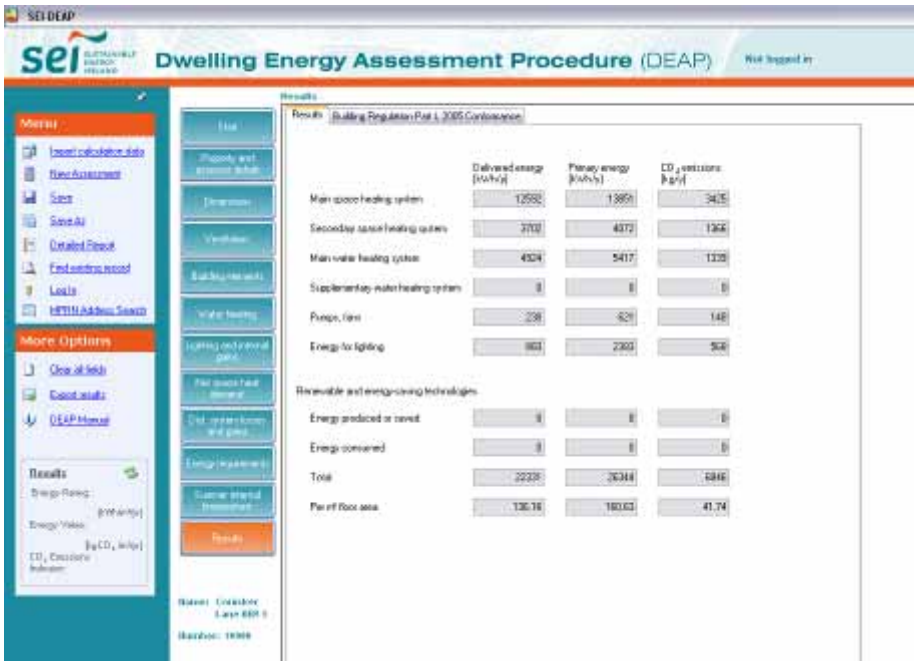


Figure 2-6: DEAP Analysis Software

The above issues meant that the WP 1 team had to provide significant time working with the Pilot HESS partners to ensure adequate quality control and correct assessment of dwellings. The TEA undertook to check each DEAP assessment completed on dwellings in the SERVE region and revised them as required with the assessor.

Appendix 11 provides a sample of the Advisory Report which was provided to the homeowners. This outlined the current performance of the dwelling and recommends relevant upgrades and actions to be taken. The upgrades are clearly shown in terms of grant aided and non-granted aid items.

Recommendations·–·Grant·Aided:¶

¶

The·measures·numbered·1-6·below·offer·the·greatest·value·for·money·in·terms·of·energy·efficiency.··It·is·strongly·recommended·that·these·measures,·at·a·minimum·are·carried·out·to·improve·the·energy·performance·of·the·building.··¶

¶

Building·element¤	Recommendation¤	kWh/ m^2¤	CO_2/ m^2¤	BER¤	Cost¤	Impact¤	¤
Current·energy·performance·of·this·building¤		349.3¤	77.7¤	E2¤	¤	¤	¤
1.· Roof,· Main· dwelling· roof,· Pitched·roof¤	Increase· insulation· to· 2008· building· regulation·standard·where·possible¤	280.6¤	62.79¤	D2¤	Med¤	High¤	¤
2.· Walls,· Main· dwelling·wall,·Cavity·wall¤	Install· cavity· fill· insulation· to· 2008· building· regulation· standard· where· possible¤	217.93¤	49.22¤	C3¤	Med¤	High¤	¤
3.·Walls ·Wall·type·	Install· cavity· fill· or· external/internal·	216.9	49.01¤	C3¤	Med¤	Med¤	¤

Figure 2-7: Sample Advisory Report – Recommendations section

2.6 Energy Assessment Results

Analysis was completed on the data from the 169 energy assessments completed. Key findings are:

- the average energy consumption in the surveyed houses is 367kWh/m^2 /annum versus an expected 210 kWh/m^2 /annum.
- the wall and roof insulation is poorer than anticipated – average Wall U-Value 1.16, average roof U-Value 0.84
- the boiler efficiency and heating system controls are poorer than anticipated – average efficiency of 76%, with poor or no heating controls
- window quality is as expected – mainly double glazing with average 3.2 U-value
- 82% of houses did not have thermostatic control of boilers
- 98% of Hot water cylinders did not have thermostatic controls.

Figure 2-8: Typical Boiler Installation in Existing Dwelling

Many of the dwellings which became involved in Phase 1 of the programme had very poor energy performance and therefore are outside of the normal performance expected. Statistical analysis of the dwellings compared to expected age cohorts and types is on-going and to be completed in December 2008. Phase 2 of the programme will focus on ensuring that the dwellings involved are completely representative of typical housing stock in the SERVE region.

Heating controls surveyed were significantly poorer than anticipated. This was compounded by the significant lack of knowledge of efficiency requirements and needs across assessors, homeowners and installers/plumbers. This is a key point that will need to be addressed on both a SERVE Project basis and on a national basis.

A key innovation product is being introduced into the market by a local controls company. The product is designed as a complete room by room thermostatic control system for retrofit into existing homes. Appendix 2 provides details of the system. Further details can be seen at www.comeraghcontrols.com.

2.7 Energy Upgrade Results

The period covered by this report does not align with the deadlines for homeowners to complete works. Therefore there are limited results available with regard to the impact of upgrades. The analysis which could be completed would only be on 2 houses ((0.4% of target buildings) so not representative. The 42 dwellings which are completing upgrades will have works done by the end of November 2008 (Month 13).

A Case Study of one dwelling involved in Phase 1 has been produced as an additional Deliverable (D1.6). This dwelling has achieved a 32% decrease in primary energy consumption based on the initial upgrades to roof insulation, wall insulation and heating system. Further upgrades to include renewable energy heating systems would increase the savings to 48% compared to the current status.

A detailed analysis has been completed on the results from the 169 dwellings which have been assessed. This information is provided in an additional Deliverable Report (D1.5) due to the extensive nature of the analysis. The following table summarises the total savings which could be achieved if relevant measures were implemented in these dwellings.

Element	Heat Loss (MWh/year)	Rank
Windows – to Double Glazing, 2.0 U Value	184.7	4
Walls – to 0.35 U-Value	673.5	2
Pitched Roofs – to 0.16 U-Value	177	5
Heating System Efficiency – to 97%	1,214.2	1
Heating Controls – to Category 3	608.1	3
Total Savings	2,857.5	

Table 2-1: Analysis of potential upgrades from Phase 1 Assessments.

The analysis highlights that focusing on upgrades to boiler heating system efficiencies makes the greatest impact. Second to this is the focus on wall insulation. The total cumulative savings theoretically could be 2,857 MWh. However, this would be reduced if analysis was done on a cumulative basis as the relative savings would reduce as each measure is implemented. In addition, not all dwellings may implement all measures. Assuming that 50% of savings are achievable this would equate to savings of 1,429 MWh from a sample of 169 dwellings. This equates to savings of approximately 8,500 kWh per dwelling.

If the target 450 dwellings implement such average savings the total savings achieved would be 3,800 MWh. The SERVE region aims to achieve savings of approximately 5,000MWh. It is therefore clear that additional action beyond standard practice will be required to achieve the SERVE targets.

In general, the above analysis highlights the fact that the SERVE targets are achievable in principle. Further analysis of the actual measures which are implemented from those houses in the region which have implemented measures in Phase 1 of WP1 will further assist in defining the appropriate measures to be supported and actions to be taken.

2.8 Energy Monitoring

As the upgrades have not been completed during the timeframe of this report detailed monitoring results are not available. However, energy bill data will be accessed for all dwellings involved in the scheme as a condition has been placed on homeowners to provide access to energy bill data. Appendix 10 provides copies of the Energy Bill Authorisation forms which gives the WP 1 team powers to access their energy bills from their relevant suppliers.

2.9 Non-Residential Sector

As the work on establishing the support systems for upgrades for residential dwellings took longer than expected, due to the work with the HESS, the focus on the non-residential sector was postponed until January 2009. See Section 3.0 of this report for further details.

3 Phase 2 – Month 13 to Month 24

3.1 SERVE Region

One of the risks identified in Annex I in terms of implementation of WP1 was the low take up of the grants under Phase 1. The mechanisms identified to mitigate against this risk were

- expand the focus outside of the key villages
- expand SERVE region to include Nenagh
- consider addressing new dwellings

Despite the fact that the SERVE project was involved in a high profile National pilot there was a relatively low take up in the SERVE region for the supports. The WP 1 team considered the potential uptake in 2009 for Phase 2 and it was decided to expand the SERVE region to include the Nenagh when the Phase 2 is launched. For now it has been decided not to address new dwellings. Appendix 5 outlines the revised population figures for the SERVE Region taking Nenagh into account.

3.2 SERVE Residential

The Home Energy Saving Scheme has received funding under the 2009 national budget to allow it to be implemented on a National level. The SERVE WP1 team will be meeting with SEI to establish how the schemes will work together to ensure SERVE targets are met.

As a result of the delay in launching WP1 the targets and timelines have been revised. The target of retrofitting 450 dwellings remains unchanged but it is expected that 50% of buildings will be retrofitted by month 24 rather than month 18. 100% of houses will be completed by month 36 as originally envisaged.

Action Packages are likely to be refined as follows

- Walls insulation – achieve target U-value of 0.27
- Roof insulation – achieve target U-value of 0.13
- Boiler Efficiency – achieve seasonal efficiency of 95%
- Heating Controls – achieve control category 3 (as per DEAP)

Window upgrades will not be supported under the SERVE project.

The planned actions from Month 13 to Month 30 include

- Launch Phase 2 in January 2009
    - Residential and Non-Residential
- Inclusion of boilers in grant scheme
- Working with HESS so that SERVE ‘tops up’ grant to assist in reaching SERVE targets
- PR and Information Campaign to maximize take up
- Link to Monitoring WP (WP5) to ensure that baseline data is updated and upgrade impacts correctly measured.
- Phase 2 finish October 2009 (Month 24)
- Phase 3 start November 2009 (Month 25)

The expected savings from the upgrading of the residential dwellings is in the region of 4,000MWh which is in line with initial projections. It is planned to have over 250 dwellings upgraded by Month 24 with the majority of other dwellings upgrade by Month 30. This would allow an additional 6 months contingency to address any slippages in relevant programmes.

3.3 SERVE Non-Residential

3.3.1 Target Buildings

A list of potential buildings have been identified and an action plan is being formulated for completion by Month 14 (December 2008). It is therefore planned to launch, in January 2009 (Month 15) a full programme of supports including renewables for residential and non-residential sectors. Appendix 1 provides a detailed list of the pool of buildings which are being targeted for upgrades, along with outline of supports to be provided to non-residential dwellings.

Milestone projects with which the WP Team are in discussions with include:

- Vocational School: Significant building fabric upgrade
- Training Centre: Fabric Upgrade including external wall insulation
- Hotel: Heating Controls and Building Fabric with potential for Biomass Heating ESCO

A summary of the category and number of dwellings is shown below.

Category	No of Buildings	Priority
Hospital	1	1
Large Hotels	1	1
Tourist Accommodation	14	2
Rental Accommodation	9	3
Schools	27	2
Childcare Centres	18	2
Nursing Homes	5	1
Public Buildings	9	1
Other Buildings	50	3
Total	134	

The WP1 team will also now be working with relevant buildings which required Building Energy Ratings to be completed as part of the implementation of the EPBD in Ireland. From January 2009 all non-residential dwellings which are sold or rented will require a BER. There is an additional Public BER requirement for public buildings such as schools, local authority offices etc.

3.3.2 Support Training and Information

The non residential deliverables for the Serve Project will also now include a significant section on energy management training in conjunction with funding support for energy efficiency and renewable actions. To this end the SERVE Project will aim to provide training as per SEIs training courses as appropriate:

- Energy MAP: Energy management for medium to large organisations
- Energy Efficiency for SMEs: Energy Management for small to medium enterprises.

Further details can be found in WP9 Deliverable 9.1

4 Conclusion

The SERVE Work Package on Retrofitting has had a successful first 12 months of operation. The work completed has been substantial and led to the upgrading of 42 dwellings to energy standards which are in line with the SERVE targets.

The significant work on developing the administrative and technical systems to support the retrofitting programmes in year 1 will be a major benefit to the rollout of Phase 2 of the programme. In addition, the technical lessons learnt from the Phase 1 programme will be used to refine and develop the support measures and their implementation in Phase 2.

The challenge of addressing the issue of heating system efficiency and heating controls will be significant and require a coordinated effort with relevant installers, national authorities and WP 1 partners.

The target of reducing energy consumption in current buildings within the SERVE region by 5,700 MWh/year is achievable and considerable progress has been made towards this.

Appendices

Appendix 1 – Non-Residential Buildings List

Category	No of Buildings	Priority
Hospital	1	1
Large Hotels	1	1
Tourist Accommodation	14	2
Rental Accommodation	9	3
Schools	27	2
Childcare Centres	18	2
Nursing Homes	5	1
Public Buildings	9	1
Other Buildings	50	3
Total	134	

The list below provides details of the buildings. The SERVE will target a total of 50 dwellings from the above stock, or the equivalent number of buildings which reaches a floor area of 10,000 m^2 .

Type	Name	Type	Name
Hospital	Nenagh General Hospital	Nursing Homes	Ashlawn House Nursing Home
Hotels	Abbey Court Hotel	Nursing Homes	Bushy Park Nursing Home Ltd
B&B	Annagh Lodge Country House	Nursing Homes	Nenagh Manor Nursing Home
B&B	Ashley Park House	Nursing Homes	Rivervale Nursing Home
B&B	Ballycormac House	Nursing Homes	St. Kieran's
B&B	Coolangatta	LA Building	Borrisokane Area Office
B&B	Dancer Cottage	LA Building	Borrisokane Branch Library
B&B	JKC B&B	LA Building	Cloughjordan Branch Library
B&B	Josies Bar B&B	LA Building	Fire Station
B&B	Kathleen Hassett	LA Building	Fire Station
B&B	Maryville	LA Building	Fire Station
B&B	River Glebe House	LA Building	Motor Tax Office
B&B	Shannonvale House	LA Building	North Tipperary County Council
B&B	The Griffin Arms	LA Building	Town Hall
B&B	Willaimsferry House	Childcare Centres	Busy Bodies Montessori
B&B	Willowbrook B&B	Childcare Centres	Codys Little Giants
Schools	Aglish National School	Childcare Centres	Happy Tots
Schools	Ardcroney National School	Childcare Centres	Jelly Tots
Schools	Bishop Harty National School	Childcare Centres	Karen Maguire
Schools	Borrisokane Boys National School	Childcare Centres	Kiddi Winkles Child Care Centre
Schools	Borrisokane Community College	Childcare Centres	Ladybirds Playschool
Schools	Carrig National School	Childcare Centres	Little Feet Playschool
Schools	Carrig National School	Childcare Centres	Little Rascals
Schools	Cloughjordan National School	Childcare Centres	Little Scholars Montessori
Schools	Cloughjordan National School no 2	Childcare Centres	Maria Buckley
Schools	Gurtagarry National School	Childcare Centres	Naoinra Aon-Do-Tri
Schools	Kiladangan National School	Childcare Centres	Nenagh Childcare Centre
Schools	Kilbarron National School	Childcare Centres	Rainbow Pre-School
Schools	Killeen (Riverstaown) National School	Childcare Centres	Sunshine Montessori Pre-School
Schools	Kilruane National School	Childcare Centres	Teresa Griffin

Type	Name	Type	Name
Schools	Kyle Park National School	Childcare Centres	Tiny Steps
Schools	Lorrha National School	Childcare Centres	Wilmots Childcare
Schools	Rathcabbin National School	Self Catering	Courtyard Cottages
Schools	Redwood National School	Self Catering	Fairymount
Schools	Scoil Lua Naofa	Self Catering	Oakwood
Schools	Scoil Mhuire	Self Catering	Old Court
Schools	ST. Joesph's National School	Self Catering	Puckane - Rent an Irish Cottage
Schools	St. Marys Sceondary School	Self Catering	Riverrun Cottages
Schools	St. Marys No. 2 COI NS	Self Catering	Terryglass - Rent an Irish Cottage
Schools	Teach an Leinn	Self Catering	Tír na Fiúise Cottages
Schools	Teryyglass National School	Self Catering	WatersideCottages
Schools	Toomevara National School	SPA	Coolbawn Quay Lakeshore Spa

Appendix 2 – Comeragh Controls

One company in Tipperary has a product that would be suitable for cost effective retrofit and they have used the SERVE project as a potential launch pad for the product. Comeragh Controls in Clonmel had a product that was originally designed for the large domestic new build with underfloor heating market. They are now producing the Radmaster heating control system.

Central Controller

Local Controller

Some key features of this innovative product include:

- Up to 32 zones All rooms can be managed individually to reduce heating costs. e.g. Bed Rooms 20°C, Baby Bed Room 24°C, Kitchen 16°C
- 5/2 Programmable Timer: Individual Timer for each Zone, 20 Min Segments
- Simple To operate : Typical user operations require one or two keystrokes
- Zone Labelling : Zone designations are clearly labelled on the LCD Panel
- Central Control of all heating elements at a single location. Example; Centrally switch all rooms& Hot Water off if going on holidays
- Multiple control Modes
- Hot Water Boost The HW key turns priorities the HOT Water. 2 hr time out & stops boiler call when required temp is achieved.
- Energy Saver Scheduling (BH). Underfloor heating zones are scheduled to super-heat2 during the low cost night-time electricity energy saver period
- Optimization: Optimization is a mechanism to ensure zone temperatures are reached at the scheduled times
- Vacation Mode
- Full weather compensation: External thermostat that enables full weather compensation with intelligent learning.
- Zone Thermostat: Set Point, Set back for frost protection and
- 5/2 Programmable Timer, 24 Hr, 20 Min Segments, Individual Timer for each Zone, Independent Temperature control for each Zone E.g. Bed Rooms 20°C, Baby Bed Room 24°C
- Optimization, Optimization is a mechanism of ensuring zone temperatures are achieved according to the programmed schedule. This is accomplished by pre-heating a zone prior to the

scheduled ON time. Auto setting will self-learn the thermal inertia of the room and adjust the start time from memory to deliver the required temperature at the scheduled time.

- Stop Ideal for rooms which are not in use– Damp Proof Setting Ignores timer schedule, moves to Set Back.
- Lockout. Solves the problem of children interfering with the room temp or thermostats located public areas e.g. Hotels, Bars etc. Push Buttons do not respond and the zone follows all normal schedule settings
- Frost Protection Mode - Ensure all plumbing & pipe work is protected against frost
- Accuracy of 0.5° C, including calibration feature.
- Central Override at the console

Widespread take up of this type of system would significantly reduce energy consumption in the region, although it is envisaged that that a small number of homeowners will be in a position to invest in this system.

Appendix 3: Registered List of Suppliers

An initial call and advertisement for people to join the list was made in Month 4 and 5 (see Figure A4.1)

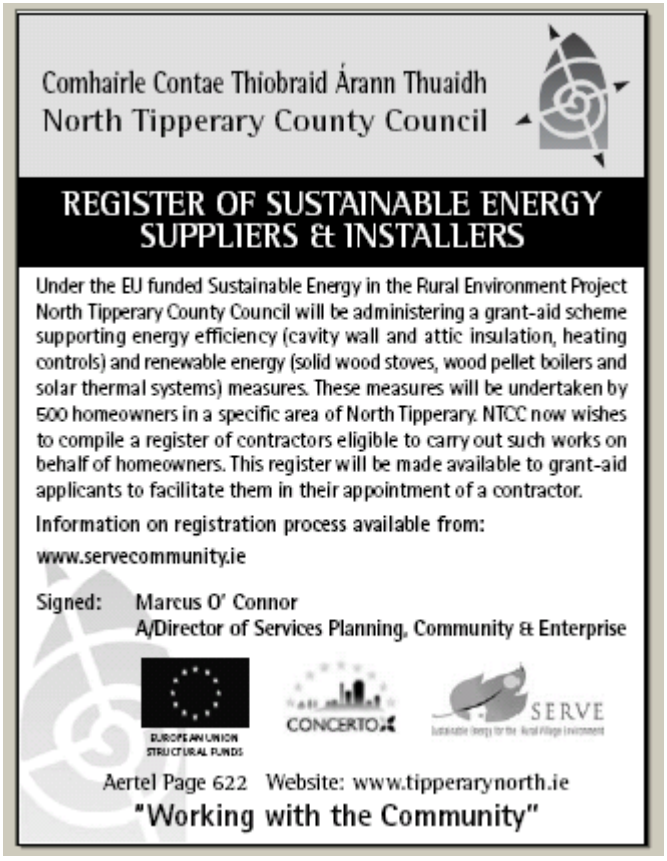


Figure A4.1: Advertisement for Register of Suppliers/Installers

The Project website www.servecommunity provides all the information required to interested suppliers. The application can also be received from NTCC. Each supplier needs to supply an application form and supporting documentation. Documentation required as part of the application process includes:

- Signed, completed Application Form
- Tax Documents - A Tax Clearance Certificate or C2 number and expiry date. This will need to be monitored throughout the lifetime of the project to ensure up to date details are always on file
- Insurance cover – Evidence of satisfactory public liability and employer liability cover must be submitted
- Qualifications
- Case Study
- Quality and Safety Systems
- Product Quality Certification

The application form, the tax documents and the insurance documents are checked by North Tipperary County Council and technical aspects by Tipperary Energy Agency. The register, which is provided to the public, details the following information

- Name/Address of Supplier/Installer
- Types of Services/Products provided
- Website/e-mail address of supplier/installer

At present there are 26 companies on the register of suppliers/installers.

Company Name	Product						Contact Name	Contact Number	Address				E-mail	Website
AB Glazing	Windows						Austin Bracken	057 9131277 / 087 7736666	Castletown	Portal	Birr	Co. Offaly	abglazingpvc@yahoo.co.uk	abglazingpvc.com
Acorn Energy	Attic Insulation	Wall Insulation	Floor Insulation	Heating Controls	Pipe Insulation	Hot water cylinder insulation	Brendan Power Shane Barrett	086 3987116 087 6377460	Main Street	Cloughjordan	Co. Tipperary		info@acornenergy.ie	www.acornenergy.ie
Aqua Technologies/TH Calefacient Systems	Heating Controls	Pipe Insulation	Hot water cylinder insulation				Ethna Carrie	021 4319984	Unit 14 Marina Commercial Centre	Park Road	Cork		ethna@aquatech.ie	www.aquatech.ie
							Trevor Heaney	087 2828013	69 Lower Careys Road	Limerick				
Colgan Plumbing & Heating Ltd	Heating Controls	Pipe Insulation	Hot water cylinder insulation				John Colgan	086 2647697	Cappincur	Tullamore	Co. Offaly		olivercolgan2@eircom.net	
Comeragh Controls	Heating Controls	Attic Insulation	Wall Insulation	Floor Insulation			Martin Carey	052 72000	79 Upper Irishtown	Clonmel	Co. Tipperary		sales@comeraghcontrols.com	www.comeraghcontrols.com
D. Harris Heating and Plumbing Ltd	Heating Controls	Pipe Insulation	Hot water cylinder insulation					01 8669100	Unit 11 A	Santry Business Park	Santry	Dublin 9	dharris@harrisheating.ie	www.harrisheating.ie
Dalgan Wood Industry Ltd	Windows						Peter Dalgan	093 31270	Dalgan	Shrule	Galway		sales@dalganwindows.ie	www.dalganwindows.ie
Dungarvan Insulation Ltd	Attic Insulation	Wall Insulation	Floor Insulation					058 45135	Clonooskoran	Ballinroad	Dungarvan	Co. Waterford		www.dungarvanupvc.ie
Emerald UPVC	Windows						Jason Cahill	087 23006	Pallasmore	Carrigatoher	Nenagh	Co. Tipperary	info@emeraldupvc.com	www.emeraldupvc.com
FPI Solar	Attic Insulation	Heating Insulations	Floor Insulation	Pipe Insulation	Hot water cylinder insulation		Matthew Collison	087 9165000	Derrycallaghan	Moneygall	Roscrea	Co. Tipperary	info@fpisolar.ie	www.fpisolar.ie
Gilmartin Group	Attic Insulation	Wall Insulation	Floor Insulation				Paul Gilmartin	093 52170 / 086 2639015	Ballygaddy Road	Tuam	Co. Galway		paul.gilmartin@gilmartin-group.com	www.gilmartin-group.com
Greenspan	Wall Insulation (external only)							099 82222	Ballyhahill	Co. Limerick			info@greenspan.ie	www.greenspan.ie
Home Insulation Systems	Attic Insulation	Wall Insulation	Floor Insulation				Seamus Dooley	061 382601/ 087 2509480	Bruff	Co. Limerick				
Jonathan Hogan	Attic Insulation						Jonathan Hogan	085 1649629	Aughall	Castleiney	Templemore	Co. Tipperary	jhogan@imagine.ie	
Kingdom Insulation	Attic Insulation	Wall Insulation	Floor Insulation				James Egan	066 7135991	Aulane	Abbeydorney	Tralee	Co. Kerry	kingdominstallations@eircom.net	
Leetherm Insulation Ltd	Attic Insulation	Wall Insulation					Ken Lee	052 31550 / 087 6811911	Fethard	Co. Tipperary				
Maher Aluminium Ltd	Windows							087 31812	Southill	Nenagh	Co. Tipperary		maherl@eircom.net	
Mahon Windows	Windows						Michael Mannion	0902 30231 / 0862548958	Clonfanlough	Athlone	Co. Westmeath			
MCC Ltd	Wall Insulation (Drylining)						Mark Corcoran	086 8432132	Fawnlough	Ballygraigue	Nenagh		markcorcoran10@yahoo.ie	
Multi Services	Heating Controls	Pipe Insulation	Hot water cylinder insulation				David Mitchell	0505 22125 / 086 3552868	Glentara	Roscrea	Co. Tipperary		mservices@eircom.net	
Munster Insulations	Attic Insulation	Wall Insulations					Gerry Heenan	087 7604012	Unit 2D1	Ard Gaoithe Business Park	Clonmel	Co. Tipperary	gerry@munsterinsulation.ie	www.munsterinsulation.ie
O' Loghlen Insulation	Attic Insulation	Wall Insulation	Floor Insulation				Pat O' Loghlen	093 28878 / 087 9011909	Kilbannon	Tuam	Co. Galway		pat_ol@eircom.net	
Premier Insulations	Attic Insulation	Wall Insulation	Floor Insulation					1800 646410	Syngefield	Birr	Co. Offaly		info@premierinsulations.com	www.premierinsulations.com
SB Metal Studding Ltd	Attic Insulation	Wall Insulation (thermal board insulating drylining)					Seamus Brislane	087 7960005	62 Kenyon Street	Nenagh	Co. Tipperary		sbrislane@gmail.com	
Sean Maher Ltd.	Windows						Sean Maher	05791 31043 / 086 8322146	The Heath	Roscrea	Co. Tipperary			
T&E Plumbing	Attic Insulation	Wall Insulation	Heating Controls	Pipe Insulation	Hot water cylinder insulation		James Treacy	0505 43926	Longford Wood	Clonakenny	Roscrea	Co. Tipperary	teplumbing@eircom.net	

SERVE is a project of the CONCERTO initiative co-funded by the European Commission under the Framework Programme.

The Home Energy Saving Pilot Scheme is administered by Sustainable Energy Ireland and funded by the Department of Communications, Energy and Natural Resources.

Appendix 4: SERVE Region – Phase 1

Data from the Central Statistics Office from the Census of 2006 is provided in the following table, and compared to Census data from 2002.

Population	Persons 2002	Persons 2006	Actual change in population 2002-2006	Percentage change in population 2002-2006
005 Aglishcloghane	292	289	-3	-1
006 Ballingarry	583	574	-9	-1.5
007 Ballylusky	267	307	40	15
008 Borrisokane	1171	1139	-32	-2.7
009 Carrig	186	188	2	1.1
010 Cloghjordan	740	784	44	5.9
011 Cloghprior	238	270	32	13.4
012 Clohaskin	222	196	-26	-11.7
013 Finnoe	158	186	28	17.7
014 Graigue	267	276	9	3.4
015 Kilbarron	576	572	-4	-0.7
016 Lorrha East	329	338	9	2.7
017 Lorrha West	319	347	28	8.8
018 Mertonhall	168	149	-19	-11.3
019 Rathcabban	222	243	21	9.5
020 Redwood	143	131	-12	-8.4
021 Riverstown	482	522	40	8.3
022 Terryglass	504	451	-53	-10.5
023 Uskane	195	213	18	9.2
026 Ardcrony	451	488	37	8.2
028 Ballygibbon	487	526	39	8
029 Ballymackey	505	506	1	0.2
044 Knigh	678	703	25	3.7
Total	9,183	9,398	215	2.3%

Some minor refinements of the SERVE region had to be undertaken prior to launch of Phase 1 as two DEDs has been excluded from the original tables. This included the addition of the following DEDs

Population	Persons 2002	Persons 2006	Actual change in population 2002-2006	Percentage change in population 2002-2006
047 Monsea	628	648	20	3.2
Toomevara	321	286	-35	-10.9

Appendix 5: SERVE Region – Phase 2

Data from the Central Statistics Office from the Census of 2006 is provided in the following table, and compared to Census data from 2002.

Population	Persons 2002	Persons 2006	Actual change in population 2002-2006	Percentage change in population 2002-2006
005 Aglishcloghane	292	289	-3	-1
006 Ballingarry	583	574	-9	-1.5
007 Ballylusky	267	307	40	15
008 Borrisokane	1171	1139	-32	-2.7
009 Carrig	186	188	2	1.1
010 Cloghjordan	740	784	44	5.9
011 Cloghprior	238	270	32	13.4
012 Clohaskin	222	196	-26	-11.7
013 Finnoe	158	186	28	17.7
014 Graigue	267	276	9	3.4
015 Kilbarron	576	572	-4	-0.7
016 Lorrha East	329	338	9	2.7
017 Lorrha West	319	347	28	8.8
018 Mertonhall	168	149	-19	-11.3
019 Rathcabban	222	243	21	9.5
020 Redwood	143	131	-12	-8.4
021 Riverstown	482	522	40	8.3
022 Terryglass	504	451	-53	-10.5
023 Uskane	195	213	18	9.2
026 Ardcrony	451	488	37	8.2
028 Ballygibbon	487	526	39	8
029 Ballymackey	505	506	1	0.2
044 Knigh	678	703	25	3.7
046 Latteragh	639	629	-10	-1.6
047 Monsea	628	648	20	3.2
048 Nenagh Rural	1710	1796	86	5
Toomevara	321	286	-35	-10.9
Total	12,481	12,757	276	2.2%

The main focus will be on the additional dwellings in the Nenagh Rural DED. There is potential for some cross over into the other Nenagh DEDs but every effort will be made to minimize this.

Appendix 6: SERVE Household Data

Data from the Central Statistics Office from the Census of 2006 is provided in the following table. This table shows the number of private households by type of accommodation, 2006

Geographic Area	House / Bunglow	Flat / Apar-ment	Bed-sit	Caravan / Mobile Home	Not stated	Total
005 Aglishcloghane	100	0	0	1	0	101
006 Ballingarry	173	5	0	6	9	193
007 Ballylusky	103	0	0	1	1	105
008 Borrisokane	379	11	0	3	17	410
009 Carrig	66	0	0	0	0	66
010 Cloghjordan	274	11	0	1	13	299
011 Cloghprior	83	0	0	4	0	87
012 Clohaskin	65	0	0	0	0	65
013 Finnoe	62	1	0	2	3	68
014 Graigue	84	1	0	1	1	87
015 Kilbarron	199	1	0	3	1	204
016 Lorrha East	117	2	0	1	6	126
017 Lorrha West	118	2	0	0	2	122
018 Mertonhall	46	1	0	1	1	49
019 Rathcabban	86	0	0	0	3	89
020 Redwood	47	1	0	0	3	51
021 Riverstown	165	3	1	0	4	173
022 Terryglass	154	3	0	1	0	158
023 Uskane	64	0	0	0	7	71
026 Ardcrony	157	1	0	1	6	165
028 Ballygibbon	171	2	0	3	6	182
029 Ballymackey	165	1	0	1	5	172
044 Knigh	225	2	1	1	3	232
046 Latteragh	214	4	0	0	5	223
047 Monsea	205	1	0	0	4	210
048 Nenagh Rural	565	7	0	2	9	583
	4,087	60	2	33	109	4,291
Please note this table excludes Toomevara						

Appendix 7: SERVE Phase 1 Dissemination Activities

A7.1: Meetings with Community Leaders

North Tipperary identified various organisations that would help with dissemination to the SERVE community. Meetings were held at the beginning of the project and a follow-up mailing was sent when the project was launched. The following is the mailing list.

Name	Address 1	Address 2	Address 3	Address 4	Address 5
Sean McSherry	Borrisokane Community Development Association	Drominagh	Terryglass	Co. Tipperary	
Hugh Maher	Toomevara Development Association	Grawn	Toomevara	Co. Tipperary	
Aideen Cavanagh	Ballingarry Tidy Town's Committee	Ballingarry	Roscrea	Co. Tipperary	
P.J. Starr	Terryglass Improvements Association	Ashgrove	Terryglass	Co. Tipperary	
Mary Guerin	Ballymackey Environmental Association	Ummera	Ballymackey	Co. Tipperary	
Liam Horan	Shannonside Development Association Ltd	Stonepark	Ballinderry	Nenagh	Co. Tipperary
Michael Wilkinson	Tipperary Lakeside Ltd	Ballinderry	Nenagh	Co. Tipperary	
Helen Costello	Cloughjordan Development Committee	Main Street	Cloughjordan	Co. Tipperary	
Arthur Guest	Tipperary Lakeside Development Association	Birr Road	Borrisokane	Co. Tipperary	

A7.2: Mailing to CAVA members

CAVA is the Community and Voluntary Association in North Tipperary. A letter was sent out from CAVA on behalf of the SERVE project. Members of this Association represent a wide range of organisations and community groups.

Association Name	Adress1	Address2	Adress3	Adress4	Area of interest/ Community Dev Council (CDC)?
Ballinderry Improvements Assoc	Stonepark	Ballinderry	Nenagh	Co. Tipperary	Environment/Tidy Towns
Borrisokane Games Hall	Tombricane	Borrisokane	Nenagh	Co. Tipperary	Youth & Sport
Borrisokane Players	Kylenagoona	Borrisokane	Nenagh	Co. Tipperary	Arts, Culture, Heritage & Irish Language
Borrisokane Tidy Towns	Towerhill	Borrisokane	Nenagh	Co. Tipperary	Environmental/Tidy Town
Carrigahorrig Tidy Towns Committee	The Waterfall	Carriahorrig	Nenagh	Co. Tipperary	Environmental/Tidy Town
Carrig Riverstown Development Association	Carrig Cottage	Carrig	Birr	Co. Offaly	CDC
Carrig/ Riverstown Parent Todler	Corhill Rd.	Riverstown	Birr	Co. Offaly	Social Exclusion, Disadvantaged,Disability
Cloughjordan Community Development Committee	Main Street	Cloughjordan	Co. Tipperary		CDC
Cloughjordan Tidy Towns Group	Main Street	Cloughjordan	Co. Tipperary		Environmental/Tidy Town
Lorrha/Dorrha Development Association	Abbeyville	Lorrha	Nenagh	Co. Tipperary	CDC
New Futures Group(Borrisokane)	Coorevan Hse	Coorevan	Borrisokane	Co. Tipperay	Social Exclusion, Disadvantaged,Disability
Puckane/Carrig Senior Citizens	Puckane	Nenagh	Co. Tipperary		Social Exclusion, Disadvantaged,Disability
Puckane Development Association	Ballycraggan	Puckane	Nenagh	Co. Tipperary	CDC
Puckane Tidy Towns	Puckane	Nenagh	Co. Tipperary		Environmental/Tidy Town
Terryglass Improvement Association	Shannon Lane	Terryglass	Nenagh	Co. Tipperary	Enviroment/Tidy Town
Terryglass/Kilbarren Enterprise Group	Ashgrove	Terryglass	Nenagh	Co. Tipperary	Economic Development
Tipperary Lakeside Development Co. Ltd	The Old Church	Mill Street	Borrisokane	Co. Tipperary	Environmental/Tidy Town

A7.3: Radio Coverage

A number of radio interviews were held to promote the scheme.

- Radio interview between NTCC and Jim Finn from Tipp FM on 21/05/2008. This programme was repeated on 24/05/2008
- Tipp FM on 26/08/2008
- Tipp Mid West 28/08/2008

There were radio adverts running on Tipp FM. There were 28 spots during one week in May and further airtime was allocated in July for two weeks.

A7.4: Press Coverage

The press was targeted in a number of ways. There were press adverts, press releases and articles and community notes. These were focused on three local papers, The Tipperary Star, The Midland Tribune and Nenagh Guardian.

Press Releases and Articles

Press releases appeared over a two week period at the launch of the scheme Samples of Articles which have been covered include:

- The Tribune – May 7th 2008
- The Nenagh Guardian – Saturday May 3rd 2008
- Tipperary Star – Saturday May 10th
- The Nenagh Guardian - ~ August 16th 2008
- Tipperary Star : Saturday August 16th 2008

Pilot Home Energy Saving Scheme For Borrisokane Area

Government to subsidise cost of insulation

Energy Minister Eamon Ryan has announced a new Home Energy Saving Scheme. The scheme will encourage and incentivise homeowners to improve the energy efficiency of their homes in order to reduce energy use and greenhouse gas emissions.

With an initial investment of €5 million, this regional pilot is designed to inform the roll-out of the full scale €100 million national scheme envisaged in the Programme for Government. The scheme will target older housing as these homes are most in need of energy efficiency retrofitting. It will begin its work with 2,000 homes in a regional pilot in North Tipperary, Limerick, Clare and Dundalk. There will be an additional strand, which will allow for clusters of housing throughout the country.

Householders will avail of a Building Energy Rating (BER) assessor to come to their house, give the home a BER rating and advise on the works that need to be carried out to improve energy efficiency. The homeowner will pre-pay €100 towards the cost of this assessment, with Sustainable Energy Ireland subsidising the balance. Approximately two thirds of the cost of this assessment, will therefore, will be covered by the Government. The assessor may advise that the house requires such work as attic insulation, interior or exterior wall insulation, low emissions double-glazing, heating control or a range of other energy efficient works. Grants will then cover up to 30% of the cost of these works, to a maximum of €2,500. On completion of the works a follow-up energy assessment on the building will be undertaken so that there is a "before and after" test of what has been done.

The scheme will be administered by Sustainable Energy Ireland and locally by North Tipperary County Council, Clare County Council, Limerick County Council, and the SEI Team in Dundalk. The technical partner in North Tipperary is Tipperary Energy Agency, and in the case of Limerick and Clare the Limerick/Clare Energy Agency.

Launching the Scheme Minister Ryan said: "Of the 1.7 million homes in Ireland, it is estimated that up to 1 million require some investment to improve their energy efficiency. This scheme will support homeowners who wish to invest in their homes to bring them up to modern energy efficiency standards. Such investment has been shown to pay for itself in energy savings in a few short years. This scheme will help Ireland meet our climate change targets at the same time as assisting the householder with energy costs. Householders will save on their electricity and heating bills; they will use their energy more wisely and increase the re-sale value on their homes. The scheme will also be welcome news for the house-building sector."

SEI estimate that the householder will save up to €500 in their energy bills every year and that the scheme will save 6,000 tonnes of CO_2 in its first year alone.

The full €100 million national scheme is expected to yield greenhouse gas savings of 175,000 tonnes per year.

Call for expression of interest by SEI will be advertised nationally and locally shortly. In the meantime if you have any queries in relation to the operation of the scheme in North Tipperary please contact the Community & Enterprise Department of North Tipperary County Council on 067 44671.

A7.4: Ministerial Visit

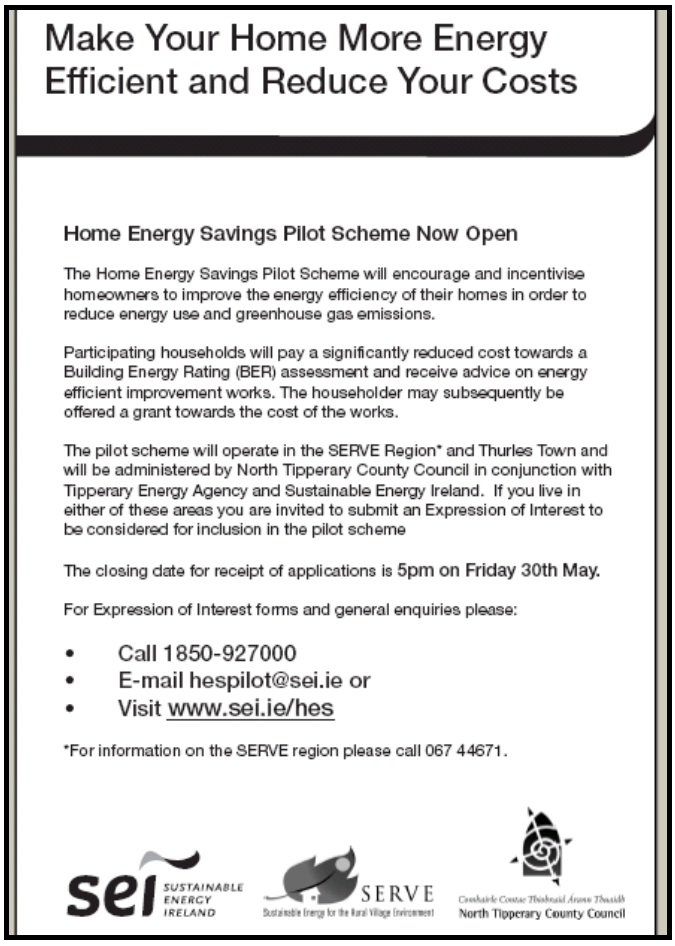
Visit by Minister for Communications, Energy and Natural Resources visited the SERVE project, Tipperary Institute and the Eco-Village on the 9th of June 2008.

Pictured at his visit are L-R Front Row: Terry O' Niadh, County Manager; Eamon Ryan, T.D Minister for Communications, Energy and Natural Resources; Jim Casey, Former Mayor; L-R Back Row; Attracta Lyons, North Tipperary County Council; Seamus Hoyne, Tipperary Institute; Sheila Healy, North Tipperary County Council.

Energy Grants for Home-owners

Pictured during a recent visit by Eamon Ryan, T.D. Minister for Communications, Energy and Natural Resources to North Tipperary County Council Offices are L-R Front Row: Terry O' Niadh, County Manager; Eamon Ryan, T.D Minister for Communications, Energy and Natural Resources; Jim Casey, Former Mayor; L-R Back Row: Attracta Lyons, North Tipperary County Council; Seamus Hoyne, Tipperary Institute; Sheila Healy, North Tipperary County Council.

A7.5: Press Advert



Make Your Home More Energy Efficient and Reduce Your Costs

Home Energy Savings Pilot Scheme Now Open

The Home Energy Savings Pilot Scheme will encourage and incentivise homeowners to improve the energy efficiency of their homes in order to reduce energy use and greenhouse gas emissions.

Participating households will pay a significantly reduced cost towards a Building Energy Rating (BER) assessment and receive advice on energy efficient improvement works. The householder may subsequently be offered a grant towards the cost of the works.

The pilot scheme will operate in the SERVE Region* and Thurles Town and will be administered by North Tipperary County Council in conjunction with Tipperary Energy Agency and Sustainable Energy Ireland. If you live in either of these areas you are invited to submit an Expression of Interest to be considered for inclusion in the pilot scheme

The closing date for receipt of applications is 5pm on Friday 30th May.

For Expression of Interest forms and general enquiries please:

- Call 1850-927000
- E-mail hespilot@sei.ie or
- Visit www.sei.ie/hes

*For information on the SERVE region please call 067 44671.

sei SUSTAINABLE ENERGY IRELAND

SERVE Sustainable Energy for the Rural Village Environment

Comhairle Contae Thiobraid Árann Thuaidh North Tipperary County Council

A7.6: Community Notes and Local Dissemination

In addition to the press releases, articles and adverts, information was also give through community notes sections in the newspapers. This also included announcements through other local media such as local newsletters.

A7.7: Construct Ireland

A copy of the article that appeared Construct Ireland SERVE/HESS Pilot is provided below. This is also available at www.constructireland.ie

Measured efforts

How SEI's pilot energy refurb initiative is shaping up

Earlier this year constructireland.ie broke the news of the introduction of the pilot Home Energy Saving Scheme, a new grant funding programme designed to stimulate the en masse refurbishment of Ireland's poorly performing existing housing stock. **John Hearne** travelled to one of the pilot areas to see how the scheme is working on the ground, and discover how the scheme is developing.

One of the most striking characteristics of the Home Energy Saving Scheme (HES) pilot projects is the speed with which they've been rolled out. The three regional initiatives were announced in April, and the cluster version barely a month ago. Yet the plan is to have all works complete and all results fully collated by the end of November.

In the kitchen of her farmhouse in Lorrha, North Tipperary, Margaret Murray, who applied under the North Tipperary pilot, says she assumed the date on the form was a misprint. "I thought they must mean November '09, not '08." Paul Kenny of the Tipperary Energy Agency, the technical partner to North Tipperary County Council, who are running the scheme in this neck of the woods, explains that the stakeholders need to know what kind of value they're getting for the €5 million earmarked for the regional pilots before they parcel out the remaining €95 million committed for national roll-out under the Programme for Government. For the householder, that means getting the works sorted quickly. But behind the scenes, the effort required to get the administrative backbone to support the scheme in place ahead of this year's budget has been huge. "SEI were instructed to roll out the scheme and do it as quickly as possible." Paul Kenny explains. "They didn't have a lot of time to mull it over and think about it. They were told go start up a scheme that has a huge administrative burden".

The Home Energy Saving Scheme is designed to target older housing – nothing built later than 2002; the logic being that these are the buildings most in need of energy makeovers. 1,500 homes across north Tipperary, Limerick/Clare and Dundalk form the regional core of the pilot, while the additional strand (covering 500 houses) will allow for 'clusters' of housing spread throughout the country. An SEI home energy Assessor – as distinct from a BER assessor, given that assessments will not include official BERs during the piloting phase – comes to your house, rates it and advises on works that need to be carried out to improve energy efficiency. The householder pays €100 towards the cost of the assessment (the full price is usually around €300-€500) and SEI covers the rest. Thereafter, 30 per cent of the works recommended by the assessor are paid for by government, to a maximum of €2,500. Launching the scheme Minister Ryan said, "Of the 1.7 million homes in Ireland, it is estimated that up to 1 million require some investment to improve their energy efficiency. This scheme will support homeowners who wish to invest in their homes to bring them up to modern energy efficiency standards. Such investment has been shown to pay for itself in energy savings in a few short years. This scheme will help Ireland meet our climate change targets at the same time as assisting the householder with energy costs. Householders will save on their electricity and heating bills; they will use their energy more wisely and increase the resale value on their homes. The scheme will also be welcome news for the house-building sector." SEI estimates that householders will save up to €500 in their energy bills every year and that the scheme will save 6,000 tonnes of CO2 in its first year alone. The full €100 million scheme is expected to yield greenhouse gas savings of 175,000 tonnes per year.

In Lorrha, County Tipperary, Margaret and Francis Murray say they applied because they wanted to see how efficient the house was. Their heating load is borne primarily by oil, but heavily supplemented by turf, which they harvest themselves on their own section of bog. “We put down a good fire.” says Francis, but adds that with the prohibition on turf harvesting immanent, not to mention the escalating price of oil, energy efficiency has become increasingly important to them. “We do burn a lot of turf – more than seven or eight tonnes a year. If we were to buy it, it would cost us a fortune.” In addition to the open fire in the living room, a solid fuel Stanley range supplements the radiators and domestic hot water requirements. The range, says Francis, is old and doesn’t perform. “It’ll handle four radiators okay, but turn on a fifth and the heat dies. You go up and take one bath, and all the hot water’s gone.” Apart from on/off switches, there are no heating controls, an immersion looks after much of the hot water needs, especially in summer, while the copper cylinder lacks a lagging jacket.

Home energy assessor Stephen Harte of ERI explains that, as with new houses, the DEAP (Dwellings Energy Assessment Procedure) methodology is used to calculate the energy performance of the house. “What we’re doing is we’re working out heat loss through building fabric which is the walls, windows, roof and the floor, and also heat loss through ventilation, whether that’s chimneys or natural ventilation; whatever’s in the house. Then we look at the heat required to heat the house based on the efficiency of the heating system and heating controls. You’re also looking at lighting, what percentage energy efficient lighting you have; that all plays a part in determining your energy value and CO_2 emissions for the house.” Harte will also be looking at ESB bills. Though electricity usage – with the exceptions of lighting and the pumps and fans associated with heating systems – isn’t considered as part of the BER process, or indeed the HES scheme, it is under a separate, though parallel scheme in which Tipperary Energy Agency is also a partner. SERVE (Sustainable Energy for Rural Village Environments) is an EU funded Concerto project which predates the HES scheme. Focused on both renewable energy and the retrofit of existing buildings, the scheme aims to upgrade 500 buildings in a section of North Tipperary over three years. The scheme was due to be launched in March, but when it emerged how closely it paralleled the planned HES scheme, the Minister brought the SERVE Project and SEI together as a means of expediting the piloting process.

Co-operation engendered a number of compromises. Tipperary Energy Agency had to drop its plan to grant aid boiler installations, while the HES scheme has adopted much of the administrative and structural work that Tipperary Energy Agency had completed ahead of the planned SERVE launch. HES is a pilot, without numeric targets, whereas SERVE aims to reduce energy usage by 40 per cent. As a result the recommendation methodology that had been developed in Tipperary was quite sophisticated. SEI’s original plan was to generate a rating along with an advisory report which said, for example; insulate your attic. Following co-operation, and input from the partners in Limerick and Clare County Councils and Limerick Clare Energy Agency, the new report builds in precise measures and delivers numerical values for the improved energy performance that will result from those measures. “Now,” says Paul Kenny, “we have an advisory report which is not perfect, but it’s something along the way.”

“You take attic insulation. The home energy assessor goes in, sees there’s 100mm of attic insulation and it gives a U-value of say, 0.45W/m2K. Then when he goes into the advisory report, he says, upgrade it to a specific level, which is the 2008 building regs for retrofit: 0.16W/m2K for attic insulation, which is equivalent to 300mm of fibre glass. That’s a standard. So they upgrade, then go into DEAP, put in a new U-value and that will tell you that your energy use has gone from 550kWh/m^2 to 450kWh/m^2 …and that process is continued on down through a list.”

On site, assessor Stephen Harte begins by measuring the external envelope of the house, noting things like window orientation and over-shading. There is, he says, a lot of detective work involved in working with existing houses. “This house was probably built sometime in the 70s or early 80s, more than likely cavity block, with more than likely no insulation or 50mm insulation.” Sometimes the owners can date the house accurately. Sometimes they can’t. You can measure window reveals to determine the thickness of the walls, and work out the construction method from that. Whether meter-boxes have been installed inside or outside also offers a clue, while differences in weathering on the roof may indicate an extension added at a later date. The meter-box itself often provides access to the cavity, assuming there is a cavity – in particular for newer homes. Access holes for cables entering and leaving the box are usually oversized, giving the assessor a view of whatever went into the cavity when

the house was built. In Lorrha, Stephen Harte shines a torch down into the hole in the meter box and sees a board of loose insulation wedged behind the cable. A similar hole at the top of the box shows an empty cavity.

Margaret reveals that the house was built in 1986, and actually recalls the insulation going in. “When I saw them doing it, they were as lackadaisical, and if it fell down wrong, there it stayed. But it was Aerobord that went in, about an inch thick.” Stephen tells her it should have been installed tight against the inner leaf.

The conservatory on the southern side of the house was added in 1998. Invariably, says Paul Kenny, conservatories drag a rating down. “You can treat them as an unheated space if they’re not heated but if they’ve any connection to the main space heating system that isn’t completely separate and separately controlled, it’s part of the house, and it’s a big windowed area, so it’s a major heat loss area…You’ll probably find that they’ve got good doors, so behaviourally, they can get round it, but with DEAP, if behaviour is involved, the worst is always assumed.” In the attic, Francis installed around 100mm of rockwool himself four or five years ago. Stephen tells him he’ll be recommending the addition of a further 200mm to bring it up to spec. “The other thing I say to people when they’re doing insulation like that is you need to check your ventilation. There’s a requirement to ventilate your attic on both sides so you get cross ventilation. This is for the timbers in the roof. On old houses, it doesn’t come into play because there’s leakiness there anyway, but if you start to make the house airtight, you have to be careful of your ventilation…I’ll be putting it down as a note on the report to make sure that it’s in line with current building regs, which is what insulation installers are supposed to do anyway.”

In the boiler house adjoining the main house, the SIME boiler isn’t one that either Stephen or Paul have encountered before. “If the boiler isn’t recorded on the database,” says Paul, “you give it a default poor value of around 65 per cent.” This is a characteristic of the DEAP methodology. If a variable cannot be determined definitively, the default value used always errs on the side of inefficiency. A house may actually have a better energy performance than the BER, but it should never be worse, assuming average behaviour patterns.

When he finishes the survey, Stephen sums things up for the Murrays. “What’s most likely going to be on the report is your attic insulation, your heating controls, your cylinder lagging jacket or factory insulated cylinder, and wall insulation. In order, attic insulation will be number one, then your wall insulation, then heating controls. You’re allowed 30 per cent of the spend to a max of €2,500, but in this case you’d be highly unlikely to spend anywhere near the maximum.” The report, Paul adds, will also detail the non-grant aided measures that could be taken. “So for example your boiler, which would be low efficiency compared to what’s available nowadays. When your plumber is putting in controls, he could do that very cheaply because he’s already here, so you can get a good deal from him. We can’t grant aid that, but it would save 30 per cent of your oil straight away.” As part of the pilot, participating families submit oil and electricity bills to allow the agency to see what difference the measures taken have made.

In making recommendations, Paul Kenny is keen to emphasise, you go for the cheapest first. “The main things we’ll be pushing in the scheme, the most effective is attic insulation. That’s always the cheapest and the most cost effective. We prioritise in terms of low cost, high impact.” Critics have argued that the grant ceiling is too high. To get the maximum, you have to spend over €8,000. If the Murray household were to implement all the grant-aided recommendations likely to be issued to them, the cost would not come anywhere near this threshold, and theirs offers a typical case study. Is there a risk that some assessors will over-specify in order to maximise the grant? “We want to make sure we get the right quality and make sure people get value for money.” says Brian Motherway of SEI. “We want to make sure people do the most rational things and are not spending large amounts of money to save small amounts of energy, so we want people prioritising the most rational and sensible actions and we want to maintain quality but at the same time we want to give people freedom of choice. And we don’t want to pre-guess what the assessors or what the installers are going to find when they go out to the house.” This is a pilot, he points out, and everything is done in the spirit of a pilot. Effectively, it’s about poking the market and then standing back to see what happens. “Ultimately we want to see what householders want to do in their houses; what they’re willing to pay for and what kind of grant is needed to do it, so the test is: what measures will people go for in the context of a

grant, what mixture of measures might they install? Two things are likely to produce value for money. One is prioritising the most sensible actions and the second is going for a package rather than doing one thing in isolation, so the grant is set to encourage people towards a package of measures…We want to know how much will stimulate people into action because we don't want to give away any more than is necessary from a value for money point of view. We want to make sure we're stimulating actions, and so we expect a very healthy mix. Some people just want to do the very basic and get a small grant, and some people will want to go for bells and whistles…We want to see how people behave when you make this offer to them."

It's also worth noting that a number of financial products have come onto the market which offer homeowners preferential loans for investment in energy upgrades and renewables. Permanent TSB and First Active are both promoting 'green loan' products structured along these lines. In addition, the Green Loan home energy saver scheme, currently being piloted in Mayo, offers customised energy makeovers to qualifying householders. Approved as a cluster under SEI's Home Energy Saving Scheme, the Mayo venture offers a range of technologies, including insulation upgrades, wood pellet stoves and solar panels at a competitive all-in-one price. In addition, as a participant in the cluster, Ulster Bank is offering finance at a variable APR of 7.7 per cent compared to their standard variable rate of 10.5 per cent.

Looking across the Home Energy Saving Scheme's three regional pilots, Motherway says that things are going very well. "The minister only launched it in late April, but we built all the systems, we've recruited fifty assessors and trained them. They're out there doing assessments on the ground and lodging assessments and advisory reports. We've about 1,100 individuals in the various areas that are fully live as participants and about 150 of those have had their assessments done to date. All the rules about how the assessments are done, how we lodge the systems, how we make the grant offers, they've all been developed and are in place, so we'll start seeing the first grant offers going out in the next few days."

On the ground, though the cut off point is houses constructed post-2002, Paul Kenny has seen few houses from this century. "Predominantly the people who have applied are those who think their houses are not energy efficient, so people who've built their houses from early 90s backwards…They're anywhere between 1940s and 1990s. We're seeing mainly F and G rated houses with poor heating systems, no heating controls, 100mm to 150mm of attic insulation, usually pulled back in some places and not very well laid out. Quite a few people have had their walls pumped. We are getting some people who've already taken action and who are now just checking how well they've done. Walls are either solid and can't be upgraded, and there are some cavities that need a top up. We're seeing a lot of double glazed windows; often houses with no cavity insulation have really nice windows…And there's no floor insulation anywhere." Besides the occasional castle, stately home and 400m2 farmhouse with neither insulation nor heating, a large proportion of houses are tailor-made for the scheme. "If you take a 1997 house with 100mm cavity that usually has 40mm of insulation, you can fill the remaining 60mm using blown cavity wall insulation. The attic is always pitched, so you can get good insulation in there. You can upgrade the heating controls of the boiler relatively easily, and you can get a huge saving, you can go from an E2 or an F right down to a C2 on a house built from '97 onwards, or even from '91 onwards."

So who decides how the work is actually done? ***In preparing for SERVE, Tipperary Energy Agency had decided to go further than SEI had gone with the Greener Homes scheme. SEI has drawn fire from a number of quarters because of the ease with which installers could get on the registered list. In addition to seeking tax clearance, evidence of insurance and product certification the energy agency also sought a case study, references and a safety statement from the installer. "It costs a bit of money to put a safety statement together," says Paul Kenny, "so you're going to weed out the fly-by-nights. And with the case study, we were really just looking for people who understood what we were trying to do and could demonstrate knowledge of their product and its quality." Because the original SERVE project had included renewables, costings had also been sought, but these have not been published, not least because they're subject to frequent change. "There was around a 40 per cent difference between prices, so when anyone asks me, I say shop around, even for installing attic and wall insulation. You may get the same product, but the price can vary significantly. We disclaim throughout the scheme***

but what we don't have on the list is people who couldn't be bothered spending an hour or two putting together a proper set of paper work, so that does skim off the real cowboys."

And there will be a follow up. The first job completed by each contractor will be inspected, together with a random sample of between 20 and 30 per cent of the total number of contracts completed. "That will be checking to see that all areas are insulated and not partially. You won't be able to check what's been put into a wall but you will be able to check attic and heating controls. And as part of the pilot, there will be quite a bit of analysis afterwards on what the effect is per Euro spend on each of the different technologies."

Given the speed of implementation, teething problems are inevitable. Some of the assessors are coming to grips with surveying existing houses faster than others. "We're working through that and feedback is getting out to assessors," says Paul Kenny, "and they're learning…so it's nothing that can't be solved quickly. And this is a pilot so this is what it's all about, trying to get that sort of thing ironed out. It's a concern for us a little bit more than anyone else because we only have 4,000 homes in the whole region and if we get 200 done wrong, it makes our life a little more difficult in terms of reaching our targets."

With the 'cluster housing' phase of the HES now rolling out nationwide, the pilot moves into a new phase. Grants of up to €2,000 per household are available to clusters of five or more houses for the range of energy improvements already specified in the regional schemes. "The objective of the cluster element" says the news release, "is to demonstrate the economies of scale that are achievable when a group of homeowners co-operate on the installation of common energy saving measures." Thus far, SEI have received interest from energy agencies, residents associations, builders, landlords and management agents. "Geography is the most obvious way to build an economy of scale," says Brian Motherway of SEI, "but we're not limiting to that because in the spirit of the pilot we want to see what people come to us with." The cluster phase is limited to 500 homes, and as with the regional pilots, all remedial works must be completed by that same tight deadline, November 2008. All information gathered will be evaluated to inform the potential full roll-out next year. How the scheme will look when it comes to that national roll-out remains to be seen. Paul Kenny suggests lifting the 2002 cut-off point to 2006, or even removing all house-age limits altogether. "The cheapest thing in terms of saving energy across the whole country in domestic houses is putting in attic insulation. If you were to say, just insulate every attic to 300mm, you'll be getting the cheapest return for your Euro."

"Because it's a pilot, we're testing a more complex model than you'll see in the future." says Brian Motherway. "You might end up saying, look I only want to go for individuals, or, I only want to go for clusters. You presumably won't have it area based like we do now. We did learn from other schemes in terms of, is a grant programme a stimulant to action? We had a consultant analysis of different financial measures, but ultimately a lot of the measures came from the minister himself. We know that retrofitting insulation in the existing housing stock is a major priority. The question is how to get the best value for money with the maximal uptake. The kinds of methods we're testing now are the ones that we think will do that. First of all, you make it nice and simple: These are the kinds of measures we'll support, these are the grant levels, we'll link it to the BER so you'll know exactly what you're in for, this is my rating now, this is my rating afterwards, this is how much money I can expect to save if I take these actions…Then we're testing specific actions like the economies of scale. All of that will be fed back into government to ultimately decide what to do next."

A7.7: Posters

Contact was made with locations where there would be a high footfall of the SERVE community and subsequent posters were sent out. The locations were:

- Borrisokane Credit Union
- Borrisokane Post Office
- Cloughjordan Post Office
- Coolbawn Post Office
- Toomevarva Post Office
- Terryglass Post Office
- Borrisokane Library
- Cloughjordan Library
- Sheelagh Na Gig

Appendix 8: Application Process for Grant Aid

The application process is detailed below. The corresponding documents for the SERVE project are provided in subsequent Appendices. The application process is linked to Sustainable Energy Ireland's Home Energy Saving Pilot Scheme as outlined previously.

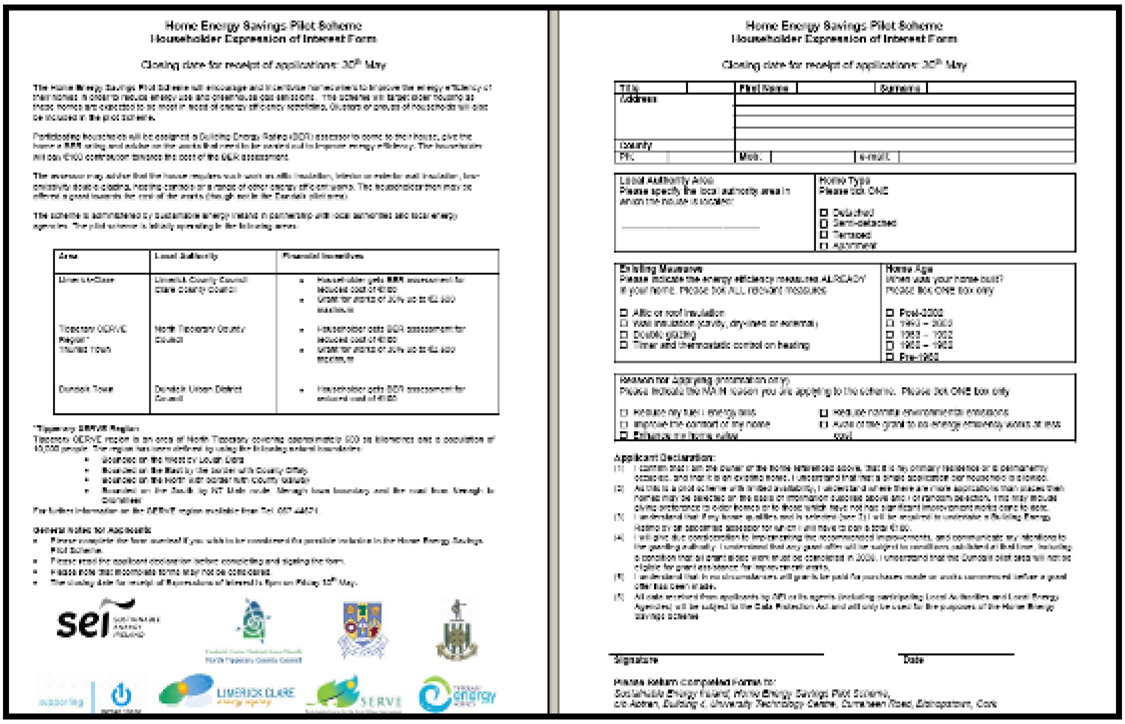
The application documents will be revised for Phase 2 for the residential sector and new documentation provided for the non - residential sector.

1. Expression of Interest
2. Eligibility Check
3. Assignment of Assessors
4. Completion of Energy Assessment
5. Grant offer to include:
    - Letter of Offer
    - Terms and Conditions
    - Acceptance of Offer form
    - Register of Suppliers/Installers
    - Bill Data Request Form
6. Acceptance of Offer
7. Completion of Works
8. Payment Claim to include:
    - Request for Payment Form
    - Declaration of Works Form(s)
    - Original Invoice(s)
    - Original Receipt(s)
9. Inspection of Completed Works[3]
10. Payment Approval
11. Payment

[3] 20% of houses will have this inspection and each contractor will be inspected on a regular basis.

Appendix 9: SERVE Phase 1 Application Process Documents

A9.1: Expression of Interest Forms – Phase 1



Home Energy Savings Pilot Scheme
Householder Expression of Interest Form

Closing date for receipt of applications: 30th May

Area	Local Authority	Financial Incentives
Limerick-Clare	Limerick County Council Clare County Council	• Householder gets BER assessment for reduced cost of €100 • Grant for works of 30% up to €2,500 maximum
Tipperary SERVE Region* Thurles Town	North Tipperary County Council	• Householder gets BER assessment for reduced cost of €100 • Grant for works of 30% up to €2,500 maximum
Dundalk Town	Dundalk Urban District Council	• Householder gets BER assessment for reduced cost of €100

*Tipperary SERVE Region

General Notes for Applicants

Home Energy Savings Pilot Scheme
Householder Expression of Interest Form

Closing date for receipt of applications: 30th May

Title / First Name / Surname / Address / County / Ph. / Mob. / e-mail

Local Authority Area
Please specify the local authority area in which the house is located:

Home Type
Please tick ONE
☐ Detached
☐ Semi-detached
☐ Terraced
☐ Apartment

Existing Measures
Please indicate the energy efficiency measures ALREADY in your home. Please tick ALL relevant measures.
☐ Attic or roof insulation
☐ Wall insulation (cavity, dry-lined or external)
☐ Double glazing
☐ Timer and thermostatic control on heating

House Age
When was your home built?
Please tick ONE box only
☐ Post-2002
☐ 1993 – 2002
☐ 1983 – 1992
☐ 1963 – 1982
☐ Pre-1963

Reason for Applying (information only)
Please indicate the MAIN reason you are applying to the scheme. Please tick ONE box only

Applicant Declaration:

Signature / Date

Please Return Completed Forms to:

A9.2: Assessor Letter

Address 1
Address 2
Address 3
Address 4

Date XX/XX/2008

RE: SERVE/Home Energy Savings Scheme Pilot

Dear Frank,

Further to your Expression of Interest in the SERVE Project/Home Energy Savings Scheme Pilot, I would like to confirm your eligibility for the scheme.

I have attached an Information Guide which should be read carefully. An Energy Assessment of your house will need to be completed and a grant may be offered subject to this assessment. The Energy Assessment will be subsidised by Sustainable Energy Ireland (SEI) and will cost you €100 and should be paid directly to your assessor on the day of the assessment. Mr David Dolan is the assessor assigned to your house. He/She will be in contact with you shortly to arrange this audit at a mutually agreed time and date.

If you require any further information or assistance, please do not hesitate to contact Sheila Healy on 067 44671.

Yours sincerely,

_____
Attracta Lyons,
Community & Enterprise

Appendix 10: Energy Data Usage Authorisation Forms

Electricity Energy Data

The SERVE project seeks to study and understand the effects of the building energy upgrades, so it is necessary that the before and after picture of energy use is analysed.

There are two ways by which the energy use data can be obtained.

1. Provide the assessor with this completed form and he/she can return it to North Tipperary County Council. Please have copies of the electricity bills on the day of the audit, so that he/she can verify the numbers. (If one bill is missing, the meter readings on the bills before and after will give the consumption of the missing bill)

OR

2. In the case of bills not being available, the applicant will be requested to sign an authorisation form for the Tipperary Energy Agency to request the data directly from your energy supplier.

This data will be used as part of the monitoring and analysis part of the SERVE project.

Failure to supply bill information or to sign authorisation form will result in ineligibility for the grant scheme.

Date Of bill	Units used	Estimated (E)/ Actual (A)
Eg: 22/03/2008-22/05/2008	*575*	*Estimated*

Authorisation Form

ESB Customer Supply,
National Customer Contact Centre,
Wilton,
Cork,
Ireland

Re: Bill Data

Dear Sir/ Madam,

I _____ of address _____,
_____
_____
and MPRN:_____ wish to allow the Tipperary Energy Agency on behalf of North Tipperary County Council to have access to my electricity consumption data from June 2006 to May 2008. This is to fulfil the monitoring and analysis of the SERVE project.

Yours Faithfully,

_____

ESB Customer Supply,
National Customer Contact Centre,
Wilton,
Cork,
Ireland

Re: Bill Data

Dear Sir/ Madam,

I _____ of address _____,
_____
_____
and MPRN:_____ wish to allow the Tipperary Energy Agency on behalf of North Tipperary County Council to have access to my electricity consumption data from June 2008 to May 2010. This is to fulfil the monitoring and analysis of the SERVE project.

Yours Faithfully,

_____

necessary that the before and after picture of energy use is analysed.

There are two ways by which the energy use data can be obtained.

3. Provide the assessor with this completed form and he/she can return it to North Tipperary County Council. Please have copies of the oil bills on the day of the audit, so that he/she can verify the numbers.

OR

4. In the case of bills not being available, the applicant will be requested to sign an authorisation form for the Tipperary Energy Agency to request the data directly from your energy supplier.

This data will be used as part of the monitoring and analysis part of the SERVE project.

Failure to supply bill information or to sign the authorisation form will result in ineligibility for the grant scheme.

Please record each fill of oil in litres or in cost if no litre figure is available.

Eg: 20/02/2008 500 L

Date Of Bill	Quantity of Oil delivered (L)	Cost

Authorisation Form

Oil supplier name: _____
Oil supplier Address : _____
_____
_____

Re: Bill Data

Dear Sir/ Madam,

I _____ of address _____,
_____
_____
wish to allow the Tipperary Energy Agency on behalf of North Tipperary County Council to have access to my oil consumption data from June 2006 to May 2008. This is to fulfil the monitoring and analysis of the SERVE project.

Yours Faithfully,

_____

Oil supplier name: _____
Oil supplier Address : _____
_____
_____

Re: Bill Data

Dear Sir/ Madam,

I _____ of address _____,
_____
_____
wish to allow the Tipperary Energy Agency on behalf of North Tipperary County Council to have access to my electricity consumption data from June 2008 to May 2010. This is to fulfil the monitoring and analysis of the SERVE project.

Yours Faithfully,

_____

Appendix 11: Advisory Report

Advisory Report

Assessor Number 100395

Assessor Name XXXX

MPRN 123xxx567

Dwelling Address XXXXX

XXXXX

XXXXX

XXXXX

XXXXX

Summary of this buildings current energy performance

Current energy performance of this building	kWh/m2	CO2/m2	BER
	349.28	77.67	E2

Building Element	Description	Current Energy Performance
Low Energy Bulbs	Low energy light bulbs not in all areas	Poor
Draught stripping	Draught stripping not fitted to all windows and doors	Poor
Roof, Main dwelling roof, Pitched roof	Insulated, U Value ≥.5	Very Poor
Walls, Main dwelling wall, Cavity wall	No insulation	Very Poor
Doors	Door U-value > 3	Poor
Walls, Wall type 2, Cavity wall	Insulated, U Value ≥.6	Poor
Roof, Roof type 2, Pitched roof	Insulated, U Value ≥.4	Average

Cylinder timer	No timer/thermostat	Poor
Heating system control category	Controls less than room thermostat, programmer/timer and TRVs	Poor

Recommendations – Grant Aided:

The measures numbered 1-6 below offer the greatest value for money in terms of energy efficiency. It is strongly recommended that these measures, at a minimum are carried out to improve the energy performance of the building.

Building element	Recommendation	kWh/ m^2	CO_2/ m^2	BER	Cost	Impact
Current energy performance of this building		349.3	77.7	E2		
1. Roof, Main dwelling roof, Pitched roof	Increase insulation to 2008 building regulation standard where possible	280.6	62.79	D2	Med	High
2. Walls, Main dwelling wall, Cavity wall	Install cavity fill insulation to 2008 building regulation standard where possible	217.93	49.22	C3	Med	High
3. Walls, Wall type 2, Cavity wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible	216.98	49.01	C3	Med	Med
4. Roof, Roof type 2, Pitched roof	Increase insulation to 2008 building regulation standard where possible	215.81	48.76	C3	Med	Med
5. Cylinder timer	Install cylinder timer/thermostat	211.41	47.56	C3	Med	Low
6. Heating system control category	Upgrade controls to include Room stat, programmer and TRVs	190.64	43.06	C2	High	Med

Recommendations – Not Grant Aided:

These measures are recommended to improve the energy efficiency of the building but are not grant aided under this scheme

		Energy performance after improvement				
Building element	**Recommendation**	**kWh/ m2**	**CO2/ m2**	**BER**	**Cost**	**Impact**
Low Energy Bulbs	Install low energy light bulbs in all areas				Low	Med
Draught stripping	Install draught stripping to all windows and doors (including attic door)				Low	Low

Doors	Install door which meets 2008 building regulation standard where possible				Med	Low

Please note: Each building energy performance rated in the tables above assume that the recommendations listed above it have been carried out

Phase 2 of the SERVE Grant Scheme will offer grant aid for renewable energy measures such as thermal solar panels, wood stoves and log boilers to homeowners that have met a building energy rating C3 or better. North Tipperary County Council will send application details for same to you for consideration when this phase is open (early 2009)

Further information on the recommendations to improve this buildings energy efficiency

Low Energy Bulbs: Install low energy light bulbs in all areas
Replacement of traditional light bulbs with energy saving bulbs to reduce lighting costs significantly. They also last up to 12 times longer than ordinary light bulbs.

Draught stripping: Install draught stripping to all windows and doors (including attic door)
Fitting draught proofing, strips of insulation around windows and doors, will reduce drafts and unwanted ventilation which cause heat loss and drafts in the dwelling. It should be noted that all changes to ventilation may not deviate from permitted building regulation (Parts F or J) requirements.

Roof: Increase insulation to 2008 building regulation standard where possible
The roof is one of the largest areas for heat loss in a dwelling. Installing insulation will reduce this heat loss, and so reduce the energy demand of the dwelling. Current building standards require a U-Value not greater than 0.16 for a pitched roof, though if achieving this level is not possible, any improvement should be considered. Blanket insulation, loose beads or expanding foam may be used to achieve the required insulation level. It should, however, be noted that installing roof insulation can involve a considerable amount of work. The attic/roof space must also have adequate ventilation to prevent dampness and all changes to ventilation may not deviate from permitted building regulation (Parts F or J) requirements.

Walls: Install cavity fill insulation to 2008 building regulation standard where possible
As the largest surface area in most dwellings, the wall can make up one of the largest areas for heat loss in a dwelling. Installing insulation will reduce this heat loss, and so reduce the energy demand of the dwelling. Current building standards require a U-Value not greater than 0.27, though if achieving this level is not possible, any improvement should be considered. Insulation may be installed as cavity fill, which is where the gap between the inner and outer layers of external walls is filled with an insulating material. It should, however, be noted that installing wall insulation can involve a considerable amount of work.

Doors: Install door which meets 2008 building regulation standard where possible
As an area of relatively poor thermal insulation, much heat is lost from dwellings through their doors. Installing insulation will reduce this heat loss, and also generally reduce drafts through air gaps at the frames. Current building standards require a U-Value not greater than 2.2, though if achieving this level is not possible, any improvement is worthwhile.

Walls: Install cavity fill or external/internal insulation to 2008 building regulation standard where possible
As the largest surface area in most dwellings, the wall can make up one of the largest areas for heat loss in a dwelling. Installing insulation will reduce this heat loss, and so reduce the energy demand of the dwelling. Current building standards require a U-Value not greater than 0.27, though if achieving this level is not possible, any improvement should be considered. Insulation may be installed as cavity fill, which is where the gap between the inner and outer layers of external walls is filled with an insulating material. Should cavity insulation not be technically possible, insulation may be installed externally or internally. Internal insulation, known as dry-lining, is where a layer of insulation is fixed to the inside surface of external walls. External solid wall insulation is the application of an insulant and a weather-protective finish to the outside of the wall. It should, however, be noted that installing wall insulation can involve a considerable amount of work.

Roof: Increase insulation to 2008 building regulation standard where possible
The roof is one of the largest areas for heat loss in a dwelling. Installing insulation will reduce this heat loss, and so reduce the energy demand of the dwelling. Current building standards require a U-Value

not greater than 0.16 for a pitched roof, though if achieving this level is not possible, any improvement should be considered. Blanket insulation, loose beads or expanding foam may be used to achieve the required insulation level. It should, however, be noted that installing roof insulation can involve a considerable amount of work. The attic/roof space must also have adequate ventilation to prevent dampness and all changes to ventilation may not deviate from permitted building regulation (Parts F or J) requirements.

Cylinder timer: Install cylinder timer/thermostat
A hot water cylinder thermostat enables the boiler to switch off when the water in the cylinder reaches the required temperature; while also allowing this minimises the amount of energy that is used and lowers fuel bills.

Heating system control category: Upgrade controls to include Room stat, programmer and TRVs
The heating system would benefit from a programmer/timer and room thermostat to enable the boiler to switch off when no heat is required; this will reduce the amount of energy used and lower fuel bills. Thermostatic radiator valves (TRVs) should also be installed, to allow the temperature of each room to be controlled to suit individual needs, adding to comfort and reducing heating bills. For example, they can be set to be warmer in the living room and bathroom than in the bedrooms. TRVs should be fitted to every radiator excluding the radiator in the same room as the room thermostat and to the radiator/towel rail in the bathroom. The room thermostat is needed as well as the TRVs, to enable the boiler to switch off when no heat is required.

Appendix 12: Letter of Offer

XXXX
XXXX
XXXX
XXXXX
Co. Tipperary

Date: 08/08/2008

Your Reference Number is: 08 - 0001
(Please quote this number in all correspondence)

SERVE/HOME ENERGY SAVING PILOT SCHEME
Letter of Grant Offer

Dear XXXXX,

Further to your expression of interest to the above scheme and subsequent assessment of your house, I would like to confirm that you have been approved for grant aid under this scheme. The following measures are eligible for grant aid:

Building element	Grant Criteria
Roof, Main dwelling roof, Pitched roof	Increase insulation to 2008 building regulation standard where possible
Walls, Main dwelling wall, Cavity wall	Install cavity fill insulation to 2008 building regulation standard where possible
Walls, Wall type 2, Cavity wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible
Roof, Roof type 2, Pitched roof	Increase insulation to 2008 building regulation standard where possible
Cylinder timer	Install cylinder timer/thermostat
Heating system control category	Upgrade controls to include Room stat, programmer and TRVs

Your attached energy assessment advisory report will show the cost and impact of these measures as well as other non-grant aided recommendations.

You are reminded that:-

- The grant level is 30% of grant-aided remedial works, up to a maximum of €2,500, as recommended within your enclosed energy assessment advisory report.
- The offer of the grant is subject to the terms and conditions set out in Appendix 1.
- The minimum spend required on grant-aided measures is €3,000.
- All works must be carried out and request of grant payment made before the 21st of November 2008.
- One of the conditions of this grant-aid is that the Acceptance of Offer form, signed by the applicant and North Tipperary County Council, must be in place prior to any commencement of purchase of materials or works undertaken.

If you still wish to avail of the grant please return a signed "Acceptance of Offer" form (see appendix 2) to us. This will be signed by North Tipperary County Council and a copy will be returned to you for your records. We would request that you reply within 2 weeks of the date of this letter using the stamped addressed envelope provided.

Certain measures will have a greater impact on energy reduction than others and have been highlighted in the Energy Assessment Advisory Report. You may wish to discuss the recommendations in the report with the contractor you select. Please note that you must select your contractor from the enclosed List of Registered Suppliers/Installers. This list is being updated on a regular basis. You may also view this list on www.servecommunity.ie or by calling 067 44671. The contract for service will be between the householder and contractor. North Tipperary County Council and its partners Tipperary Energy Agency and Sustainable Energy Ireland do not, in any way, warrant or guarantee the products or services provided by any of the suppliers/installers listed.

Upon satisfactory completion of the works, in order to claim your grant from the local authority, you will be required to present the following documentation:

- Completed "Request for Payment" form which will be sent to you at a later stage.
- Completed "Declaration of Works" form(s), signed by both the householder and the contractor(s). This will be sent to you at a later stage.
- Original Contractor(s) Invoice(s)
- Proof of payment in the form of original receipt(s).

Separate to this grant offer, Phase 2 of the SERVE Grant Scheme will offer grant aid for renewable energy measures such as thermal solar panels, wood stoves and log boilers to homeowners that have met a building energy rating of C. North Tipperary County Council will send application details for same to you for consideration when this phase is open (early 2009)

If you have any questions or queries regarding the above points or enclosed forms, please contact Sheila Healy, Community and Enterprise Department, on 067 44671.

Yours sincerely,

Matt Shortt,
Director of Services
Planning, Community & Enterprise

SERVE/Home Energy Savings Pilot Scheme – Appendix 1

Terms and Conditions

- The applicant must be the owner of the home, located in the SERVE region in respect of which the grant application is made (not applicable to mobile homes, caravans, houseboats or other temporary dwellings).
- The applicant must engage a contractor on the list of Registered Suppliers/Installers.
- All works must be carried out and request of grant payment made before the 21st of November 2008.
- All work carried out must comply with current planning requirements, particularly those requirements pertaining to protected structures and houses in Architectural Conservation areas.
- The householder must facilitate any reasonable request made by the local authority requiring the contractor to return to the house in order to make good any works deemed not to meet the standards of the SERVE/Home Energy Savings Pilot Scheme.
- The applicant's agreement with North Tipperary County Council in the event of an Acceptance of Offer being signed will comprise of the Letter of Offer and the Terms and Conditions. The applicant shall comply with and agree to be bound by the provisions of these documents.
- The applicant must ensure that no purchase of materials or works commencement has occurred prior to the Acceptance of Offer being signed by applicant and North Tipperary County Council.
- A grant is only payable in respect of the grant-aided measures as indicated within your Energy Assessment Advisory Report.
- The applicant must provide North Tipperary County Council, with their energy consumption data for at least two years or sign an authorisation form to allow Tipperary Energy Agency/SEI to obtain this information.
- The applicant must allow the Tipperary Energy Agency, or their authorised agents, install energy monitoring devices in an agreed place for the purpose of monitoring the energy consumption of the home, if it is selected to be a monitored home.
- Should the applicant's property be selected as part of a sample inspection process, the applicant must make his/her home available for verification and/or technical inspection by North Tipperary County Council, Tipperary Energy Agency, Sustainable Energy Ireland or their authorised agents.
- North Tipperary County Council, Tipperary Energy Agency and Sustainable Energy Ireland accepts no liability or responsibility, whether for breach of contract, negligence or otherwise, in respect of any dispute, claim or cause of action arising out of, or in relation to, any product (or its suitability), equipment (or its suitability), work, system, service, specification, standard, installation or the qualification or performance of the contractor in respect of which grant approval or payment was given by North Tipperary County Council.
- The information provided herein and on the www.servecommunity.ie is provided solely for the purpose of providing assistance to the home owner in contracting suppliers/installers, and is not intended to warrant or guarantee the quality of the product and/or the installation chosen by the grant applicant. No undertaking, guarantee, assurance or other warranty, express or implied, is given by North Tipperary County Council, Tipperary Energy Agency, Sustainable Energy Ireland or any of its agents or servants, in respect of the cost, quality, efficiency and/or benefit of any work, equipment, product, service or installation provided under the Scheme. The fact of registration on the list of Registered Contractors for the Scheme does not infer any warranty or endorsement of that product or contractor by North Tipperary County Council, Tipperary Energy Agency or Sustainable Energy Ireland.
- In the event of any breach of the Terms and Conditions of the SERVE/Home Energy Savings Pilot Scheme or the Letter of Offer or the Acceptance of Offer by the applicant and where the applicant has received payment pursuant to the Scheme, North Tipperary County Council shall, amongst its remedies against the applicant, be entitled to demand the complete repayment of the grant payment and the applicant agrees to comply with any such demand within one month of the date of the letter from North Tipperary County Council containing such demand.
- The applicant shall follow the North Tipperary County Council complaints procedure in relation to any disputes between the applicant and North Tipperary County Council concerning any matter in connection with the Scheme.
- All data received from applicants by the local authorities and local energy agencies will be subject to Data Protection and will only be used for the purposes of the SERVE/Home Energy Savings Pilot Scheme

Appendix 13: Acceptance of Offer

From: SERVE/Home Energy Savings Pilot Scheme – Appendix 2

Acceptance of Offer

Your Reference Number is: 08 - 0001
(Please quote this number in all correspondence)

This Acceptance of Offer Form must be signed and returned within two weeks of the date on the letter of the grant offer to North Tipperary County Council using the stamped addressed envelope provided.

I, _____, of the address, _____
(Please insert name) (Please insert full address)

_____

hereby accept the offer made by North Tipperary County Council in letter dated 08/08/2008 of a grant of up to 30% of grant-aided recommended remedial works up to a maximum of €2,500. I also confirm that I have read and accept the Terms and Conditions outlined in the Letter of Offer and Appendix 1.

Signed: _____

Name: _____
(Block Capitals)

Date: _____

Signed on behalf of North Tipperary County Council by:

Signed: _____

Name: _____

Position: _____
(Block Capitals)

Date: _____

This Acceptance of Offer form will be signed by North Tipperary County Council and a copy returned to you for your records. Works can then commence on energy efficiency upgrading measures.

Appendix 14: Request for Payment Letter

Request for Payment

XXXX
XXXX
XXXX
XXXX
Co. Tipperary

Date: 26/08/2008

Reference No. 08-0001

SERVE/Home Energy Saving Pilot Scheme
Request for Payment

Dear XXXX,

To request payment of the grant, the grantee should forward the following documents to the address below:

- Signed Request for Payment Form (attached)
- Declaration of Works Forms (attached). This form must be signed by the Contractor and Homeowner. If more than one contractor is being used, each contractor used must sign a Declaration of Works Form.
- Original Invoices from the contractor
- Original Receipt of Payment

SERVE Grant Scheme
Community & Enterprise Department,
North Tipperary County Council,
Civic Offices,
Limerick Road,
Nenagh,
Co. Tipperary

For any queries, please contact Sheila Healy, North Tipperary County Council at sheila.healy@northtippcoco.ie or at 067 44671

Yours sincerely,

_____
Attracta Lyons
Community and Enterprise

Appendix 15: Request for Payment Form

Declaration of Applicant

I, _____, hereby request grant payment of

€_____ from North Tipperary County Council, dated _____.

I certify that the requirements in relation to implementations of the project have now been completed to my satisfaction and that all details supplied are correct.

Signature of Applicant::_____

Name: _____
Block Capitals

PPS Number of Applicant: _____

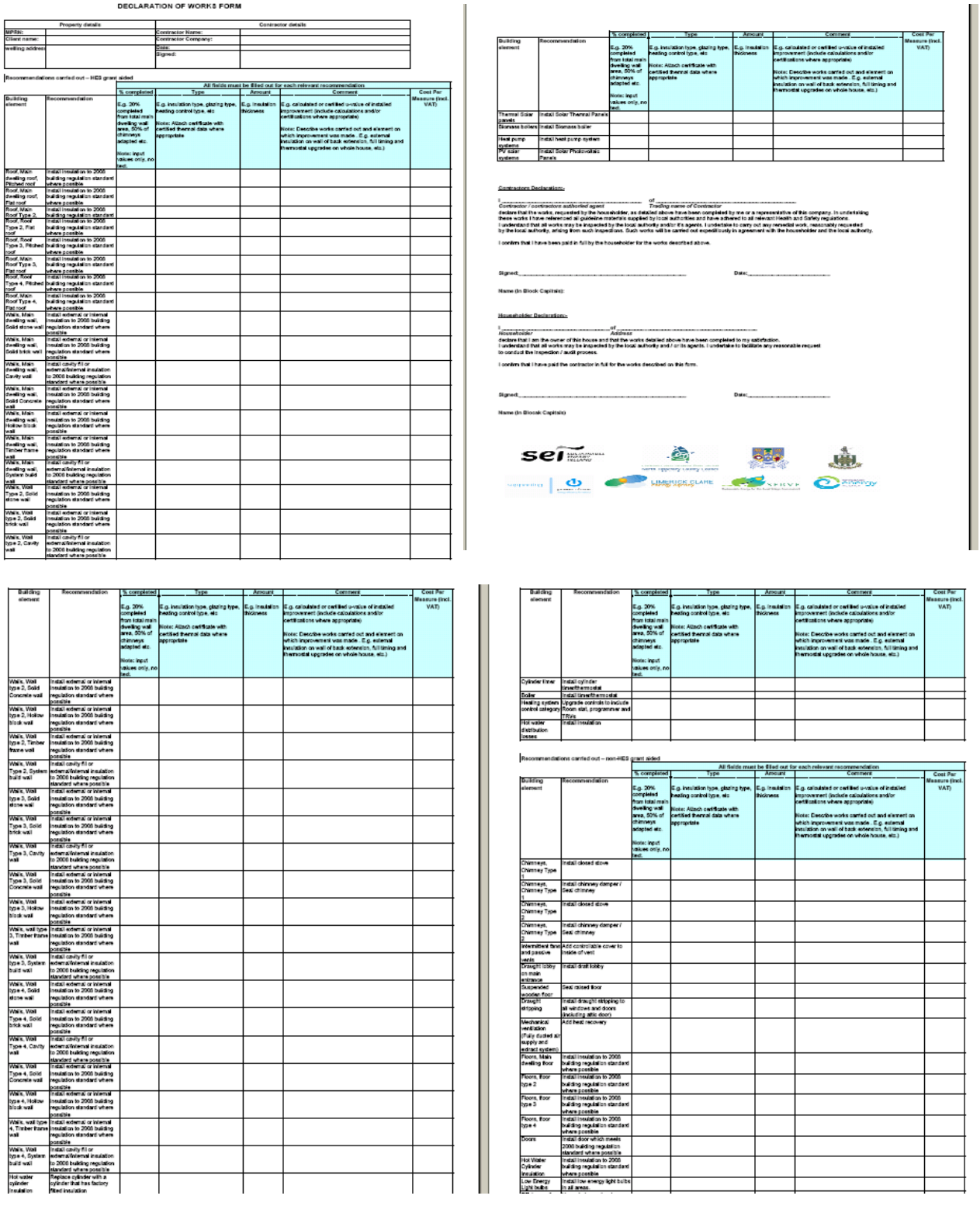
Address:_____

_____

_____

Date: _____

Appendix 16: Declaration of Works



DECLARATION OF WORKS FORM

Property details		Contractor details	
MPRN:		Contractor Name:	
Client name:		Contractor Company:	
dwelling address		Date:	
		Signed:	

Recommendations carried out – HES grant aided

Building element	Recommendation	All fields must be filled out for each relevant recommendation: % completed	Type	Amount	Comment	Cost Per Measure (incl. VAT)
		E.g. 20% completed from total main dwelling wall area, 50% of chimneys adapted etc. Note: input values only, no text.	E.g. insulation type, glazing type, heating control type, etc. Note: Attach certificate with certified thermal data where appropriate	E.g. insulation thickness	E.g. calculated or certified u-value of installed improvement (include calculations and/or certifications where appropriate). Note: Describe works carried out and element on which improvement was made. E.g. external insulation on wall of back extension, full timing and thermostat upgrades on whole house, etc.)	
Roof, Main dwelling roof, Pitched roof	Install insulation to 2008 building regulation standard where possible					
Roof, Main dwelling roof, Flat roof	Install insulation to 2008 building regulation standard where possible					
Roof, Main Roof Type 2,	Install insulation to 2008 building regulation standard					
Roof, Roof Type 2, Flat roof	Install insulation to 2008 building regulation standard where possible					
Roof, Roof Type 3, Pitched roof	Install insulation to 2008 building regulation standard where possible					
Roof, Main Roof Type 3, Flat roof	Install insulation to 2008 building regulation standard where possible					
Roof, Roof Type 4, Pitched roof	Install insulation to 2008 building regulation standard where possible					
Roof, Main Roof Type 4, Flat roof	Install insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, Solid stone wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, Solid brick wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, Cavity wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, Solid Concrete wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, Hollow block wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, Timber frame wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Main dwelling wall, System build wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 2, Solid stone wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 2, Solid brick wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 2, Cavity wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					

Building element	Recommendation	% completed	Type	Amount	Comment	Cost Per Measure (incl. VAT)
		E.g. 20% completed from total main dwelling wall area, 50% of chimneys adapted etc. Note: input values only, no text.	E.g. insulation type, glazing type, heating control type, etc. Note: Attach certificate with certified thermal data where appropriate	E.g. insulation thickness	E.g. calculated or certified u-value of installed improvement (include calculations and/or certifications where appropriate). Note: Describe works carried out and element on which improvement was made. E.g. external insulation on wall of back extension, full timing and thermostat upgrades on whole house, etc.)	
Thermal Solar panels	Install Solar Thermal Panels					
Biomass boilers	Install Biomass boiler					
Heat pump systems	Install heat pump system					
PV solar systems	Install Solar Photovoltaic Panels					

Contractors Declaration:-

I _____ of _____
Contractor / contractors authorised agent — Trading name of Contractor

declare that the works, requested by the householder, as detailed above have been completed by me or a representative of this company. In undertaking these works I have referenced all guideline materials supplied by local authorities and have adhered to all relevant Health and Safety regulations.
I understand that all works may be inspected by the local authority and/or it's agents. I undertake to carry out any remedial work, reasonably requested by the local authority, arising from such inspections. Such works will be carried out expeditiously in agreement with the householder and the local authority.

I confirm that I have been paid in full by the householder for the works described above.

Signed:_____ Date:_____

Name (in Block Capitals):

Householder Declaration:-

I _____ of _____
Householder — Address

declare that I am the owner of this house and that the works detailed above have been completed to my satisfaction.
I understand that all works may be inspected by the local authority and / or its agents. I undertake to facilitate any reasonable request to conduct the inspection / audit process.

I confirm that I have paid the contractor in full for the works described on this form.

Signed:_____ Date:_____

Name (in Block Capitals)

Building element	Recommendation	% completed	Type	Amount	Comment	Cost Per Measure (incl. VAT)
		E.g. 20% completed from total main dwelling wall area, 50% of chimneys adapted etc. Note: input values only, no text.	E.g. insulation type, glazing type, heating control type, etc. Note: Attach certificate with certified thermal data where appropriate	E.g. insulation thickness	E.g. calculated or certified u-value of installed improvement (include calculations and/or certifications where appropriate). Note: Describe works carried out and element on which improvement was made. E.g. external insulation on wall of back extension, full timing and thermostat upgrades on whole house, etc.)	
Walls, Wall type 2, Solid Concrete wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 2, Hollow block wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 2, Timber frame wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 2, System build wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 3, Solid stone wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 3, Solid brick wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 3, Cavity wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 3, Solid Concrete wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 3, Hollow block wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, wall type 3, Timber frame wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 3, System build wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 4, Solid stone wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 4, Solid brick wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 4, Cavity wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Walls, Wall Type 4, Solid Concrete wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 4, Hollow block wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, wall type 4, Timber frame wall	Install external or internal insulation to 2008 building regulation standard where possible					
Walls, Wall type 4, System build wall	Install cavity fill or external/internal insulation to 2008 building regulation standard where possible					
Hot water cylinder insulation	Replace cylinder with a cylinder that has factory fitted insulation					

Building element	Recommendation	% completed	Type	Amount	Comment	Cost Per Measure (incl. VAT)
		E.g. 20% completed from total main dwelling wall area, 50% of chimneys adapted etc. Note: input values only, no text.	E.g. insulation type, glazing type, heating control type, etc. Note: Attach certificate with certified thermal data where appropriate	E.g. insulation thickness	E.g. calculated or certified u-value of installed improvement (include calculations and/or certifications where appropriate). Note: Describe works carried out and element on which improvement was made. E.g. external insulation on wall of back extension, full timing and thermostat upgrades on whole house, etc.)	
Cylinder liner	Install cylinder liner/thermostat					
Boiler	Install timer/thermostat					
Heating system control category	Upgrade controls to include Room stat, programmer and TRVs					
Hot water distribution bodies	Install insulation					

Recommendations carried out – non-HES grant aided

Building element	Recommendation	All fields must be filled out for each relevant recommendation: % completed	Type	Amount	Comment	Cost Per Measure (incl. VAT)
		E.g. 20% completed from total main dwelling wall area, 50% of chimneys adapted etc. Note: input values only, no text.	E.g. insulation type, glazing type, heating control type, etc. Note: Attach certificate with certified thermal data where appropriate	E.g. insulation thickness	E.g. calculated or certified u-value of installed improvement (include calculations and/or certifications where appropriate). Note: Describe works carried out and element on which improvement was made. E.g. external insulation on wall of back extension, full timing and thermostat upgrades on whole house, etc.)	
Chimneys, Chimney Type 1	Install closed stove					
Chimneys, Chimney Type 1	Install chimney damper / Seal chimney					
Chimneys, Chimney Type 2	Install closed stove					
Chimneys, Chimney Type 2	Install chimney damper / Seal chimney					
Intermittent fans and passive vents	Add controllable cover to inside of vent					
Draught lobby on main entrance	Install draft lobby					
Suspended wooden floor	Seal raised floor					
Draught stripping	Install draught stripping to all windows and doors (including attic door)					
Mechanical ventilation (Fully ducted air supply and extract system)	Add heat recovery					
Floors, Main dwelling floor	Install insulation to 2008 building regulation standard where possible					
Floors, floor type 2	Install insulation to 2008 building regulation standard where possible					
Floors, floor type 3	Install insulation to 2008 building regulation standard where possible					
Floors, floor type 4	Install insulation to 2008 building regulation standard where possible					
Doors	Install door which meets 2008 building regulation standard where possible					
Hot Water Cylinder Insulation	Install insulation to 2008 building regulation standard where possible					
Low Energy Light bulbs	Install low energy light bulbs in all areas					

Appendix 2: SERVE D1.8 WP1 Summary of Options HES Cooperation Final

Project Acronym: SERVE REF EC: (Project Number) TREN07/FP6EN/S.07.71106/038382 REF (project coordinator org.): DOCUMENT: REF.:	Project Coordinator: Seamus Hoyne Project coordination org.: Tipperary Rural and Business Development Institute Date: 23rd March 2009 Revision: 1

Deliverable No.: D1.8
Summary of Options for SERVE and HES Collaboration
Work Package No:1

CONCERTO INITIATIVE
SERVE

Sustainable Energy for the Rural Village Environment

Date: 23rd March 2009

Author: Seamus Hoyne, Tipperary Institute, Project Coordinator.

Version: 1.0

CONCERTO is co-funded by the European Commission

Table of contents

1 Introduction

The SERVE project was initiated in November 2007 after successfully securing €4.1m of support under the EU CONCERTO Programme. The SERVE project aims to create a region in North Tipperary which demonstrates best practice in relation to sustainable energy.

The Programme for Government in 2007 committed to the implementation of a national energy efficiency scheme for the residential sector. A Pilot Home Energy Savings Scheme was implemented in 2008. Subsequent to this Pilot a National Home Energy Savings Scheme was announced on the 8th of February 2009. Sustainable Energy Ireland are appointed by the Department of Communications Energy and Natural Resources to implement the HES Scheme, and were also responsible for the Pilot Scheme.

One of the key work packages of the SERVE project (WP1) and one which is fundamental to the overall project, focuses on energy efficiency measures for existing residential and non-residential buildings within the SERVE Region. As part of the Pilot scheme the WP1 SERVE partners, North Tipperary County Council (NTCC) and Tipperary Energy Agency (TEA) cooperated successfully with SEI to implement the scheme in the SERVE region. This clearly demonstrated that there are opportunities for synergies to be achieved by the SERVE project and SEI cooperating in relation to HES.

Both the HES and SERVE WP1 have some common aims and objectives in that they seek to achieve energy and CO_2 savings in the residential sector, while also realising additional associated benefits such as job creation and security of supply. Notwithstanding this, each also has differing priorities and constraints which restrict their ability to adjust their respective programmes to achieve the synergies.

Discussions have been on-going with regard to how the schemes can cooperate. No final solution has yet been identified and this document provides a summary of the various options which have been developed.

The timescale for reaching an agreement is tight as both parties are under time pressure to implement their schemes and the SERVE partners hope that SEI will give the proposal their immediate and urgent consideration.

2 SERVE and HES Current Status

The HES programme has been effectively modelled on the SERVE project grant levels which shows that the SERVE project was appropriately designed initially for the Irish market. The programmes are effectively the same but have the following key differences in terms of application and energy targets

- Within HES you have the option to apply numerous times to the HES programme subject to an initial grant claim of €500 minimum level for the first application.
- While energy targets are indicated within HES, there are not obligatory
- Completion of Building Energy Rating (BER) is not mandatory under HES while SERVE was considering that it should be
- Under HES there are no obligations to provide energy data for monitoring purposes.
- Under SERVE buildings must reach a particular overall energy standard (equivalent to 2006 Building Regulations)

Based on this it would generally be more advantageous for a dwelling owner in the SERVE region to apply to the HES scheme than to the SERVE project. This means that

a) the HES scheme could take way the market fro the SERVE project
b) SERVE would have to compete with the HES system or seek some mechanism to cooperate.

MEASURE	CATEGORY	HES Grant	SERVE Grant	HES Energy Target	SERVE Energy target
Roof	Roof Insulation	€250	€250	U-value: 0.16	U-value: 0.13
Wall	Cavity wall insulation	€400	€400	U-value: 0.27	U-value: 0.27
	Internal Wall Dry-Lining	€2,500	€2,500	U-value: 0.27	U-value: 0.27
	External wall insulation	€4,000	€4,000	U-value: 0.27	U-value: 0.27
Heating Controls	High Efficiency Gas or Oil fired Boiler with Heating Controls Upgrade	€700	€700	>90%	>90%
	Heating Controls Upgrade	€500	€500	3 zones, time and temp control	3 zones, time and temp control
BER Assessment	A *Before* works and an *After* works assessment	€200	€100		

3 Principles for Cooperation

The SERVE partners have sought to outline the key principles which it has to maintain to allow it to implement its contractual requirements with the EU Commission. Also outlined below is their understanding of the principles which SEI must maintain in relation to the HES, and indeed other programmes. Finally, the joint principles which should apply to any agreement are outlined.

3.1 SERVE Principles

- The SERVE proposal was accepted by the EU Commission on the basis that it is an integrated project which meets the CONCERTO principles of achieving energy efficiency gains and increasing the use of renewable energy.
- NTCC as the lead partner under WP1 must have a direct contract with the participating building owners (residential and non-residential buildings) such that the costs incurred by the building owner to implement the energy efficiency measures become eligible as NTCC costs under the SERVE project. This is defined as a Third Party Contract as outlined in Appendix 6 of the SERVE Technical Annex I. This is a key and fundamental requirement for the project.
- Buildings in the SERVE region which implement energy efficiency measures must achieve a particular energy standard. In principle the buildings should achieve an energy performance in line with the 2006 Building Regulations.
- The SERVE project has committed to achieving energy savings in a total of 63,000 m^2 of dwellings which equates to approximately 450 dwellings in the SERVE region. This has to be implemented by October 2010.
- SERVE budgets for eco-building activities are defined on a m^2 basis under CONCERTO rules and these are non-adjustable
- SERVE partners are responsible to the EU Commission under their EU Contract.

3.2 SEI Principles

- SEI has been appointed to run the National HES Scheme and have been instructed to do this in as efficient manner as possible
- The HES Scheme is a rules based scheme and these rules should be applied consistently on a National basis
- The HES should be in a position to be launched at the end of March
- The HES has a budget of €50m initially
- SEI have concerns with regard to the optics and other implications of people having access to different levels and forms of support under two very similar support schemes and do not want such a situation to arise.
- SEI is responsible to a number of Government Departments

3.3 Principles for Agreement

- The core aims of the SERVE project and HES should not be affected by any agreement
- There should be minimal impacts on the Contract between the SERVE partners and the EU Commission
- There should be minimal impacts on the HES Scheme Administration and roll-out
- There should be clarity for the consumers in the SERVE region with regard to the schemes and the ability to choose which scheme they wish to participate in
- The implementation of the schemes should be as efficient as possible
- The SERVE Project should, and in principle does, require buildings to go 'beyond the norm' in terms of energy performance
- The agreement should present synergies in terms of learnings and outputs for all involved which can be applied on a National and European basis (where relevant). All relevant outputs should be shared as appropriate between parties.
- An agreement should be in place across all overlapping programmes between SERVE and SEI (HES, Greener Homes Scheme and RE Heat).

4 Options for Collaboration

As stated, the SERVE partners, have considered the issues and have developed the following options for consideration by SEI.

4.1 Option 1 – SERVE as HES +

This involves the SERVE project implementing WP1 with a clearly differentiated support scheme in the SERVE region. SERVE will be promoted locally and the additional aspects of the SERVE project highlighted, including

- SERVE dwellings will be encouraged to complete Building Energy Rating (BER) before and after through an additional incentive from the SERVE project, on top of that provided via the HES.
- SERVE dwellings will have to achieve the required energy standards as outlined in the SERVE contract
- SERVE dwellings will have to commit to being engaged in a detailed monitoring programme with 20% of dwellings having monitoring equipment installed and the remainder providing energy data to the project for a period of 2 years.
- SERVE dwellings will be engaged in socio-economic research activities related to their energy efficiency upgrades
- SERVE dwellings will have to commit to potentially being used for dissemination activities including case studies, site visits, media and other materials etc
- An above average number of dwellings will be inspected ~50%
- It could potentially include some aspect of a behavioural change and analysis also linked to the Power of One Campaign or similar or to the Energy Neighbourhood programme being implemented by TEA.
- Access to additional grant support for installation of wood stoves

An incentive will be required to convince dwelling owners to engage in the SERVE project and accept the additional requirements. The SERVE partners are proposing that SEI would consider grant aiding the SERVE Partners to allow applicants to receive an additional sum of funding to engage in the above activities. The initial estimate is that an additional 10% incentive would be provided (on top of the approx 30% provided under SERVE rules). This would equate to a total grant support of €150,000 for the SERVE WP1 activities. This is in addition to the current proposal which SEI are considering with regard to co-funding installation of monitoring equipment.

The SERVE supports would be promoted locally within the SERVE region only and the aspects of both programmes outlined to potential applicants in detail such that they have the option of applying to the scheme that most meets their needs..

SERVE grant supports will be administered via NTCC and an administration system would be developed to ensure that double funding is not achieved. The MPRN presents a clear opportunity for clear reporting and avoidance of this.

Benefits of implementing an agreement based on the above are:

- Both SERVE and HES can be implemented with little or no change to their contractual requirements
- SERVE WP1 and HES are clearly differentiated within the SERVE region and dwelling owners are clear on the impacts of engaging with each scheme
- SERVE dwellings are offered an additional incentive to 'go beyond the norm' and a wide range of technical and socio-economic data will be made available for use Nationally
- The issue of dual/double funding to excessive levels is avoided
- SERVE will brand its programme as having received support from SEI, therefore providing additional promotion to SEI
- SEI will be able to use the SERVE project to compare and contrast the impacts of the SERVE local action with its National campaign
- It will be an administratively light agreement to implement
- For an investment of €150k an additional €850k will be effectively added to the HES budget of €50m and HES funds which would otherwise have granted aided measures in the SERVE region can be applied else where in the country.
- The potential for negative optics is negated or very much minimised as the schemes are seen to be co-operating and each scheme will be successfully implemented

Issues to be address included

- SEI funding for incentive
- Mechanism to ensure HES records show that a particular dwelling has already got SERVE funding
- Agreed promotional campaign

4.2 Option 2 – SERVE via HES

This involves the SERVE scheme and HES Scheme developing a more complicated agreement from an administration point of view. Essentially, this would require that there would be only one route through which dwelling owners could apply for grant aid, and that would be via the HES system. Ideally, the HES would allow SERVE region applicants to be identified prior to an offer being made. If this is not possible the following process would apply

a) Homeowners apply to HES
b) On a daily basis SEI/HES give NTCC a list of people who have applied under HES in Co. Tipperary (assuming that HES will not differentiate between North and South Tipperary)
c) NTCC review and select those who are in the SERVE region.
d) NTCC contact on a daily basis (by phone and letter) these applicants to outline that
    a. HES and SEI working with NTCC and the SERVE project with the aim of maximizing energy savings in the SERVE region and the creation of a sustainable energy zone
    b. NTCC will be paying the HES grant (same levels apply)
    c. NTCC will provide additional support/follow-up
        i. Additional support to encourage completion of BER cost (in addition to HES support)
        ii. Inspection of works done above National levels
        iii. Analysis of the performance of the upgrades over 24 month period
        iv. Energy monitoring programme
        v. Access to additional grants for Renewable Energy
    d. To engage in the SERVE programme applicant signs Form for NTCC (which will meet SERVE Contract requirements) and an NTCC Declaration of Works Form. NTCC and SEI can do regular checks of DoW/RFP forms to see who has sent what where. Applicants can also be asked to send back SEI DoW forms to NTCC
    e. NTCC will arrange a follow up visit to do inspection
        i. At this point commitment to energy bill waivers, monitoring can be obtained.

Benefits of this system are

- SERVE project meets principle of homeowner costs being joined to SERVE via Third Party Contract
- There is one route through which applicants apply and they are then diverted to HES or SERVE, as they have the option of refusing the SERVE additional offer.
- The issue of dual/double funding to excessive levels is avoided

- The potential for negative optics is negated or very much minimised as the schemes are seen to be co-operating and each scheme will be successfully implemented
- The HES system is only required to provide information to the SERVE partners once the application is validated. Ideally, this would be looked at in the medium term to see if the system can be adjusted to allow people to divert to SERVE prior to validation.
- An additional €850k will be effectively added to the HES budget of €50m and HES funds which would otherwise have granted aided measures in the SERVE region can be applied else where in the country.

Issues to be addressed are

- SEI have to commit to providing data to the SERVE project and this would have to meet relevant Data Protection requirements. There would have to be a very clear communications structure between SERVE and SEI (and their agent)
- Promotion and Communication campaign to be agreed between parties
- HES system would have to be updated to show that house has received funding from SERVE to avoid future double funding.
- Administrative burden on both parties increased compared to Option 1
- No incentive to encourage people to move to SERVE from HES

4.3 Option 3: HES and SERVE +

The HES supports a range of measures which are generally in line with Building Regulations 2008 and these measures are the same as the measures originally planned under the SERVE project. The SERVE WP 1 partners have therefore sought to identify measures which it can support in the context of 'additionality'. The basis on which the measures have been identified has been

- Finding additional support we can add to HES funded measures (*.....to encourage them to avail of HES funding and to go the extra mile with deeper interventions which can be supported by SERVE)*.
- Finding additional measures not supported under HES but eligible under SERVE
- Provision of support for engaging in the CO_2 monitoring programme, behavioural analysis, provision of energy data etc is included
- Moving some money to more activity on Non-residential a part of WP1

One point to note is that within the documentation on HES it notes specific standards to be achieved where 'physically and economically viable'. A number of the proposed measures focus on this issue where SERVE could overcome the economically viable barrier for particular homeowners. Based on the above a list of measures has been developed which SERVE can support, the likely take up, estimated grant support, and relevant comments. See Appendix 1.

This system allows the HES programme to operate as is and the SERVE project to provide supports to people to go beyond the norm. The measures proposed are all within the SERVE project WP1 Description. Clarity will have to be received from the EU Commission with regard to eligibility of costs for NTCC within WP1 for these additional measures.

5 Impact Analysis

The following figures and tables outline the relationship between SERVE and HES.

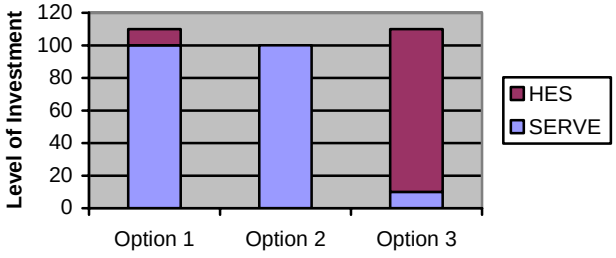


Figure 1: Main Investment for Measures
Note for Option 3 SERVE is supporting additional measures and HES the main measures

Area/Principle	Option 1	Option 2	Option 3
SERVE Contract	↑	↑	↓
SERVE m^2 Targets	↑	↑	→ ?
NTCC Costs	↑	↑	→ ?
SERVE Energy Targets	↑	↓	↑
HES Admin	↓	↓	→
Consumer Clarity	→	→	↓
Efficient Implementation	↓ ?	↓ ?	↓ ?
Joint Learnings	↑	↑	↑
Additionality	→ ?	→ ?	↑

Table 1: Relative Impact on particular areas or principles of agreement

The above would indicate that Option 1 would appear to have the least impact. It is dependent however on agreement with the EU Commission with regard the issue of additionality. Option 1 and 2 have the same relative level of investment and also addressed the need for NTCC to be able to claim costs under the Third Party Contracts. It does however have administration impacts for HES. Option 3 provides the opportunity for the SERVE project to add to the HES scheme, avoid overlap in terms of supports and push the potential energy savings within the SERVE region beyond those initially envisaged.

6 Implications for not achieving agreement

For clarity amongst all parties the SERVE partners wish to outline the implications for not being able to reach agreement on a way forward.

Work Package (WP1) (Eco Building measures for existing buildings) represents approximately 35% of the total budget for the SERVE project. A range of other WPs are directly linked to WP1 including socio-economic analysis, energy monitoring and analysis, training and dissemination. If WP1 is not delivered then each of these WPs effectively becomes redundant therefore affecting another 15% of the SERVE budget. This would effectively mean the SERVE project is not viable, from the EU Commission view point, and therefore it is expected that the contract would be stopped.

This has significant implications for all partners in the SERVE project. All partners will suffer financially and impacts will be significant for the core partners. In the current economic climate all organisations are under financial pressure and such losses may not be able to be carried by some partners.

The high profile Eco-village will be dramatically affected as the co-funding for its biomass/solar energy centre system will be gone, in addition to the funding for the dwellings themselves. Work on the energy centre is due to commence in mid-end of March to heat the dwellings that have started to be constructed. The Eco-village project would have severe difficulty bridging the funding gap and therefore could be placed in a very difficult position.

€10.4 million of investment in North Tipperary would be lost with all of the additional enterprise and economic spin offs that this investment would result in.

7 Conclusion and Next Steps

The SERVE partners have discussed the various options with SEI in detail. SEI are most comfortable with Option 3 in general and are willing to proceed on this basis, subject to agreement from the Commission. Further details have to be agreed with SEI in terms of Option 3 but these are generally administrative.

The SERVE partners welcome the input from the EU Commission on how to implement this work effectively. There is no substantive change to the aims and objectives of the project, in fact the SERVE project has already made significant progress towards achieving its targets and affecting the implementation of a national programme on energy efficiency.

Appendix 1: Option 3 measures

Category	Measure	Required Standard	Uptake (No of Houses)	SERVE Grant	Spend per Measure		Justification	HES Grant Possible	Note
Windows	Windows	2.0 + HES measures	100	2000	200,000	27%	Not under HES	No	Must be part of comprehensive upgrade. Single Glazed first priority, poor DG
Insulation	External Wall	0.19 U Value	40	4000	160,000	22%	Beyond HES. Addressing the 'Not Economically Viable' level.	Yes	Whole house approach. Need to define what is not economically viable. Managing overlap with HES. Potentially move to 0.15 U Value in 2010
Insulation	Attic Insulation	Low Carbon (Ref BRE Green Building Doc), Match HES U-Values	50	250	12,500	2%	Low Carbon Materials (Sheeps wool, Hemp etc). Addressing the 'Not economically viable' level	Yes	
Insulation	Flat Roof, Room in Roof	0.13 U Value	20	1000	20,000	3%	Addressing the 'Not Economically Viable' level.	No	Where significant construction work required. Flat roof extensions unlikely to be addressed by HES
Insulation	Floors	0.25 U Value	10	1000	10,000	1%	Not in HES	No	Must be part of comprehensive upgrade
Heating	Main Space Heating	94.00%	50	300	15,000	2%	Push Efficiency beyond HES	Yes	
Heating	Controls	> 5 zones, weather comp, no TRV	25	500	12,500	2%	Push additional controls, in conjunction with monitoring for data analysis	Yes	
Heating	Water Heating	New High Efficiency Cylinder	50	300	15,000	2%	Not in HES	No	
Heating	Secondary SH				-	0%			Consider in Phase 3
Lighting	Lighting	LEDs 50W downlighters	100	150	15,000	2%	Not in HES	No	Must achieve SERVE Target
Lighting	Lighting	Controls - PIRs	50	150	7,500	1%	Not in HES	No	Must achieve SERVE Target
Ventilation	Chimney Closures	Reclosable	200	150	30,000	4%	Not in HES		Must achieve SERVE Target
Passive	Building	A3 Rating	5	8000	40,000	5%	Comprehensive Approach	Yes	Targetting exemplary buildings which achieve excellent standards.
	SERVE CO2 Analysis	Reach SERVE Energy Std, Allow monitoring, Stove, Socio Economic etc	200	1000	200,000	27%		Yes	Support for homeowners to engage in behaviour analysis and comprehensive programme of information provision. Requires houses to reach SERVE Standard (via HES or SERVE), BER Before and After. Data input on CO2 Online, Energy Meter Provided, Access provided to Behavioural and Socio-economic analysis
	Sub Total				737,500				
	Move to Non Residential				100,000				Non Residential
	Phase 1 Spend				25,000				Spent during Phase 1, excluding SEI Support
	Total				862,500				
	Total SERVE WP1 Residential Grant Measures Budget				854,000				

Appendix 2: Communications with SEI

Seamus Hoyne

From: Kelleher Majella [Majella.Kelleher@sei.ie]
Sent: 16 March 2009 17:44
To: Seamus Hoyne
Cc: Barry Simone; Attracta Lyons; Motherway Brian; Halpin Tom
Subject: RE: SERVE and HES

Dear Seamus,

Just wanted to touch base on this one and to say that we are still trying to find our way through the challenges it presents.

Your suggestion below in relation to checking an MPRN detail is doable – we will need to examine whether there are any Data Protection issues and how they might be addressed. This kind of check, while cumbersome, can be dealt with offline so I believe we can find a solution to that end. However any recording of SERVE house data in SEI systems, which would not be an offline process, I believe is a little more problematic and not easily solved.

On the additionally issue having dealt with the Commission on funding for a number of years now I would still be concerned that you may run into difficulty utilising EU funds to undertake activities that are now funded nationally. I can fully sympathise with a reluctance to revisit the project at European level – but would encourage you to be well prepared for additionally question to potentially be raised at a later date or during an audit and in doing so to ensure your funding was not put in any jeopardy.

Making adjustments to a national scheme in one area is simply not going to be possible. All the HES systems and processes are designed for maximum efficiency and minimum administrative intervention given that scale of the programme. While some accommodations can be made as described above changing the core scheme is not viable. I know it has been discussed in earlier mails but the best option would still appear to me to be to use SERVE funds should still be going to additional, deeper interventions in homes. Given that HES funding is available for a defined range of measures is it not possible for the SERVE project to approach eligible applicants to encourage them to avail of HES funding ***and*** to go the extra mile with deeper interventions which can be supported by SERVE. If you really pushed the envelope on some of the measures such an approach would also address any likely additionality issues that could arise with the Commission later. SEI could perhaps alert applicants from a certain area to the availability of additional SERVE funding and attached the relevant contact details. The SERVE area is difficult to identify geographically within the national system but we could work something out.

I cannot identify any other clear mechanism at our end and you will understand that in the current economic climate there are no discretionary funds.

I hope this assists in moving the discussion forward. I will be away from the office from this evening but I am sure you will be in touch with Brian and Tom in the meantime.

Kind regards,
Majella

Majella Kelleher
Head Corporate Services
Sustainable Energy Ireland

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mob (087) 237 5425

The **Energy Show 2009** **April 29th and 30th RDS Dublin,** a must for suppliers and business customers of sustainable energy technologies and services. **Online registration is now available for the exhibition and seminar programme.**

Seminar places are limited so book early to avoid disappointment.

From: Seamus Hoyne [mailto:SHoyne@tippinst.ie]
Sent: 10 March 2009 14:22
To: Motherway Brian; Halpin Tom
Cc: Barry Simone; Kelleher Majella; Attracta Lyons
Subject: RE: SERVE and HES

Hi Brian
Apologises gain for delay in responding – we were waiting for Jim Codd (Administrative Coordinator on SERVE) to get clarifications on some issues. In responding to your issues below

-We don't know how to identify SERVE people in our system. Thus there is a risk of somebody in SERVE claiming via HES as well. Our system effectively automatically approves grants so there is no option of even a manual intervention to look at counties, addresses etc, before approval. Thus as it stands there is an exposure to potential fraud, albeit in a limited number of homes

NTCC will use a similar system to SEI where the MPRN is the key data point for applicants. Our understanding of the HES systems is that once the applicant is approved they are sent their Dec of Works forms etc. These have to be returned to SEI (or their agent) before grant is paid. NTCC will provide SEI, on an agreed but regular basis, a list of all SERVE applicants, including MPRN details, prior to approval of grant so that a check can be made against the HES system. Further checks can be put in place if required but essentially NTCC would not provide payment under SERVE until confirmation is received from SEI that that MPRN has not received HES support. Further discussions will need to be held on how to record SERVE houses in the HES system once SERVE has provided support to them but I expect that this is something that can be dealt with from an IT point of view. Insertion of clauses regarding co-funding etc in the T&Cs of each scheme can also be considered but I am not sure if this is possible for the HES at this stage.

- I would have thought you will have an additionality problem in your project where for much of your activity you are giving EU funds for actions that could have attracted identical national funds. I don't know if you have examined this.
We have sought advise on this, via Jim Codd, and his conclusion is that based on the fact that SERVE was in place first, it will push for higher energy targets and is part of an overall scheme that this is not a significant issue.

- It is by no means clear that government will allow us to re-configure the nature of supports in one area to stop grant-aiding the normal measures but then choose to grant-aid quite different measures (grants not available elsewhere), and I'm snot sure yet we want to ask for such permission
We appreciate the issues here. A solution could be to seek to utilize other funding mechanisms outside of HES such as Power of One etc to address this issue thereby leaving HES unaffected. Again, our understanding of the limits of how SEI can manage its various programmes is limited to our experience but if the additional supports could be supported out of discretionary funds rather than the rules based programmes that might assist. If we can get agreement on what the additional supports which SERVE/SEI will provide to the homeowners perhaps we can find the solution to this. The main issue is that we need to make it attractive for people to enter the SERVE project and go beyond the norm etc. so packaging this will be importance.

- There will be tremendous confusion in the market, and probably controversy about double-administration
I think that working together that this can be minimized and the SERVE WP1 partners (NTCC and TEA) plan an extensive on the ground information campaign to seek to address this. We would seek to work with SEI on this communication campaign, using your expertise, to address this issue.

I hope the above clarifies these issues. We are again available to meet this week to seek to finalise this agreement. Thanks in advance for your response.

Regards

Seamus

This email has been sent by
Seamus Hoyne
SERVE Project Co-ordinator
(www.servecommunity.ie)

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E: shoyne@tippinst.ie
W: www.tippinst.ie

From: Motherway Brian [mailto:Brian.Motherway@sei.ie]
Sent: 06 March 2009 13:48
To: Seamus Hoyne; Halpin Tom
Cc: Barry Simone; Kelleher Majella; Attracta Lyons
Subject: RE: SERVE and HES

Thanks Seamus

We are still not resolved here yet obviously, and I know there is time pressure. The key issues for us are avoiding parallel schemes that duplicate, confuse or over-incentivise; and secondly the fact that we cannot re-write the grant admin system that will handle up to 30,000 transactions this year to find a way to pull out a few hundred for special treatment.

Let me re-state my interpretation of your Option 1: An NTCC person can choose either HES or SERVE. If they choose SERVE, you will pay householders the grants for the basic measures. We will (through you) pay them for the additional elements such as monitoring

If this is correct here are the problems we see:
-We don't know how to identify SERVE people in our system. Thus there is a risk of somebody in SERVE claiming via HES as well. Our system effectively automatically approves grants so there is no option of even a manual intervention to look at counties, addresses etc, before approval. Thus as it stands there is an exposure to potential fraud, albeit in a limited number of homes
- I would have thought you will have an additionality problem in your project where for much of your activity you are giving EU funds for actions that could have attracted identical national funds. I don't know if you have examined this.
- It is by no means clear that government will allow us to re-configure the nature of supports in one area to stop grant-aiding the normal measures but then choose to grant-aid quite different measures (grants not available elsewhere), and I'm snot sure yet we want to ask for such permission
- There will be tremendous confusion in the market, and probably controversy about double-administration

We're not trying to block here Seamus, these are the questions that occur to us and that indeed will be asked of us. If you can suggest a system solution to address my first point and are comfortable from your own perspective on my second point, we can probably find communications approaches to address the fourth. On the third, ultimately any proposed solution will have to go via our parent department.

regards
Brian

From: Seamus Hoyne [mailto:SHoyne@tippinst.ie]
Sent: 04 March 2009 17:50
To: Motherway Brian; Halpin Tom
Cc: Barry Simone; Kelleher Majella; Attracta Lyons
Subject: RE: SERVE and HES

Importance: High

Hi Brian
Thanks again for your email and the following is the response to the issues that you have raised below.

- It is not our intention that people within the SERVE region could only apply to SERVE. It is our intention that through cooperation with HES and SEI people within the SERVE region would be presented with both options SERVE and HES. The issue is that there is a requirement for people to do more to qualify for a SERVE support, based on the current structures, and the HES may be more attractive to people hence impacting on the number of dwellings which will engage with the SERVE project. Therefore, option one proposes that the HES provides support to the SERVE project to incentive people engaging with the 'beyond the norm' activities under SERVE. It was not meant to infer that people within the SERVE region could only get SERVE grants – they would have the choice but we would be encouraging through incentives to move them into the SERVE project.
- Option 1 focuses on SERVE paying for the measures because this is a fundamental contractual requirement under the SERVE contract in relation to NTCC. As stated previously NTCC will claim the building owners costs as Third Party Costs in part of their cost claims to the Commission. Therefore there needs to be a relationship between NTCC and the building owner when they are completing their actions. In relation to other consortia I expect that these do not have the contractual constraints that exist within the SERVE context. We currently cannot see how NTCC will be able to draw down the planned funds under WP1 by only supporting additional measures as the level of investment will be significantly lower than that required for the 'basic measures'.
- Both options also present good value for money for Ireland in that the SERVE project will be investing the WP1 money within the SERVE region, approx €800k while the HES would be providing €150k in support. SEI would have access to all of the monitoring and analysis data that would arise out of this support provided under Option 1.
- In terms of administration and system implications I am not sure if I agree that the implications are very significant (but base this on limited knowledge of the HES Admin system0. SERVE has the capacity to support approx 400 houses. Assuming that €50m is taken up for now at an average rate of €2k per house approx 25000 houses would be supported (rough figures!) so the SERVE portion would be ~2% of the total no of houses. In both cases NTCC would work with SEI to minimize any resource implications and develop a system which would address this.

It currently remains our opinion that Option 1 presents the best opportunity for the solution from a HES and SERVE viewpoint. The SERVE project, working with the HES in this manner will effectively be increasing the HES budget by circa €600k as HES support measures will not have to spent on the 400 houses in the SERVE region. While we continue to explore how we can address the contractual issues and develop other solutions to this problem we have not yet come to a workable one.

I would request a meeting Friday or Monday to seek to finalise this issue and I will telephone tomorrow to see if we can arrange same. I would like to finalise this issue either way so I can then go to the Commission with a revised work programme, if required.

Thanks again for considering the above.

Regards

Seamus

This email has been sent by
Seamus Hoyne
SERVE Project Co-ordinator
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From: Motherway Brian [mailto:Brian.Motherway@sei.ie]
Sent: 03 March 2009 09:53
To: Seamus Hoyne; Halpin Tom
Cc: Barry Simone; Kelleher Majella; Attracta Lyons
Subject: RE: SERVE and HES

Seamus

Thanks for these notes

Again, I will start by reiterating that we want to do our best to find a way to facilitate your needs, and we fully appreciate the pressures you are under. We also fully appreciate the wider context of the good work you are doing via the Concerto project. However, as we are charged with running national scheme such as greener homes and home energy saving on behalf of Government, I'm sure you appreciate we cannot re-design or distort these in one specific local area because another party wishes to run a parallel scheme. We have a number of consortia (involving private and public sector actors) discussing with us their plans to develop clusters, ESCOs or other models of programme to leverage off HES and in all cases we are working to co-operate and facilitate. In no other case, however, is anyone proposing that we should re-design the national programme or indeed effectively withdraw it from an area, which is what in effect some of your proposals imply.

We have looked at the two options you have set out, and both seem to have elements that could solve the problem. Ultimately, this is a decision for you and we will try to facilitate you in whatever way we can. I want to ask a couple of questions and make a couple of observations at this point to help us understand the proposals and further the discussion:

-Both options seem to imply that people in the Serve region can only avail of grants via SERVE, not HES. Perhaps you could clarify if I am reading this right. I don't think it would be acceptable to deny people access to the normal HES service and supports purely on the basis of where they live. I would have thought the additional actions and supports of SERVE were a choice for the homeowner, not an obligation. As you note in your document, we are obliged to apply our rules consistently in all areas.

-Both options also have system implications for us in terms of having to identify people in the SERVE region that apply to us and to treat them differently. This would involve manual treatment that is cumbersome and expensive. The second option, us passing on contacts of those that apply from the region, also has data protection dimensions (as you note) that may not be simple to resolve.

-In your first option the suggestion is that SERVE pays for the basic measures and SEI funds the additional measures. This seems odd given that we are set up to pay the basic measures and you are looking to drive people towards the advanced standards in your project. Would it not make more sense for HES to fund the basic measures as normal and then for SERVE to support the additional measures and commitments of the homeowners? I would have thought that something of this nature is the most likely solution to the problem. What other local consortia and projects are planning to do is to build a package around the HES supports whereby participants avail of the HES grants within a wider package of engagement. In your case, this would imply linking your funding to the additional work, be it stronger degrees of upgrade, behavioural commitments, target commitments, or monitoring access. This removes risk of overlap and also allows you to clearly identify the 'added value' of SERVE. It also means that you are leading the direct relationship with your constituency and facilitating their participation in HES as well.

This approach is something of a hybrid of the two options you set out. I think it has a better fit to everyone's principles and imperatives.

I would welcome your reaction to these various points, and we are happy to discuss further as necessary

regards
Brian

From: Seamus Hoyne [mailto:SHoyne@tippinst.ie]
Sent: 27 February 2009 18:39
To: Halpin Tom; Motherway Brian
Cc: Barry Simone; Kelleher Majella; Attracta Lyons
Subject: RE: SERVE and HES

Importance: High

Dear Brian and Tom
Thanks for the email. We had expected that the option of NTCC paying SEI would not be a valid one.

The SERVE partners spent most of today considering the issues and options and based on these discussions I attached a detailed proposal document which I would ask SEI to consider at the earliest opportunity.
We acknowledge the need to engage with the EU Commission and will be doing so but wish to be able to present potential solutions and routes which we can progress as part of those discussions.

As always please contact me at any stage to discuss this.

Regards

Seamus

This email has been sent by
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From: Halpin Tom [mailto:Tom.Halpin@sei.ie]
Sent: 27 February 2009 17:24
To: Seamus Hoyne; Motherway Brian
Cc: Barry Simone; Kelleher Majella; Attracta Lyons
Subject: RE: SERVE and HES

Seamus,

While we continue to consider what options might be available I wanted to let you know about the notion of SEI paying grants to individuals and then NTCC paying SEI, as a named subcontractor on the Concerto Project.

Unfortunately, having spoken to my colleagues on this they have said that, it would be a strict no-no, because this would be interpreted by the Commission as drawing down EU monies for use in a scheme that was already in existence i.e. no additionality could be demonstrated. Our experience with Commission evaluations and audits would suggest that this would be very apparent and unacceptable for all concerned.

In truth this points to the fundamental issue which we have all recognised which is that the commitments in the Programme for Government following the appointment of two green ministers to our cabinet has seen the introduction, following a successful pilot, of a national grant scheme for home EE measures. And as you say, in the broadest sense this is a very welcome initiative, for so many reasons (CO2 reductions, cost savings, comfort improvements and job protection / creation).

So while we will continue to consider options and welcome any further suggestions you might have, I think it would be important for you to discuss this change in circumstances, which is after all well beyond your control, with your technical officer and ascertain what latitude might be possible. After all you will need their agreement for anything that you decide.

I realise that this is not the response you would have been hoping for. And while we will endeavour to be as

flexible as possible the direction from DCENR has been quite clear on making the scheme as slick as possible for applicants, to utilise online, to have fast turnaround of approvals and to minimise administration costs. In meeting these requirements for a national scheme it would be difficult to 'breach the pipe' as it were to try and extract SERVE area applicants who may not welcome having their works help up pending more onerous participation requirements.

We are open however to any other ideas from TEA / NTCC which we might consider and accommodate within the above strictures. Likewise we will leave the thinking caps on for some time longer as we equally do not what to see the SERVE project stopping.

Regards

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From: Seamus Hoyne [mailto:SHoyne@tippinst.ie]
Sent: 26 February 2009 17:02
To: Motherway Brian
Cc: Halpin Tom; Barry Simone
Subject: SERVE and HES

Dear Brian
Thanks for taking the time to meet with us on 24th February regarding the SERVE project.

The discussions with Tom and Simone, while useful, did not present an immediate solution to the issues which exist. Both parties are continuing to review options to come to a solution. The WP1 partners are meeting tomorrow (Friday 26th) to review the options available and will revert with further comments after this meeting.

As SERVE project coordinator (TI) and SERVE Work Package 1 Leader (NTCC) we felt it important to outline clearly the implications for the SERVE project to SEI if an appropriate solution cannot be found.

Work Package (WP1) (Eco Building measures for existing buildings) represents approximately 35% of the total budget for the SERVE project. A range of other WPs are directly linked to WP1 including socio-economic analysis, energy monitoring and analysis, training and dissemination. If WP1 is not delivered then each of these WPs effectively becomes redundant therefore affecting another 15% of the SERVE budget. This would effectively mean the SERVE project is not viable, from the EU Commission view point, and therefore I would expect the contract would be stopped. This has significant impacts on the other core part of the project, the Eco-village, through which the renewable energy district heating system is being installed. NTCC has entered into a contract, via SERVE, with the EU Commission to provide financial support to building owners to upgrade to specific energy performance standards. It is a contractual requirement, at present, that NTCC are engaging with the homeowner to achieve these savings. We are all aware of the difficulties of changing EU Contracts through our various experiences.

The SERVE partners have invested significant resources to secure the €4.1m in support from the EU

Commission. To reach a point now where the project is in such jeopardy is extremely worrying for all partners. While obviously welcoming the HES and its accelerated roll-out it is clearly not in anybodies interest that the Government Scheme will impact on the local SERVE project. The political implications of the Government scheme stopping such a local initiative are, I would have thought, equally as unpalatable as to two parallel schemes running at the same time.

We would therefore urge that SEI would use every opportunity to create flexibility within the HES scheme to work with the SERVE scheme to achieve common sustainable energy goals. The SERVE partners and SEI have already engaged positively with the HES Pilot and input to the development of the National Scheme. It is clearly imperative that we all work closely together over the next week or so to come to a solution. This will involve compromise on both parts if we are to achieve an agreed outcome.

I would suggest that we meet ASAP next week to progress this issue further once we have all considered the options and their implications on each side.

Regards

Seamus

This email has been sent by
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Appendix 3: SERVE_D1.11 Quality Assurance and Standards

Project Acronym: SERVE
REF EC: (Project Number)
TREN07/FP6EN/S.07.71106/038382
REF (project coordinator org.):
DOCUMENT:
REF.:

Project Coordinator: Seamus Hoyne
Project coordination org.: Tipperary Rural and Business Development Institute
Date: 8th December 2009
Revision: Final

Deliverable Report
Deliverable No.: 1.11
Work Package No: 1

CONCERTO INITIATIVE
SERVE

Sustainable Energy for the Rural Village Environment

Report Title:

Quality Assurance Issues in Eco Building Retrofitting

Date: 4th December 2009

Author: Paul Kenny, Tipperary Energy Agency

Version: 1.0

CONCERTO is co-funded by the European Commission

Table of contents

1 Background:

As part of the SERVE project, Quality control visits were performed by the Tipperary Energy Agency (TEA) and the Building Energy Rating (BER) assessors in order to ensure that the works are carried out to the correct energy performance standards. As a result of these audits, many issues were identified as being regularly below standard, requiring rectifying prior to grant approval.

2 Methodology:

There were two distinct methods of ensuring quality control for the grant scheme. The first level of control was implemented by the building energy rating assessors on every house, as they tried to ascertain the upgrades from a BER point of view. The second level of quality control is being carried out directly by the TEA on a 20% of buildings basis, focused on difficult or pre-identified potential issues.

2.1 Building Energy Rating Assessors Checks

The BER assessor while analysing the house to perform a post works BER will examine the installed measures and determine the conformance with the following standards.

- Insulation Levels: Depth of insulation, materials used and final U Value
- Heating controls: Existence of zoned control, method of that control, cylinder thermostat, time control etc.
- Main heating system efficiency.
- Window Performance
- Low energy lighting, where applicable.

2.2 Tipperary Energy Agency Checks

This site visit, while not as in-depth as a BER assessment, it focussed on both ensuring the standards were met in terms of measurement of insulation levels, common short comings in terms of heating controls and also focuses on the homeowners perception of the project, contractor and the service delivered by the BER assessor.

3 Issues Identified

3.1 Internal Insulation:

Two installers fully drylined two houses with a 37mm Kingspan Kooltherm K17 board. It is a sandwich of 12mm plasterboard and 25mm poly-isocyanurate high performance insulation (Thermal conductivity of 0.021 W/m K). This achieves a U Value of 0.6 W/m^2 k

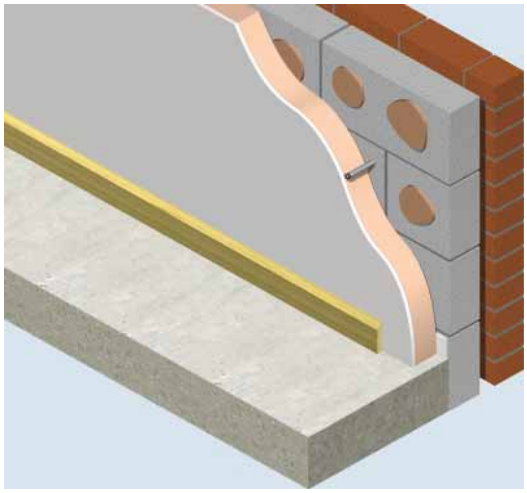


Figure 3-1Typical schematic of an internally drylined wall (courtesy of Kingspan).

In both cases this was applied to the internal surface of a 225mm high density mass concrete wall. From the graph below, the upgrade of the mass concrete wall can be seen to require a board of 70mm to reach a U value of 0.27 W/m^2 K.

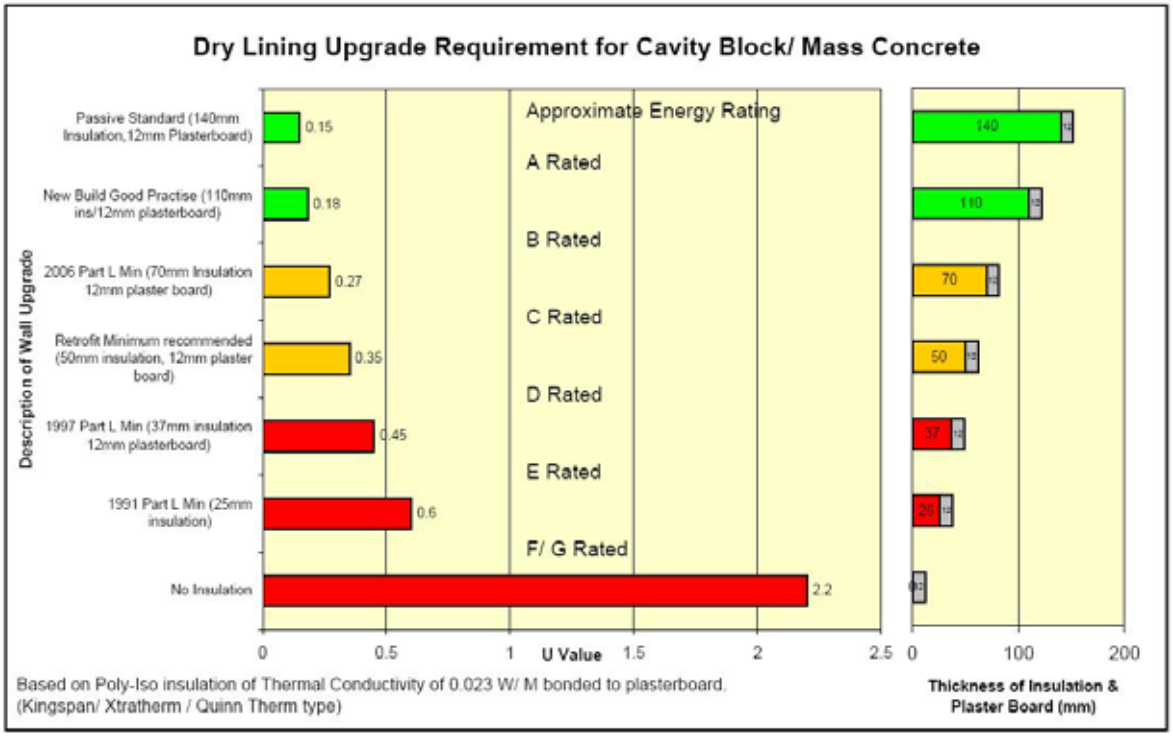


Figure 3-2: Calculated thickness of drylining finish to achieve relevant U-Values

3.2 Heating Controls

The second major issue identified was the lack of a main central heating control thermostat. Heating control contractors often installed thermostatic radiator valves in houses as the only method of temperature control in houses. This relied on the expansion of a wax head in the TRV closing down when the desired internal temperature was reached.

The result in the heating circuit is such that the boiler continues to fire, even though all the radiators are switched off and therefore causes significant inefficiencies. In addition to this, the radiator valves are, when new and installed correctly, at best accurate to +/- 2 °C.

This situation was easily corrected by the installer returning on site and putting a thermostat in series with the time control of the heating system.

Figure 3-3: Digital Thermostat **Thermostatic Radiator Valve**

3.3 Incorrect installation direction of TRV

Another issue identified was the installation of a TRV upright versus on it's side. Clearly this results in a higher temperature on the thermostatic radiator valve, and therefore a poorer response from the room temperature.

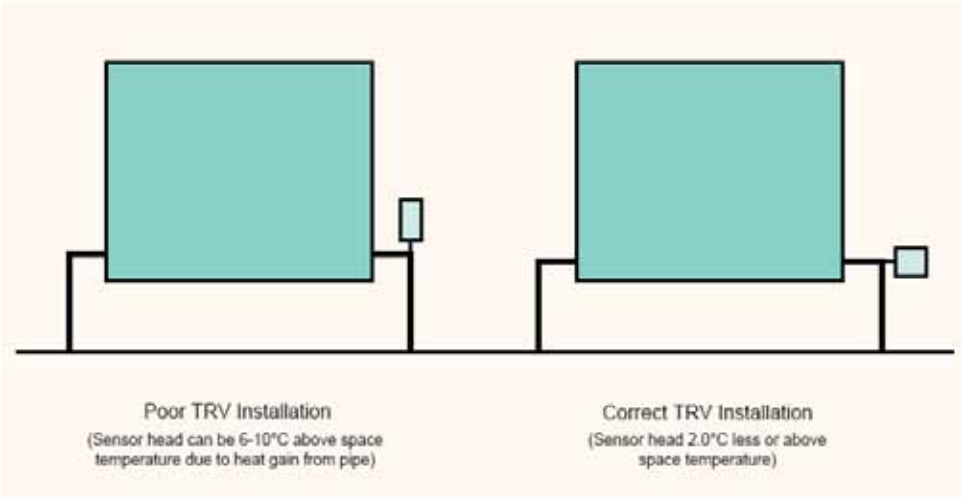


Figure 3-4: Correct installation requirements for TRVs

3.4 Summary of other issues.

A summary table of all issues is identified below with two classification areas:

Severity:

- High: Significantly affects energy performance of dwelling, or very costly to correct

- Medium: Easy to correct, or only medium impact on Energy performance.
- Low: Low impact on energy performance.

Frequency:

- High: Occurred in >70% of dwellings.
- Medium: Occurred in 30% - 70% of dwellings.
- Low: Occurred in <30% of dwellings.

Summary of defects identified:

	Issue	**Severity**	**Freq.**	**Corrective Action**	Proposed systemic action
Attic Insulation	Ancillary standards not met (Draft stripping, tank jacket, walkway)	Low	High	Contractor to return to house and correct defect	Enforcement with contractors
Internal Insulation	Insufficient insulation depth applied to inside of house (U Value 0.6)	High	Med	Contractor to Re-insulate entire house	Training for contractors. Unlikely contractor would have risked €6,000 of extra work to save €500
External	Insufficient documentation issued, nor were calculations made in advance of work	Low	Low	Re-iteration of required documentation	Manufacturers documentation to be supplied with declaration of works
Heating Controls	Failure to install wall thermostat to control boiler	Med	High	Contractor to retro-fit	Contractors clearly do not understand requirements of a boiler interlock or of scheme standards
Heating Controls	Installation of TRV's incorrectly	Low	Low	Re-inforced with plumber	Include in plumbing code of practice/ training.
Heating Controls	Failure to deal adequately with multiple heat sources	Low	Low	Re-design control system	Include in plumbing code of practice/ training.
Hot Water Cylinder	Failure to install cylinder that meets 2008 building regs (0.8 W/L)	Low	High	Installation of Lagging Jacket on cylinder. Discussion with heating suppliers to have correct cylinder in stock.	Ban sales of hot water cylinders that do not meet the building regulations.
Windows	Draft Sealing around frame	Low	Low	Sealant applied by homeowner.	N/A
Flat Roof/ Room in Roof	Poor U value's achieved	High	Low	Not applicable	Education about U values and insulation thicknesses.
High Efficiency Boiler	Failure to install boiler of sufficiently high Efficiency	Med	Low	Contractor replaced.	
Lighting LEDS	Failure to install LEDS; incorrect bulbs chosen	Low	Low	Grant not paid	Market forces will address in time.
Lighting Controls					

4 Future Solutions and National Standards

4.1 Training:

It is clear that some contractors are unaware of the standards required, or what the standards mean in practise in the retrofit situations. In this case, documentation, getting the contractors to sign up to standards, or limited checking of standards is insufficient to ensure that each house retrofitted will be done to the required standard. What will be required, as is the case for the Greener Homes Scheme, is a retrofit qualification for insulation and a retrofit qualification for plumbing. This should be urgently progressed with national training and qualification organisations. It should also be a mandatory qualification as soon as is practicable.

4.1.1 National Qualification for installation of insulation:

- How to calculate a U-Value
- How to install attic insulation – levels, detail around eaves, detail around cables, detail around hatches and/ or openings.
- How to install vertical insulation in studwork.
- How to install dry lining, ventilation requirements, elimination of thermal bridging, elimination of possible air ingress around insulation etc.
- External insulation – training as per agrément cert – sealing and weather proofing, mechanical fixing etc.

4.1.2 National Qualification on Retrofit for Domestic Heating system energy efficiency

- Qualified plumber as entry requirement.
- Building energy rating and it's impact on plumbing.
- Temperature control and theory, electronic stat controlling heating system Vs. TRV
- How to separate water and space heating.
- Boiler efficiency and how to impact – products etc.

4.2 Enforcement:

Enforcement in the SERVE scheme is relatively high, with the mandatory post works BER being required. This is catching most issues, and would in general address 80 – 90 % of the issues. It must be noted that the BER assessors in the SERVE scheme are all on a TEA panel, and therefore want to ensure that their standards are high, and seen to be high. It would be a fair assumption that the standards seen in SERVE prior to post BER, inspections etc would be similar to the national average.

Therefore the level of issues identified would need to be addressed urgently at a National level. This could be organised in the following method:

- Mandatory BER before and after
- BER XML file analysed to determine upgrades achieved prior to grant approval - this can be done automatically via the HES system
- Contractors notified that work is not up to standard and potentially removed from the HES panel of installers.
- On- site audits would check both BER assessor and contractor standards. It would also help to ensure independence of contractors and BER assessors.

4.3 Sales of below standard products:

Products that fail to meet standards should be restricted or discouraged (inefficiency tax) from sale at source. The current application of the rules regarding boilers and hot water cylinders does not ensure the elimination of non condensing boilers and hot water cylinders that do not reach the 2008 building regulations. This could be

achieved with through engaging at wholesaler level and/ or manufacturer to eliminate these products from the market.

5 Conclusion

While there is considerable impetus and drivers to increase the energy performance of homes, it is clear that there is some necessary regulation required in order to achieve high performance upgrades, to current best practice. Currently there is no accredited training for any retrofit (or new build for that matter) insulation or heating controls installers.

The regulation for quality control of building installations is currently not visible, nor is it effective. While Sustainable energy Ireland will be ensuring a certain level of quality control for the Home Energy Savings scheme, there is no regulation or enforcement outside of that scheme. This is a significant void that needs to be closed.

It is also still possible to sell products that do not meet building regulation standards without any inspection or justification, nor is there a framework for qualification or training.

Appendix 4: SERVE_D1.12 Eco Building Retrofitting Progress Report Final

Project Acronym: SERVE REF EC: (Project Number) TREN07/FP6EN/S.07.71106/038382 REF (project coordinator org.): DOCUMENT: REF.:	Project Coordinator: Seamus Hoyne Project coordination org.: Tipperary Rural and Business Development Institute Date: 8th December 2008 Revision: Final

Deliverable Report
Deliverable No.: 1.12
Work Package No: 1

CONCERTO INITIATIVE
SERVE

Sustainable Energy for the Rural Village Environment

Report Title

Eco Building Retrofitting Phase 3 Report 1

Date: 13/11/2010

Author: North Tipperary County Council

Version: 1

CONCERTO is co-funded by the European Commission

Table of contents

1 Introduction

Work Package 1 has gathered momentum in months 25 to 36 (Phase 3) with an increase in Residential and Non Residential applications. The work package is offering grants to improve the energy efficiency of homes and buildings in the SERVE Region. The scheme is continuing to operate in conjunction with Sustainable Energy Authority of Ireland's Homes Energy Saving Scheme.

2 Phase 3 of the SERVE Energy Efficiency Grant Schemes

2.1 Modifications to Scheme Structure

The scheme was changed slightly in Phase 3 due to learning's in Phase 2. These changes made to the residential scheme include:

- The opportunity for applicants to apply for grant aid for a combination of energy efficiency and renewable energy measures
- The removal of the C1 energy rating eligibility requirement for grant aid for renewable measures
- A reduction in the grant level for external wall insulation and windows.

The targets were also revised following agreed contract amendments with the EU Commission. The changes were as follows:

- Residential targets reduced to 52,000m^2 from 63,000m^2
- Non Residential targets increased from 10,000 m^2 to 20,000m^2

The Residential Grant Scheme was launched on the 31/01/2010 and the Non Residential Grant Scheme was launched on 10/02/2010.

The modifications to the scheme have been beneficial in supporting engagement in the retrofitting programme. The potential for individuals to complete renewable retrofits separately under WP3 RES Retrofitting facilitates those dwellings which have already completed some energy efficiency measures.

The Phase 3 Residential Scheme application form and list of measures is provided in Appendix 2.

2.2 Promotion of the Grant Schemes

The SERVE project and supports from retrofitting was promoted via

- Radio
- Press releases
- Information Evenings
- Local Authority Newsletters
- Open Evenings
- Church Newsletters
- Banks and Credit Unions
- Direct Mailings – via SEAI for applicants to Home Energy Savings Scheme
- Direct Mailings – to Contractors in the region
- Email to Local Authority Staff and specific target groups
- Contact with Local Politicians and Local Authority Staff
- Posters and leaflet campaign

Full details of the promotion materials are provided in Appendix 1.

The promotion of the event was managed by NTCC with support from the TEA. The main focus has been on engaging with as many people as possible via local events. Engaging contractors to promote the scheme on the ground has also been beneficial.

A clear learning from the promotional activity is that a key driver to inform people to engage in the retrofitting action has been 'word of mouth' between people in the region. This local information and knowledge is vital in informing people and works with the normal promotional measures.

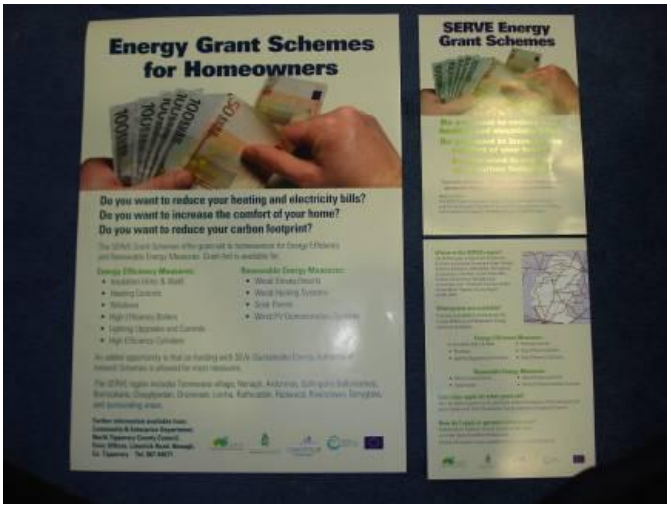


Figure 2-1: Sample of promotional materials and activities

3 Non Residential Grant Scheme

There were 15 Expressions of Interest made by Non Residential building owners in 2009. 6 of these applicants withdrew or were ineligible for the grant scheme. Reasons for withdrawing/ineligibility included financial reasons, costs of works, inability to reach the 40% energy reduction requirement, timings of the project, and location.

5 of these applicants re-applied in 2010 and 4 have carried out works (2 have been paid and 2 are under review). In Phase 3, in 2010, there were a further 8 new applicants. The buildings range from schools and sports clubs to commercial premises and public/local authority buildings.

The current status in terms of progress is as follows:

- To date 2 applicants have received grants. The total square meters combined for both applications is 1,477m^2 (7% of target).
- There are 4 applicants currently carrying out works and their square meters combined is 4,255m^2 (21% of target).
- There will be 3 more applicants commencing works shortly and their square meters combined is 10,322m^2 (52% of targets).
- The other applicants are reviewing finances, looking for further funding or awaiting planning permission.
- The SERVE Non Residential Grant Scheme needs a further 3,945.6 m^2 to achieve its full target and this is expected to be reached.

In terms of energy efficiency performance the range of buildings which are applying to the scheme are considerable and while the 40% energy saving will be achieved in all cases the approach to reaching the target will vary from building to building. One building will place a particular focus on lighting upgrades while others will combine a range of measures from insulation, heating controls and lighting upgrades.

4 Residential Grant Scheme

The progress towards achieving the residential grants schemes has been considerable and reflects the efforts by the WP partners in progressing applications and promoting the scheme.

The current status in terms of progress is as follows:

- The Residential Grant Scheme has completed works on 12,527m^2 in months 25 – 36. This represents 25% of the target.
- Combined with period 1 and 2 this amounts to 44% of the target.
- In Phase 3 a further 10,854m^2 has been committed or is work in progress which brings the total to 65% of target.

Interest in the scheme remains strong and the WP partners are dealing with applications on a regular basis. The house types are representative of all house types in the region (detached, semi- detached, terraced, bungalows etc.)

The scheme has also received applications from a Local Voluntary Housing Association. This is a new and welcome development which provides SERVE with the opportunity to support the development of energy efficient social housing.

4.1 Local Authority Housing Grant Scheme

A new aspect to the implementation of Work Package 1 in 2010 was the development of a Local Authority Housing Grant Scheme. This scheme is open to the two local authorities in the area – North Tipperary County Council and Nenagh Town Council.

This scheme operates in a similar way to the existing SERVE Residential Grant Scheme, except that in this case the Local Authority is the home owner. The Local Authority (LA) has a Building Energy Rating (BER) carried out on the house and subsequently applies to the SERVE Local Authority Grant Scheme. The LA must carry out energy efficiency upgrades that will result in a C1 post BER rating (150-175 kWh/m2/yr). In exceptional circumstances a C2/C3 is allowable. The SERVE Project negotiated with the Department of Environment, Heritage and Local Government to allow the SERVE funding and National funding to be combined to support the upgrades.

A particular focus on quality control was placed on the Local Authority Scheme by the Tipperary Energy Agency. As a result of its experience from the SERVE Project it worked with all Local Authorities in Co. Tipperary (North and South) to produce

- Common standards for retrofitting of Local Authority Houses
- Procured a BER Assessor Panel
- Agreed inspection and approval protocols and systems

The work completed by the TEA and the Local Authorities has been highlighted by the Government Department as best practice and advice and support has been provided to other Local Authorities in Ireland in this regard.

5 Progress towards Targets

The following table outlines the progress to date in relation to WP1 retrofitting. It clearly highlights the significant progress made in terms of implementation and the WP team expect that 100% of the target will be achieved. This will be subject to financial viability of projects in light of the current financial crises in Ireland.

Square Meters	Residential Total	Non Residential
Completed to Date	25,871	4,826
Works in Progress	10,854	12,502
Total	35,516	17,328
Target	52,000	20,000
% Achieved[1]	65%	87%

Table 5-1: Summary of Progress – WP1

6 Next Phase: Months 27 - 48

Work Package 1 – Retrofitting will finish in Month 48. Monitoring of the upgrades will continue but the grant scheme will have closed. It is hoped that both Residential and Non Residential targets will be met by this date.

To achieve these targets there will be a media campaign in Month 39 which will announce the closing dates for the scheme. The focus will on "The Last Chance to Apply for SERVE Grant Aid". There will be continued promotion through the media, posters, leaflets, and information events over the following months.

The schemes experienced difficulties in Phases 1 and 2 due to interaction with the National Home Energy Saving Scheme. It resulted in delays and difficulties in achieving targets. The WP partners have worked successfully to overcome these delays. Knowledge in the SERVE region about the schemes is high and word of mouth is driving applications. If applications continue at the same pace it is expected to achieve the targets.

However the work package partners are conscious of difficulties that may arise from the following:

- The National Budget
- The National Retrofitting Programme
- A Non Residential Application for upgrading works on a large building

The upcoming National Budget in Ireland plans to reduce spending by 6 billion. This will have financial implications for most people and will affect disposable income and the ability of building owners to invest in energy upgrades.

In 2011 it is also proposed to introduce a National Retrofitting Programme where a number of energy efficient schemes will be streamlined into one overall programme. A consultation process with stakeholders has taken place over the past number of months and the scheme is currently being developed. Indications are that a ''pay as you save' system may be introduced. This would allow homeowners to pay for improvements in instalments through their utility bills. There may also be changes to the operation of the current SEAI Home Energy Saving Scheme grant programme. Details on the changes to be made will be announced in 2011. SEAI has announced an ambitious plan to retrofit one million buildings by 2010 so it hoped that overall any changes introduced will impact positively on the SERVE Residential Scheme. However, if there is a need to introduce changes to the SERVE Residential Grant Scheme then there is a risk of an impact on achievement of targets.

Work Package 1 has an application for upgrading works for a very large building that is accounting for almost 40% of the non residential target. To achieve this target it is necessary that this applicant carries out the planned upgrades.

[1] Includes Completed and Works In Progress

Appendix 1: Promotional Activities for SERVE WP1.

Radio Campaign

The radio campaign for the SERVE Grant Scheme was launched on the 18/01/2010 and continued until the 26/02/2010. There were 70 spots of 30 second duration advertising.

Press

Adverts and press releases appeared in the Nenagh Guardian and Midland Tribune in the edition of the 13/01/2010 and a further press release was featured in the Nenagh Guardian on 20/01/2010. These promoted the Phase 3 Launch and the Information Event for same. A second advert was placed for the Non Residential Scheme on the 10/02/2010.

The Nenagh Marketplace was a new publication launched in Nenagh in February 2010. NTCC submitted an article on the SERVE Residential Grant Scheme and had an advertisement in an edition of this publication on the 8th and the 15th March 2010, as well as ad hoc promotion throughout the year. This publication was also used to promote information events which were held in June & September.

North Tipperary County Council's **Environment Department** ran a series of press releases for National Energy Week in March 2010. The SERVE Energy Grant Schemes were featured in these press releases.

A '**Home & Garden'** supplement in the Nenagh Guardian also contained SERVE articles.

There was a media blitz in September to announce the final year of the grants scheme and the September Information Event. Press releases and adverts were placed in local newspapers and magazines. Posters and leaflets were distributed and mailings were made to all North Tipperary County Council personnel.

Above are examples of articles and press releases in the Nenagh Marketplace and below are articles, press releases and adverts for local newspapers

Information Events

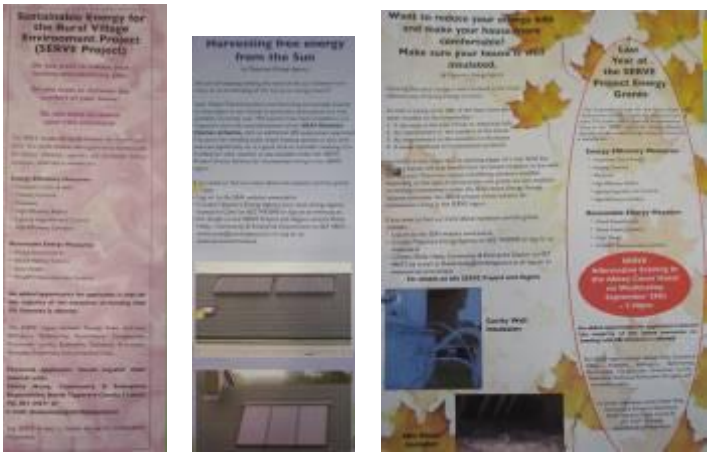
Following the launch of the SERVE Phase 3 Grant Scheme, Information Events were held on the 20th and 27th January 2010 in the Abbey Court Hotel in Nenagh. These Information Events were then used for a second wave of press releases in the Nenagh Guardian and Midland Tribune on the 27/01/2010 and again in the Nenagh Guardian on 03/02/2010.

There was a second Information Event on the 23rd June and this was promoted in local press, EIST (Council newsletter), church newsletters, posters, leaflets etc. There was also continuous press promotion where possible.

A further Information Event and press campaign took place on the 29th September.

EIST

Eist, North Tipperary County Council's staff newsletter, promoted SERVE in its January edition. This newsletter is sent to over 1,150 past and present employees in the council offices, libraries, fire stations. Throughout the year there were ad hoc articles in same about energy efficiency and renewable energy and the SERVE Energy Grant Schemes were promoted at every opportunity. In September there was an article and advert regarding the final year of grants and the September Information Event.



Open Evenings

A series of open evenings were planned with the first taking place on 03/02/2010. Turnout was poor to this event and it was agreed not to proceed with further events.

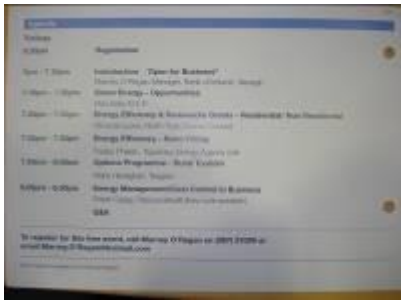
Church Newsletters

Information was placed in church newsletters in January for the launch and to promote the information evening. Notes were placed again in March, and also in June to promote the Information event. They also ran in September to promote the final year and the September Information Event. Some priests also promoted the scheme to parishioners from the altar.

Lorrha and Dorrha are areas in the north of the SERVE region. Information regarding the scheme was publicised on their website www.lorrhadorrha.ie after a submission on the grant schemes for the local church newsletters.

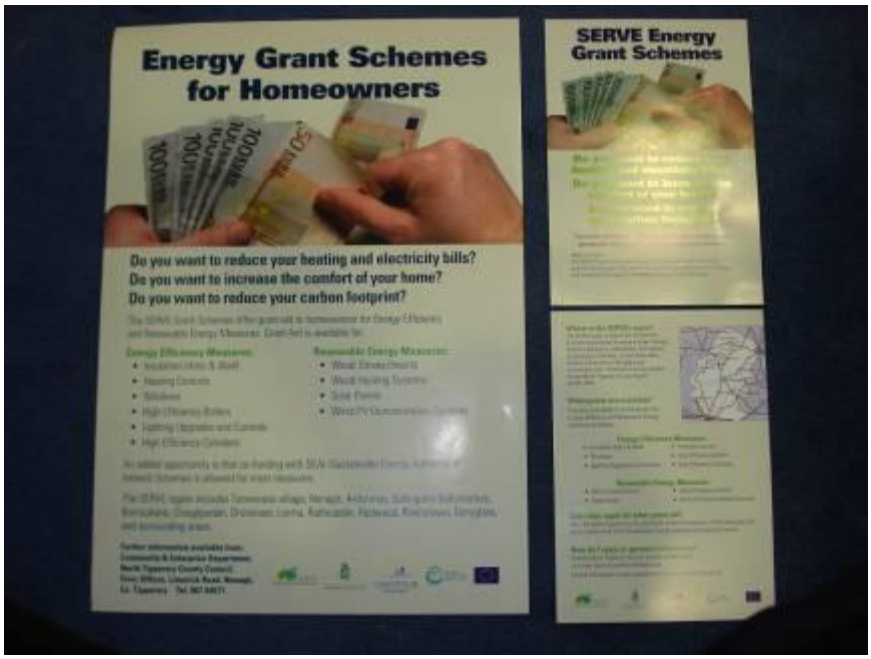
Banks and Credit Unions

A mailing was sent to Banks and Credit Unions in the area explaining about the SERVE Grant Scheme. This was followed up by a phone call to relevant personnel from North Tipperary County Council. Bank of Ireland, Nenagh, also ran a "Going Green" Information Evening during their Enterprise Week in May 2010. NTCC had a stand at this event and presented on the SERVE Grant Schemes at this event.



Poster and Leaflets were also placed in the financial institutions in the SERVE area..

Posters and Leaflet Campaign



Poster and leaflets were produced and were placed in libraries, citizen's information and community offices, doctors' surgeries, the local hospital, the Revenue Office, the Motor Tax Office, and shopping centres and local shops in the SERVE Region. Leaflets were also given to Resident Associations for delivery within their estates. Information was also provided to I.C.A, sports clubs, and other local groups for placement on local notice boards. There was also a leaflet drop to Housing Estates in Nenagh

Mailings

SEAI

To date there have been 653 letters sent out by SEAI to potential applicants explaining about the SERVE Residential Grant Scheme.

Contractors

17 letters were sent out on the 09/03/2010 to contractors in the area that were listed on SEAI's Register of Contractors for the Home Energy Saving scheme.

Contractors are also encouraged to carry out their own marketing.

Councillors

A mailing was sent out the 16 councillors in the SERVE region on the 16/04/2010. These councillors are county and town councillors in the SERVE region. Direct contact was also made following the mailing

E-Mail

E-mails detailing the launch of the grant scheme and e-mails regarding information events etc. were sent to all staff in the county council as well as elected representatives.

Appendix 2: Phase 3 Residential Application Form

Section 1: Applicant Details

Name: _____

Address: _____

_____

_____

Mobile Number: _____

Landline Number: _____

E-mail Address: _____

Section 2: Property Details
(If different from above)

Address: _____

_____

_____

_____

Is the building a listed building? Yes ☐ No ☐

If the answer is yes, you will need to check with the Planning Department of North Tipperary County Council if planning permission is required. Evidence of this will need to be submitted with the grant application.

Section 3: Energy Monitoring

Do you have broadband internet access at home? Yes ☐ No ☐

Do you have a wireless broadband router at home (Wi Fi)? Yes ☐ No ☐

Do you have mobile phone coverage at home? Yes ☐ No ☐

Section 4: BER Authorisation Declaration

N.B. This section must be completed if you are applying for the SERVE Energy Efficiency & Renewable Energy Grant Scheme. Please insert the BER Reference Number and sign the Authorisation below:

BER Reference Number: _____

BER Assessor Name: _____

- I authorise my BER Assessor to pass full details of my BER to Tipperary Energy Agency and/or North Tipperary County Council.
- I authorise the viewing of my BER details by Tipperary Energy Agency and/or North Tipperary County Council for the purposes of the SERVE Project Grant Scheme.
- If my BER was carried out before the SERVE Grant Scheme launch date of 13th January 2010, I agree to an inspection of my house by Tipperary Energy Agency

_____ _____

Signature **Date**

Please complete <u>either</u> Section 5 or Section 6.

Section 5: <u>Energy Efficiency and Renewable Energy Grant Scheme</u>

5.1 The **<u>3 measures</u>** below **<u>must be</u>** completed. Please tick the relevant measures. If you have one measure already completed to the required standard, please mark the tick box as "Completed". This will need to be certified by Tipperary Energy Agency when reviewing your BER.

	Measure	Standard Required	Please tick	
All 3 measures must be carried out	**1.) Attic Insulation**	• 2008 Building Regulations • U-value of **0.16 W/m^2 K** or as near as practicable		**There is a €1,000 grant for these 3 measures combined**
	2.) Wall Insulation - Please select your relevant wall type (s). An optimal whole element solution must be carried out. This means that if you have more than one wall type, each wall type must be insulated. Partial solutions are only acceptable in exceptional cases where it is not "physically or economically possible" to provide a whole-element solution			
	Cavity Fill	• 2008 Building Regulations • U-value of **0.27 W/m^2 K** or as near as practicable		
	Internal	• 2008 Building Regulations • U-value of **0.27 W/m^2 K** or as near as practicable		
	External	• 2008 Building Regulations • U-value of **0.27 w/m^2/k** or as near as practicable **(Additional funding for external insulation detailed below if a lower U-Value is achieved)**		
	3.) Heating Controls	• 2 zones (space & water) with seven day programmer (time & temperature) control & boiler interlock – **Plus** • Time & temperature control of electric immersion – **Plus** • Either one more zone control or 3 Thermostatic Radiator Valves (TRVs) **(Additional funding for advanced heating controls is detailed below.)**		

5.2 A **minimum of 2** of the additional measures below must be completed. Please tick the measures for which you wish to apply. (Please note only 2 energy efficiency measures can be grant aided.)

Measure	Standard Required	Grant Amount	Please tick
Windows	• 75% of total window area must be upgraded to a U-Value of ≤2.0W/m^{2}K	€1,000	
External Wall Insulation	• 75% of total area, U-Value of **≤0.2W/m^{2}K** **The homeowner must achieve this lower U-Value to avail of this additional funding for External Wall Insulation**	€2,000	
Novel Low Carbon Insulation	• U-Value of ≤0.16W/m^{2}K (sheep wool, hemp, cellulose)	€200	
Flat Roof/Room in Roof	• U-Value of ≤0.16W/m^{2}K	€750	
Advanced Heating Controls	• ≥ 5 zones, no TRVs	€500	
High Efficiency Boiler	• ≥ 94% Efficiency Boiler (must be implemented in conjunction with Heating Controls)	€300	
High Efficiency Cylinder	• 50mm PU Factory Foam Insulated to 2008 Building Regulations (0.8W/L) Equivalent	€100	
Lighting - LEDS	• 3+ watt LEDS to replace down lighters (Note: 1-2 Watt LEDs will not have sufficient output to replace halogen lighting)	30% of costs up to a max of €150	
Lighting - Controls	• Must have dependent time control (PIR, push button or other, time lapse etc)	30% of costs up to a max of €150	
Solar Flat Plates Or Solar Evacuated Tubes	• Product/Installer must be registered with SEI's Greener Home Scheme	€100 per m^2	
	• Product/Installer must be registered with SEI's Greener Home Scheme	€150 per m^2	
Wood Stoves/Inserts	• Wood burning only stove **or** Wood burning variant of a multi fuel stove • EN 13240 or EN 13299 certified with Minimum Efficiency 65% • Product & Installer must be on SERVE Wood Stove/Insert Register	€650	
Wood Heating System	• Product/Installer must be registered with SEI's Greener Home Scheme • Minimum Efficiency 85%	€4,000	

Section 6: Renewable Energy Grant Scheme

Please tick the relevant measures for which you wish to apply:

Measure	Standard Required	Grant Amount	Please tick
Solar Flat Plates	• Product and Installer must be registered with SEI's Greener Home Scheme	€100 per m^2	
Solar Evacuated Tubes	• Product and Installer must be registered with SEI's Greener Home Scheme	€150 per m^2	
Wood Stoves/Inserts	• Must be Wood Burning Only stove or Wood Burning Variant of a Multi Fuel Stove • EN 13240 or EN 13299 certified • Minimum Efficiency 65% • Product and Installer must be registered on SERVE Register of Wood Stove Suppliers/Installers	€650	
Wood Chip/Pellet Heating Systems	• Product and Installer must be registered with SEI's Greener Home Scheme	€4,000	
Wind/PV Demonstration Systems	There are a limited number of supports available for the installation of small scale wind/photovoltaic systems for domestic or commercial applications. Please contact Community & Enterprise Department, North Tipperary County Council on 067 44671 for details of same.		

Section 7: Applicant Declaration

- I confirm that I am the building owner referenced in this Application Form and that the building is permanently occupied.
- I confirm that my house is in the SERVE region.
- I understand that if I apply for the SERVE Energy Efficiency & Renewable Grant I must carry out a before and after BER.
- I am aware that grants for Attic insulation, Wall Insulation, Heating Controls and Before and After BERs are also available under Sustainable Energy Ireland's Home Energy Saving Scheme and that grants for Solar Systems are also available under Sustainable Energy Ireland's Greener Homes Scheme.
- I understand that I need to use a contactor from either Sustainable Energy Ireland's Registered Contractor lists or the SERVE Register of Suppliers/Installers whichever is applicable. I understand that for lighting measures, the contractor I use should be RECI approved and that I will need to provide his/her tax compliance documents at the Request for Payment Stage.
- I understand that to avail of the SERVE Grant I need to provide pre and post upgrade energy data and if my building is selected, I agree to participate in a monitoring programme.
- I understand that grants will not be paid for purchases made or works commenced before the signed Acceptance of Offer has been returned by North Tipperary County Council to me.
- I understand that if I accept the grant offer, all works must be carried out and request for payment made by the date specified on the Letter of Offer.
- I have read and understood and agree to comply with the Terms & Conditions of the SERVE Residential Project Grant Scheme.

_____ _____

Signature **Date**

Please return completed application form to:

SERVE Project Grants Scheme
Community & Enterprise Department
North Tipperary County Council
Civic Offices
Limerick Road
Nenagh
Co Tipperary

Telephone: 067 44671
E-mail: sheila.healy@northtippcoco.ie
Web: www.servecommunity.ie