



energy
saving
trust

Northern Ireland Sustainable Energy Programme

Annual Report 2021/22

Prepared by Energy Saving Trust

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1. Executive Summary

This annual report reviews the performance of the 2021/22 Northern Ireland Sustainable Energy Programme (NISEP) schemes, outlining the measures installed, financial benefits to customers and the energy (GWh) and carbon savings associated.

For 2021/22 the initial NISEP fund was **£7,941,946** (as set out in the NISEP Framework Document) collected as an average of £8.80 per electricity customer across approximately 902,860 domestic and business customers. The total NISEP spend on schemes at year end was **£7,537,114**.

There are two key factors to highlight which means that 2021/22 outturn data (energy (GWh), carbon, and Gross Customer Benefit (GCB) cannot be compared easily with the previous NISEP year (as per the format of previous NISEP annual reports). The most significant of these is that there was a methodology change as to how energy and carbon savings are calculated by Energy Saving Trust. This is outlined in more detail in this report. Additionally, COVID-19 had an impact on the number of completed installations due to social distancing and isolation requirements as well as Primary Bidders' staffing levels being impacted. Primary Bidders also reported that COVID-19 and the War in Ukraine impacted the supply chain, causing issues for both domestic and non-domestic schemes with one significant impact of the increased price raw materials reducing number of measures installed in Priority Domestic schemes. Additional funding was allocated to 2021/22 schemes, following confirmation of underspend from 2020/21, however, at the end of 2021/22, there was still a NISEP underspend of approximately **£750k**.

Furthermore, low uptake in the Non-Priority category, mainly in commercial schemes, resulted in 90% of NISEP funding being spent in the Priority Category, despite the 80% ringfence. This has had a negative impact overall on Gross Customer Benefit (GCB) which has decreased from the previous NISEP year; illustrated in Table 1.1 below. These issues are discussed in more detail in this report.

In total, twenty-eight schemes were approved for 2021/22, across twelve Primary Bidders however one scheme did not accept funding and did not commence, and two further schemes closed throughout the year without uptake. The funds from these schemes were redistributed to other, more successful schemes to maximise in-year spend and associated energy savings.

Table 1.1 – Comparative Summary of Outturn

	2021/22	2020/21
NISEP funding spent (£)	£7,537,114	£7,983,508
Total lifetime energy savings (GWh)	549.699	481.918
Total lifetime carbon saved (tC)	40,288	44,847
Total lifetime CO ₂ e saved (tC)	148,285	N/A
Gross lifetime customer benefits (£)	18,920,910	22,246,594
Total incentives earned (£)	£18,626	£85,644

2. NISEP background

NISEP is funded from a sum of money collected from all electricity customers through a Public Service Obligation (PSO), and it is used to provide funding for energy efficiency schemes.

The strategic objectives of the NISEP are to contribute to the achievement of:

- Efficiency in the use of energy;
- Socially and environmentally sustainable long-term energy supplies; and
- The above at best value to customers whilst also having due regard to vulnerable customers.

80% of the funding is ring-fenced for vulnerable customers in Northern Ireland. Previous consultations have substantiated the view that this level of funding for vulnerable customers should remain. In 2021/22 the NISEP continued to focus on vulnerable customers (known as the Priority Sector) who are domestic customers on lower incomes who may be vulnerable to fuel poverty. **£6,636,511** was approved at the start of the year for this sector. The explicit aim of NISEP funding in the Priority sector is to reduce energy consumption in the least energy efficient housing stock, and to improve energy efficiency levels. The remaining **£1,237,396** was split between Non-Priority domestic, commercial and innovative schemes. Additional underspend from 2020/21 was also made available for Primary Bidders to utilise in 2021/22 and was directed to where customer demand was highest.

NISEP funding for schemes aimed at Priority Sector customers typically provided a package of measures including:

- Fabric (loft and cavity wall) Insulation
- Heating system replacement including fuel switching, heating controls and heating additive
- LED Lighting
- Hot Water Cylinder Jackets
- Smart Heating Controls
- Reflective Radiator Panels
- Water Widgets
- Draught Proofing

In the Non-Priority, Domestic, Commercial and Innovative Category, measures included;

- Insulation 'cash-back' grants for cavity wall and loft insulation in the domestic sector
- Solid wall insulation
- Air Source Heat Pump Technology
- Variable Speed Technology
- LED lighting
- Intelligent Heating controls
- High Heat Retention Storage Heaters

3. Key Changes to the NISEP Framework Document

There were many changes to the NISEP Framework Document published November 2020. One significant change was that Energy Saving Trust's methodology used to calculate carbon, energy (GWh) and Gross Customer Benefit (GCB) was updated.

Historically, schemes have had their energy savings assessed on the basis of 'ex-ante' figures. That is the savings are agreed in advance of implementation as opposed to an 'ex-post' methodology where the savings would be determined based on energy monitoring before and after the installation of the measure. This practical approach gives an agreed and consistently utilised set of data for all participants and will continue. BREDEM3 has been the main source of assessing the energy savings from insulation and heating measure schemes in the past. The model calculates the energy requirements of domestic dwellings and estimates the likely savings resulting from energy efficiency improvements. In 2019 the methodology was updated and changed to Energy Saving Trust's Dynamic Engine which is a SAP based model that is used to calculate all of Energy Saving Trust's savings, energy consumption calculations and evaluations. Although related to the BREDEM model this SAP based model is updated annually with the latest assumptions to ensure it is as accurate as possible for a given year. It is validated and is based on a government approved methodology in the UK and when aggregated over all users, has been shown to accurately predict national domestic energy consumption. The energy savings accredited under NISEP are expressed in terms of gigawatt hours (GWh) and also in terms of the monetary benefits to the consumer in terms of reduced bills (GCB).

In line with best practice for carbon accounting, Energy Saving Trust's new methodology means that all greenhouse gases, CO₂, Methane and Nitrogen Oxide, for scopes 1, 2 and 3 (scope 1 refers to direct emissions, scope 2 refers to energy indirect emissions and scope 3 refers to other indirect emissions) are incorporated into the scheme submission spreadsheet and post implementation report spreadsheet. This means that savings generated from carrying out energy efficiency measures includes those savings from all greenhouse gases and not just CO₂, which is known as carbon dioxide equivalent emissions or CO₂e. This model is providing an accurate picture of the impact of all greenhouse gas emissions. Historically scope 1 CO₂ emissions was the primary metric for carbon accounting, however, since then, carbon accounting has moved on to include all the other greenhouse gas emissions and all scopes (1 to 3), as it was found they have a significant impact on how they impact the climate.

This was a significant change to the underlying methodology which does mean savings achieved in 2021/22, which are outlined in this report, are not directly comparable to 2020/21. Some statistics have been compared however, i.e., number of measures installed within each category.

Other changes to note that will have impacted on the outturn savings include the following:

- Primary Bidders offering insulation only schemes (Priority and Non-Priority) had to market and offer both cavity wall and loft insulation measures to qualifying householders with schemes designed to ensure maximum uptake of both measures, with both measures being installed if required and suitable, unless in an exceptional circumstance.
- Primary Bidders offering Whole House Solution schemes were required to design the scheme to ensure maximum uptake of all measures, with cavity wall and loft insulation being installed when a heating system was installed, (where suitable for the property type and if required, unless in an exceptional circumstance). There has been an increase in the Whole House Solution uptake with higher rates of insulation being installed alongside heating replacements as outlined later in this report.
- A heating additive had to be included in all domestic heating installs and therefore energy savings are automatically included at post evaluation stage, increasing energy savings for all heating installs as opposed to selective schemes where it was offered as an additional measure.
- Private tenants were only able to avail of part funded schemes in 2021/22, so landlords were required to contribute to the energy efficiency measures being installed. This will have impacted on the number of private tenants availing of NISEP funding and some private tenants only availing of cashback grants as opposed to fully funded grants.

4. NISEP 2021/22 Funding Utilisation and Outturn

In 2021/22, twenty-eight schemes were approved, however one scheme did not proceed, and two further schemes closed during the year with no uptake. The following tables summarise the number of schemes approved per Primary Bidder and schemes per category.

Table 4.1 - Summary of approved schemes by Primary Bidder

Energystore Ltd	6
firmus energy (Distribution) Ltd	2
Fusion Heating Ltd	4
Power NI Energy Ltd	4
SGN Natural Gas Ltd	2
Warmfill Ltd	2
Workspace Ltd	1
O’Kane Plumbing & Electrics Ltd	2
Airpacks Ltd t/a Kore System	1
Engie Regeneration Ltd	1
Phoenix Natural Gas	1
Northern Ireland Housing Executive	2
Total	28

Table 4.2 – Breakdown of schemes by Category

Priority schemes	17
Non-Priority Conventional	6
Innovative	5

The following figures, **4.3**, **4.4** and **4.5** provide a breakdown of funding spent per category, GWh savings by category and the overall cost effectiveness of each scheme in pence spent per kilowatt of energy savings generated (where the lower the pence per kilowatt figure, the more cost-effective the scheme).

Figure 4.3 - NISEP Breakdown of Funding Spent by Category
(*Figures have been rounded to whole numbers)

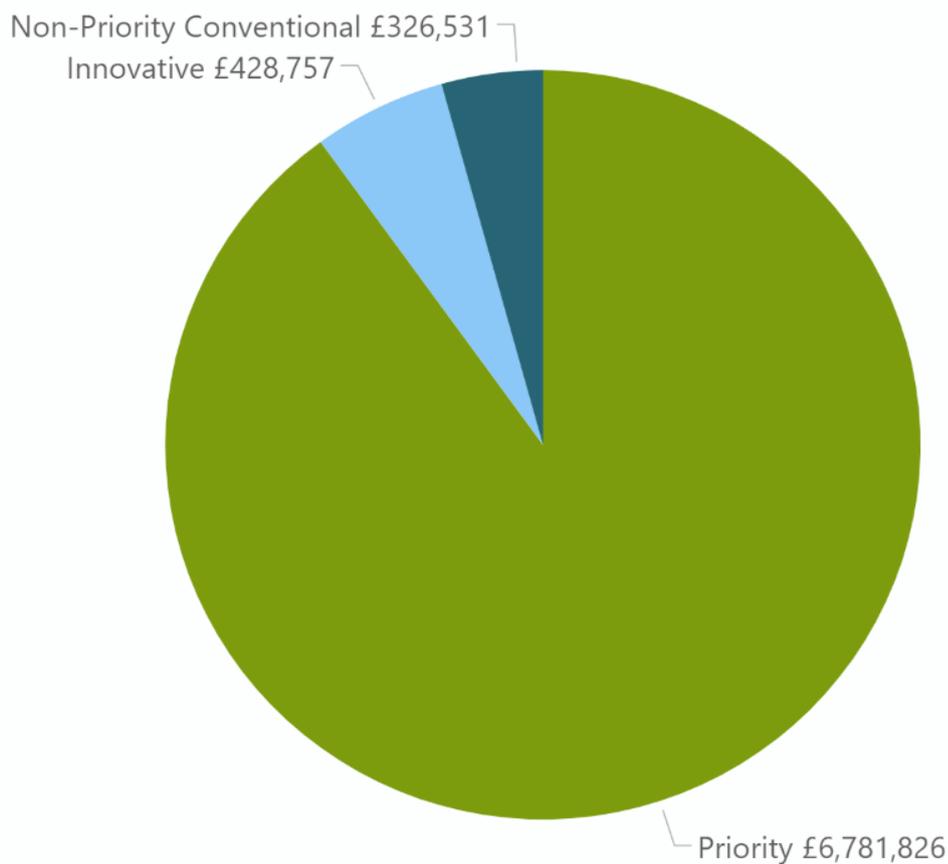


Figure 4.4 - Lifetime energy savings by category (GWh)

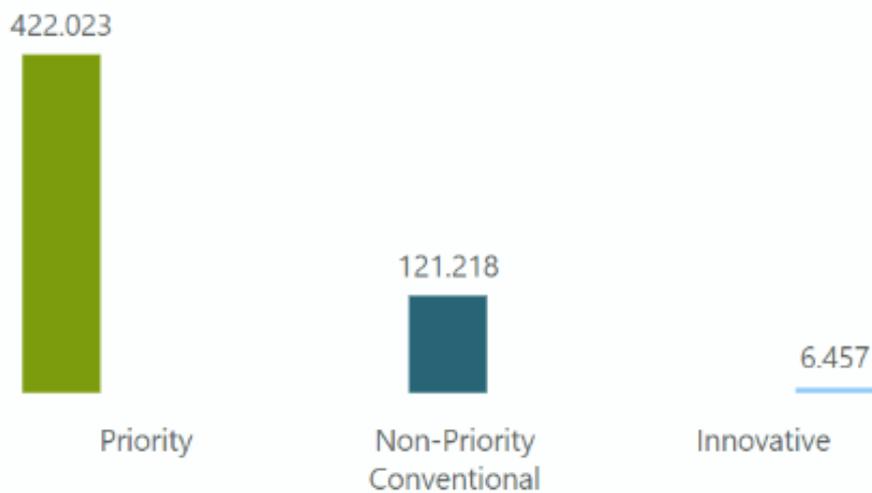
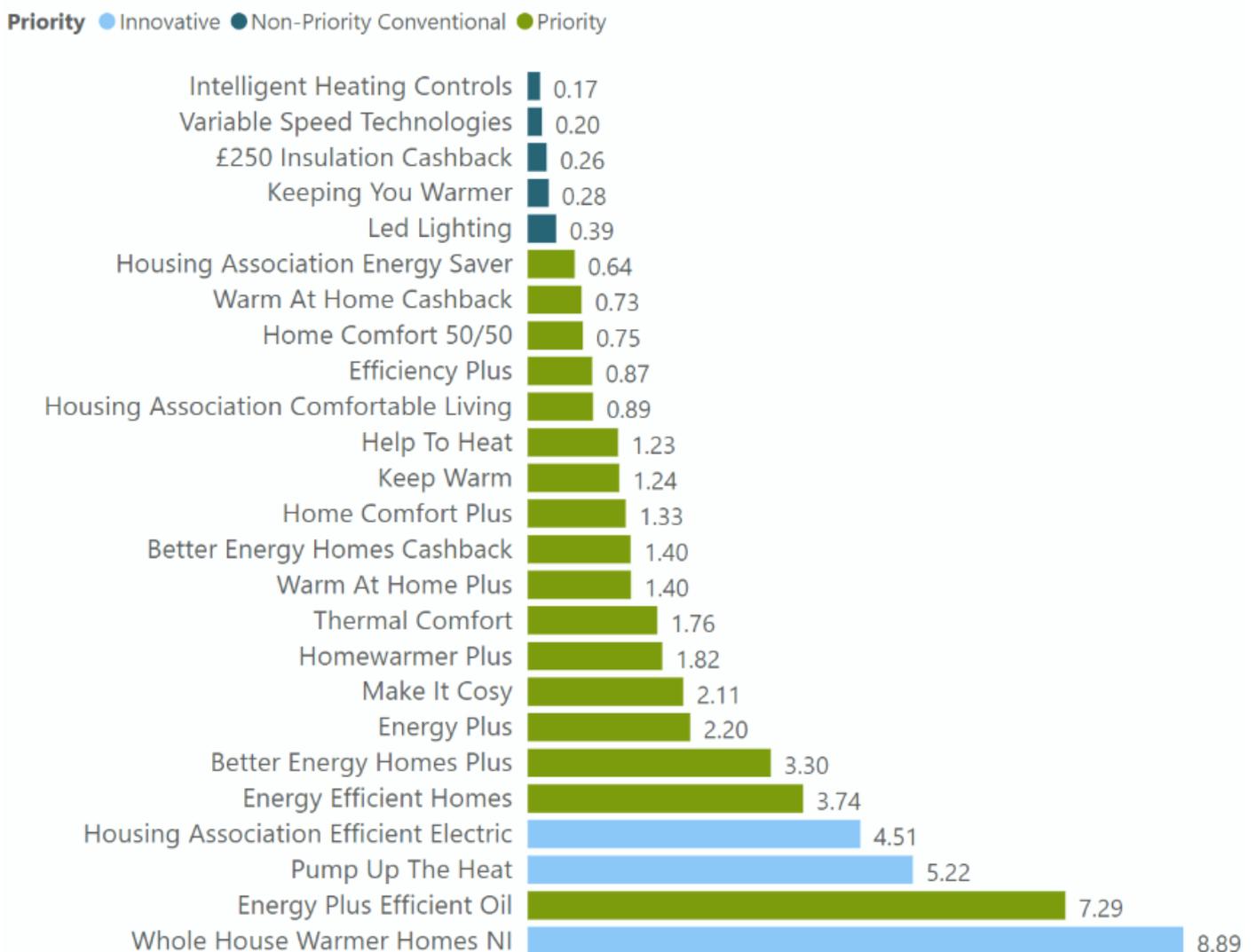


Figure 4.5 - Priority, Non-Priority, and Innovative Scheme Cost Effectiveness (cost in pence per kWh of energy saved, p/kWh) (the lower the value, the more cost effective the scheme)



The following table 4.6 below shows a summary of the approved schemes along with NISEP funding spent, GWh lifetime energy savings, lifetime carbon savings per tonne, Lifetime CO2e saved per tonnes and the lifetime gross customer financial benefit of each scheme.

Table 4.6- Programme Summary

Scheme Reference	Scheme Title	NISEP Funding Spent (£)	Accredited Lifetime Energy Saving (GWh)	Lifetime Carbon Saved (Tonnes)	Lifetime CO2e Saved (Tonnes)	Lifetime Gross Customer Benefit (£)
ENG 21 01 M P	Energy Efficient Homes	£188,297	5.039	392	1,438	£164,058
ESL 21 01 IP	Thermal Comfort	£1,177,263	66.889	4,634	16,990	£1,698,707
ESL 21 02 I NP	£250 Insulation Cashback	£187,287	72.169	4,999	18,331	£1,823,754
ESL 21 03 IP	Housing Association Comfortable Living	£6,160	0.694	48	176	£21,223
ESL 21 04 M P	Help To Heat	£69,732	5.686	451	1,653	£200,572
ESL 21 05 M P	Make It Cosy	£554,374	26.275	2,050	7,518	£903,830
ESL 21 06 IV P	Pump Up The Heat	£130,957	2.508	52	752	£96,098
FIR 21 01 MP	Home Comfort Plus	£512,496	38.494	3,049	11,179	£1,264,218
FIR 21 02 MP	Home Comfort 50/50	£321,266	42.886	3,396	12,450	£1,385,745
FUS 21 01 MP	Energy Plus	£502,574	22.796	1,799	6,595	£731,124
FUS 21 02 MP	Energy Plus Efficient Oil	£622,610	8.539	615	2,254	£253,487
FUS 21 04 MP	Housing Association Energy Saver	£75,568	11.863	980	3,592	£343,386
FUS 21 05 IV P	Housing Association Efficient Electric	£54,972	1.219	94	345	£77,146

Scheme Reference	Scheme Title	NISEP Funding Spent (£)	Accredited Lifetime Energy Saving (GWh)	Lifetime Carbon Saved (Tonnes)	Lifetime CO2e Saved (Tonnes)	Lifetime Gross Customer Benefit (£)
KORE 21 02 IV P	Whole House Warmer Homes NI	£242,828	2.731	196	720	£68,755
NIHE 21 01 IV P **	EWI Belfast Hard To Treat	N/A	N/A	N/A	N/A	N/A
NIHE 21 02 IV P *	PV Belfast Hard To Treat	N/A	N/A	N/A	N/A	N/A
OKPE 21 01 MP	Better Energy Homes Plus	£415,324	12.594	942	3,454	£459,815
OKPE 21 02 MP	Better Energy Homes Cashback	£81,804	5.863	442	1,621	£186,378
PNG 21 01 MP	Efficiency Plus	£356,887	40.802	3,189	11,691	£1,367,127
PNI 21 01 L NP	Led Lighting	£81,986	21.179	1,467	5,379	£1,929,301
PNI 21 02 ONP	Intelligent Heating Controls	£8,271	4.946	343	1,256	£170,423
PNI 21 03 ONP	Variable Speed Technologies	£35,488	18.180	1,259	4,618	£1,857,580
PNI 21 04 ONP **	Voltage Optimisation	N/A	N/A	N/A	N/A	N/A
SGN 21 01 MP	Warm At Home Plus	£324,186	23.134	1,874	6,871	£765,298
SGN 21 02 MP	Warm At Home Cashback	£24,768	3.377	271	995	£110,155
WFL 21 01 I NP	Keeping You Warmer	£13,500	4.745	329	1,205	£120,651
WFL 21 02 IP	Homewarmer Plus	£681,673	37.360	2,588	9,490	£1,075,094
WORK 21 01 IP	Keep Warm	£866,844	69.733	4,831	17,712	£1,846,983
Totals		£7,537,114	549.699	40,288	148,285	£18,920,910

* *scheme did not go ahead; funds were returned to the NISEP pot for reallocation*

** *scheme proceeded but had no uptake; funds were returned to the NISEP pot for reallocation*

*** *where relevant, total figures have been rounded*

5.0 Priority Domestic Schemes Summary and Outturn

Of the **£7,537,114** spent, **£6,781,826** was spent on Priority Domestic schemes (those targeted at vulnerable/lower income), representing 90% of the total funding spent. This is significantly higher than the 80% ring-fenced for priority schemes at the start of the year and is mainly due to funding (in-year returned funding) being utilised where demand was greatest and where schemes were closed and waiting lists established.

In total, Priority funding contributed to **11,383** energy efficiency interventions being installed. This is 4,877 less measures than in the previous year, which is mainly a result of less LEDs being installed (2,505 less) in domestic properties.

Seven of the Priority schemes provided a fully funded ‘whole house solution’ package, whilst a further six schemes provided different grant levels towards similar measures. This varied from a 50% grant towards heating measures with fully funded insulation for owner occupier / private tenants, to a standard £750 grant towards heating with fully funded insulation, for Housing Association tenants. Primary Bidders were encouraged to promote a ‘whole house solution’ scheme and were aware that these schemes must be designed to ensure maximum uptake of measures offered, unless there are exceptional circumstances, (i.e., when a heating system is being installed, all insulation measures if required and suitable for the property, should be installed). Customers should always be made aware of the benefits of insulation measures in terms of the energy efficiency improvements they bring.

The remaining four schemes in this category provided individual measures including cavity wall and loft insulation, three of which providing 100% grant funding and one offered a £200 grant for Housing Association tenants.

Table 5.1 shows a breakdown of priority measures installed including the number of homes that benefitted and Table 5.2 shows the breakdown of heating system installations.

Table 5.1 – Summary of Priority Domestic Measures Installed 2021/22

Loft insulation (LI)	1,607
Cavity wall insulation (CWI)	1,366
LEDs	5,795
Water Widgets	532
Hot water cylinder jackets	138
Heating Replacements	1,243
Smart Heating Controls	405
Reflective Radiator Panels	294
Draught Proofing	3
Total Measures Installed	11,383
Total Number of Properties	3,277

There continues to be a higher number of partial fill cavity wall insulation installed, (there were **736** partial fill installs versus **630** full-fill installs), and as less energy savings are attributed to partial fill, overall, less energy savings has been achieved. This trend is expected to continue. Overall numbers of insulation installs have reduced in 2021/22 which can be explained by increases in cost of measure due to raw material price increases with no increase to the level of NISEP funding awarded.

Table 5.2 – Summary of Priority Domestic Heating Replacements 2021/22

Electric Central Heating to Gas	7
Electric Central Heating to Oil	2
Gas Boiler Upgrade	40
LPG to Gas	2
LPG to oil	1
No Central Heating Electric to Gas	4
No Central Heating Solid Fuel to Gas	2
No Central Heating Solid Fuel to Oil	5
Oil Boiler Upgrade	144
Oil to Gas Fuel Switch	1,023
Solid Fuel Central Heating to Gas	12
Solid Fuel Central Heating to Oil	1
TOTAL	1,243
Total Number of Properties	1,243

As highlighted in Table 5.2, oil to gas conversions remains the highest proportion of all fuel switches completed under NISEP, at **78%**, however, this is a decrease from the previous year which was 83%. There has also been a decrease in oil boiler replacements (177 down to 144) and a continued reduction in electric (E7) to gas conversions (26 down to 7). This is explained by a change whereby the Innovative category included upgrades to electric heating systems as well as new technologies, including upgrades from oil to Air Source Heat Pumps which are now all reported in the Innovative category as opposed to this Priority category. All other fuel switches have remained at a similar percentage to the previous year.

There has been an increase in the levels of insulation uptake in the Whole House Solution category with 48% of all 1,243 heating replacement receiving either loft and /or cavity wall insulation. In 2020/21 this was only 31%.

Table 5.3 – Priority Domestic Comparative Outturn Against 2020/21

	2021/22	2020/21
NISEP funding spent (£)	6,781,826	7,666,864
Total lifetime energy savings (GWh)	422.023	392.471
Lifetime Carbon savings (t)	115,678	37,747
Gross customer benefit (£)	12,777,202	16,966,576
Total incentives earned (£)	£18,490	£85,327

Energy savings of **422.023GWh** in the Priority Category represents approximately **77%** of the overall energy savings achieved and is higher than the previous year despite less Priority measures being installed. This is mainly a result of the methodology change in calculating savings. Measures installed equate to a lifetime gross customer benefit (GCB) of **£12,777,202** for vulnerable households in Northern Ireland. This is a decrease of £4.2 million from the previous year and is a consequence of less heating and insulation installs in the Priority category, as a result of cost escalations approved throughout the year for raw material increases.

6.0 Non-Priority Conventional Schemes (Domestic and Commercial) Summary and Outturn

Of the **£7,537,114** spent, **£326,531** was utilised on Non-Priority conventional schemes, (domestic and commercial) representing **4%** of the total funding spent, the same as the previous year.

Non-Priority Commercial schemes provided part-funding, approx. 20%, towards the cost of energy efficiency measures. Commercial schemes tend to be more cost effective than Priority domestic schemes due to commercial energy efficiency measures yielding higher energy savings in comparison to spend. The Non-Priority domestic schemes provided a £250 grant towards insulation measures.

Table 6.1 Summary of Non-Priority (Domestic and Commercial) Measures Installed 2021/22

Loft Insulation	134
Cavity Wall Insulation	555
Variable Speed Technology	10
Energy efficient lighting (LED's)	3,418
Intelligent Heating Controls	6
TOTAL	4,123
Total number of properties	701

In total, Non-Priority conventional schemes delivered **4,123** energy efficiency interventions which was a total of **701** properties / premises.

There has been an increase in the number of Non-Priority Domestic insulation measures installed, by over **134** measures and will be a consequence of private tenants not being able to avail of fully funded insulation grants and therefore being directed to cashback grants in the Non-Priority category. This increase in the number of measures has contributed to higher carbon, energy (GWh) and gross customer benefit (GCB) seen in this category but also has decreased savings in the Priority Sector.

In relation to Non-Priority, Commercial schemes, the current NISEP financial year timeframe continues to provide challenges for the commercial sector which has been fed back consistently by Primary Bidders. Commercial projects take a longer period to plan and complete and as a result, applications do not progress as swiftly as domestic applications, which then leads to low uptake and underspend at year-end. Additionally, other factors such as the impact of COVID-19 and the War in Ukraine provided a challenging environment for many businesses as fed back by Primary Bidders throughout the year. These impacted the success of commercial projects and funding was returned by in Q3, with further underspend returned for two schemes due to low uptake. This resulted in a **£482k** underspend in this category, the majority of which was reallocated to the Priority Domestic schemes where there were large customer waiting lists as funds had been exhausted.

Table 6.2 Summary of Non- Priority Conventional Against 2020/21

	2021/22	2020/21
NISEP funding spent (£)	326,531	293,366
Total lifetime energy savings (GWh)	121.218	89.124
Lifetime Carbon savings (t)	30,789	7,072
Gross customer benefit (£)	5,901,710	5,257,706
Total incentives earned (£)	£136	£317

121.218GWh achieved in the Non-Priority sector represents approximately **2.2%** of the overall energy savings.

Although, LEDs continue to be widely adopted by businesses, there was a significant decrease in 2021/22 compared to the previous year, with 5,884 installs in 2020/21 and 3,418 in 2021/22. When comparing other technologies installed, however, there is an increase in commercial uptake; Variable Speed Technology increased from 4 installs in 2020/21 to 10 installs in 2021/22 and similarly, Intelligent Heating Controls increased from 3 installs to 6 installs. The Gross Customer Benefit of **£5,901,710**, is an increase from 2020/21 despite fewer measures being installed.

The overall decrease in measures installed in this category, in addition to the change in Energy Saving Trust's methodology will both have contributed to the outturn figures stated above table. Innovative schemes are reported separately below.

7.0 Innovative Schemes Summary and Outturn

In 2021/22, there were three innovative schemes approved which included installing technologies of High Heat Retention Storage Heaters (HHRSH), Air Source Heat Pumps and Solid Wall Insulation.

The one Housing Association scheme, targeted priority customers, offered a grant of £900 towards High Heat Retention Storage Heaters and £150 towards loft/cavity wall insulation. One additional innovative scheme offered fully funded Solid Wall Insulation and a heating upgrade and loft insulation if required in the property and the third scheme offered a fully funded conversion from natural gas or no central heating to an Air Source Heat Pump along with cavity wall and loft insulation if required.

In total, Innovative schemes delivered **337** energy efficiency interventions.

Table 7.1 – Summary of Innovative Measures Installed 2021/22

Solid wall insulation	8
Cavity wall insulation	4
Loft insulation	6
Heating replacements	71
LEDs	248
TOTAL	337

Table 7.2 – Summary of Innovative Heating Replacements 2021/22

Heating upgrade to High heat retention storage heaters	54
Oil to Gas	3
Oil to Oil (replacement)	4
Solid fuel central heating to Oil	1
Oil to Air Source Heat Pump	6
No central heating to Air Source Heat Pump	3
TOTAL	71
Total number of properties	71

Table 7.3 Summary of Innovative schemes outturn Against 2020/21

	2021/22	2020/21
NISEP funding spent (£)	£428,757	£23,800
Total lifetime energy savings (GWh)	6.457	0.323
Lifetime Carbon savings (t)	1817	27
Gross customer benefit (£)	241,998	22,311
Total incentives earned (£)	£0	£0

The number of measures in the Innovative Category has increased by **313** compared to 2020/21, and this is mainly related to the introduction of two new schemes in the innovative category. Under the innovative category there were 71 heating installations in the 2021/22 year compared to just 24 in 2020/21, this included 8 conventional heating systems and 9 Air Source Heat pumps. There was also an increase in installation of efficient electric storage heaters which rose from 24 in 2020/21 to 54 in 2021/22, this is a **125%** increase.

There were no insulation measures installed in the innovative category in 2020/21 however 4 loft insulations new heat pump scheme installed 9 heat pumps along with 6 loft insulations, 4 cavity wall insulations, and 8 solid wall insulations were completed in 2021/22. The increased measure numbers also include the relatively high numbers of LED's installed across the innovative schemes, with 248 being installed compared to 0 in the 2020/21 year.

Due to the increase of measures installed, as described above, there has been a substantial increase in total lifetime energy savings by **6.134GWh** which represents **1,899%** increase from the previous year.

The success and uptake within the Innovative category demonstrate a change and move towards new innovative and renewable technologies given changes in the Northern Ireland energy sector and decarbonisation agenda.

8.0 Target Achievement and Incentive Payments

In order to encourage Primary Bidders to bring forward cost-effective schemes and ensure that the objectives of the NISEP are met, the Utility Regulator awards an incentive payment to Primary Bidders that exceed the energy saving target set for each category. There is no incentive paid for simply meeting the target.

As a result of exceeding the GWh targets, incentive payments were awarded to each of the following Primary Bidders. The total incentive payments are summarised in Table **8.1** below.

Table 8.1 - Summary of Incentive Payments 2021/22

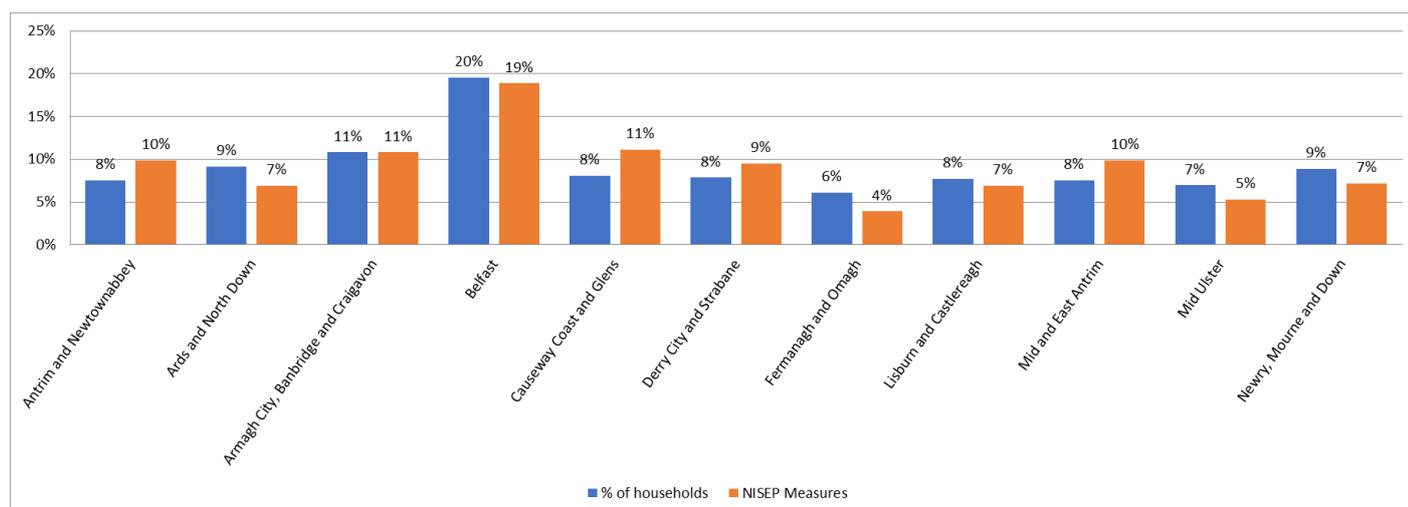
Primary Bidder	Amount NISEP spent (£)	Savings achieved (GWh)	Incentive earned (£)
Energystore	£187,287	72.169	£136
firmus energy	£833,762	81.380	£6,372
Fusion Heating Ltd	£75,568	11.863	£12,118
TOTAL			£18,626

There has been a notable decrease in incentives in 2021/22, compared to the previous year. This will have been caused by various factors, firstly, because of the methodology change, Energy Saving Trust needed to set new Cost Effectiveness targets for each category. Secondly, increases in the cost of measure also impacted the number of installs undertaken in Domestic schemes, and less uptake in commercial sector will both have had an impact to cost effectiveness outturn and ultimately incentives earned by Primary Bidders.

9.0 Geographical Spread of Domestic Measures

Bar **Chart 9.1** below shows the percentage of NISEP interventions per council area in orange, and the percentage of NI households within each council area in blue, this illustrates that NISEP is achieving adequate geographical spread across Northern Ireland. Both columns present the data as a percentage of the national total.

Chart 9.1 – NISEP Interventions by Council Area



Overall, there continues to be a reasonable spread of measures across many of the council areas. Although Belfast continues to have the highest proportion (at 19%) of measures installed, similar proportion to the previous year.

In councils, Lisburn and Castlereagh and Newry Mourne and Down the spread of measures remain similar to the previous year, 7% respectively.

Antrim and Newtownabbey has shown the highest increase, up by 3% to the previous year followed by Armagh City, Banbridge and Craigavon, Belfast and Causeway Coast and Glens, up by 2%, and Mid and East Antrim, up by 1%.

Whereas, Derry City and Strabane has shown the greatest reduction of 5% in comparison to the previous year. Other reductions include Fermanagh and Omagh, by 3% and Ards and North Down and Mid Ulster, by 1%.

For Antrim and Newtownabbey and Armagh City, Banbridge and Craigavon councils, they are now showing a higher-than-average proportion of measures installed in comparison to population size. However, Fermanagh and Omagh council shows a lower-than-average proportion of measures in comparison to the previous year.

Causeway Coast and Glens, Derry City and Strabane, and Mid and East Antrim councils continue to show a higher-than-average proportion of measures installed in comparison to population size. There has also been a significant increase in the average proportion of installed measures, compared to population size in Causeway Coast and Glens.

For Ards and North Down, Belfast, Lisburn and Castlereagh, Mid Ulster and Newry, Mourne and Down councils, they continue to show a lower-than-average proportion of measures installed in comparison to population size.

Heating Installations

In 2021/22, in contrast to the previous year, Armagh City, Banbridge and Craigavon and Belfast council areas received the highest proportion of NISEP heating installs at 12% (as opposed to Derry, City and Strabane in 2020/21). Armagh City, Banbridge and Craigavon had the most significant increase in terms of proportion of heating installs across all council areas, increasing from 9% to 12%. There was also an increase in Antrim and Newtownabbey, and Mid and East Antrim, up by 2%, accounting for 9% and 8% respectively, of heating installs.

The most significant reduction in proportion of heating installs was in Derry City and Strabane, reducing from 19% to 8% in 2021/22. There were further reductions in Fermanagh and Omagh (8% to 4%) and in Belfast (16% to 12%) to the previous year. Mid Ulster and Newry Mourne and Down reduced by 3%, and there was a small reduction in the council area of Ards and North Down by 1%. Causeway Coast and Glens and Lisburn and Castlereagh remained similar to the previous year.

Insulation Installations

In reference to insulation, there were less significant variations in 2021/22 to the proportion of measures across council areas. Belfast council area remains as having the highest proportion of NISEP insulation measures, with 17%, a small decrease from 18% in 2020/21. There has been an increase in insulation installs in both council areas Causeway Coast and Glens (9% to 12%) and Antrim and Newtownabbey (7% to 8%), with all other councils showing a small reduction compared to the previous year. Ards and North Down and Lisburn and Castlereagh had the most notable reduction of 3% with the remaining councils showing a 1%-2% reduction.

10. Conclusions

In 2021/22, there were twenty-eight schemes approved initially, one of which did not go ahead, and three schemes closed during the year due to no uptake. The funds from these schemes were redistributed during the NISEP year to other, more successful schemes to try to maximise in-year spend and associated energy savings.

Energy Saving Trusts methodology change means that direct comparisons can no longer be made to previous NISEP years. This decision was taken to ensure NISEP is kept in line with best practice for carbon accounting. Energy Saving Trust new methodology means that all greenhouse gases, CO₂, Methane and Nitrogen Oxide, for scopes 1, 2 and 3 (scope 1 refers to direct emissions, scope 2 refers to energy indirect emissions and scope 3 refers to other indirect emissions) are incorporated into outturn savings. All savings generated from carrying out energy efficiency measures includes those savings from all greenhouse gases and not just CO₂, which is known as carbon dioxide equivalent emissions or CO₂e. This model is providing an accurate picture of the impact of all greenhouse gas emissions. Historically scope 1 CO₂ emissions was the primary metric for carbon accounting, however, since then, carbon accounting has moved on to include all the other greenhouse gas emissions and all scopes (1 to 3), as it was found they have a significant impact on how they impact the climate.

Higher energy savings does not translate to higher carbon savings as outlined in Table 1.1. This is due to the different carbon intensities of each fuel type, so the mix of fuel types in any given year will impact the energy savings achieved. Also, the carbon factors generally change very little each year, with the exception of electricity, as the grid decarbonises, less carbon savings will be achieved from installations that displace electricity consumption.

Overall, the total NISEP spend on schemes at the end of the year was **£7,537,114**, which is higher than the available pot at the start of the NISEP year. This was due to additional funding being allocated to 201/22 during the year, following confirmation of underspend from 2020/21. Financial spend and committed funds were reviewed in year via the 5 and 8 month interim reporting process. This process facilitates the opportunity for funds to be reallocated between schemes, if deemed appropriate. However, several varying factors impacted overall spend. These included the impact of COVID-19, where installations were cancelled across schemes

due to social distancing / isolation requirements, as well as Primary Bidders being impacted with staff absence. This contributed to an approximate **£750K** underspend at year end.

Gross customer benefit (GCB) as decreased overall, despite increasing in the Non-Priority sector. The substantial decrease from the Priority sector, has been impacted by lower levels of installations overall, 51% of which is a reduction in LED lighting installs as a result of COVID -19 restrictions.

Overall, there were **15,835** measures installed, which equates to **6,905** fewer measures when in comparison to the previous year, mainly due to decreased uptake in priority schemes and rising measure costs. Primary Bidders submitted scheme variations throughout the NISEP year along with supporting evidence to verify the increases in raw materials. This impacted the Insulation sector but also all whole house solution schemes. Raw material increases were a consequence of COVID -19 primarily.

The gross customer benefit total translates as one pound of NISEP funding provided this year, providing £2.51 of Net Present Value lifetime benefits.

Priority Schemes

A higher proportion of funding was also spent in the Priority category where demand was greatest. Despite this, there were 11,383 energy efficiency interventions. This is a decrease of 4,877 measures to the previous year.

The importance of the 'whole house solution' (WHS) approach continues to be re-emphasised to all Primary Bidders for priority schemes. It can achieve much greater efficiency, addressing many elements of a home's energy use at once. To maximise thermal comfort and customer satisfaction, to offer best value for money, to ensure maximum energy savings and to reduce bills for the householder. Primary Bidders must report on the levels of Whole House Solution packages installed, through the interim reporting schedule. This has resulted in a higher level of insulation being installed in Whole House Solution scheme with 48% on all installs including loft, cavity or both. It is expected that we will continue to see an increase in properties availing of the Whole House Solution package in future NISEP years.

The Priority Category represented approximately **77%** of the overall energy savings achieved. This is slightly higher than the previous year despite fewer measures being installed (mainly LEDs). Savings achieved and outturn figures however has been impacted mainly by the methodology and accounting changes.

Non-Priority Schemes

The lower spend in the Non-Priority Category, resulted of fewer measures installed, mainly LED's which are known to yield high energy savings, carbon savings and gross customer benefit overall. There continues to be high underspend in this category most notably within the commercial schemes due to funding being reserved for commercial applications. Projects take a longer period to plan and complete, and the current NISEP financial year timeframe

continues to provide challenges for the commercial sector. As a result, applications do not progress as swiftly as domestic applications, which then leads to low uptake in this category and underspend at year-end.

In relation to Non-Priority Category Domestic measures, there has been an increase in the number of Non-Priority domestic insulation measures installed.

The Non-Priority Category showed an increased spend, increased energy, carbon and gross customer benefit to the previous year. There were **4,123** measures installed (mainly LEDs) which was fewer measures than 2021/22. Savings achieved and outturn figures however has been impacted mainly by the methodology and accounting changes.

Innovative Schemes

The innovative category saw an increase in demand with three innovative schemes completed in 2021/22, and therefore achieving an increase in energy, carbon and financial savings. Innovative schemes will continue to be encouraged which would help bring forward emerging but proven domestic or commercial technologies that provide a better energy efficiency performance than 'standard' measures.

Geographical Spread

Overall, there has been a greater spread of measures across many of the council areas, although Belfast continues to have the highest proportion of measures installed, with a similar proportion to the previous year. In contrast to the previous year, Armagh City, Banbridge and Craigavon and Belfast council areas received the highest proportion of NISEP heating installs at 12%. In reference to insulation, there were less significant variations, and although Belfast council area remains as having the highest proportion of installs, the % proportion has reduced to the previous year.

APPENDIX 1 – SCHEME DESCRIPTIONS AND MEASURE SUMMARY

PRIORITY SCHEMES - Whole House Solution Fully Funded (7 schemes)

FUS 21 01 MP

Energy Plus

This was a Priority Whole House Solution Scheme aimed at priority householders which met set vulnerability criteria. The scheme provided a new energy efficient heating system plus loft and/or cavity wall insulation measures to households whose properties had existing solid fuel heating system or no central heating or an old, inefficient, or broken oil or LPG Boiler. Eligible customers were offered a fully funded grant to enable customers who live in the Phoenix Natural Gas Greater Belfast and East Down Licence areas to upgrade their existing heating systems to Natural Gas and avail of cavity wall insulation and/or loft insulation. Each heating system was also treated with the heating additive and each customer was offered up to 4 LEDs, a water widget, reflective radiator panels, hot water tank jackets and smart heating controls.

In total 102 properties received measures through this scheme. Of these 102 properties, there were 4 properties that availed of a 'whole house solution' package of heating, loft insulation and cavity wall insulation measures. There were 36 other properties that received heating and either cavity wall insulation or loft insulation, and 62 properties that received only heating

Measures Summary

Loft insulation	32
Cavity wall insulation	12
Heating System with Heating Additive	102
LEDs	373
Smart Heating Controls	12
Reflective Radiator Panels	85
Water Widgets	62

FUS 21 02 MP

Energy Plus – Efficient Oil

This was a Priority Whole House Solution Scheme aimed at priority householders which met set vulnerability criteria. The scheme provided a new energy efficient heating system plus loft and/or cavity wall insulation measures to households whose properties had existing solid fuel heating system or no central heating or an old, inefficient or broken Oil or LPG Boiler. Eligible customers were offered a new oil energy efficient heating system. A fully funded grant was available for a heating system upgrade/replacement, cavity wall insulation and/or loft insulation. Each heating system was also treated with the heating additive and each customer

was offered up to 4 LEDs, a water widget, reflective radiator panels and smart heating controls.

In total 71 properties received a replacement heating system through this scheme. Of these properties, there were 2 properties that availed of a 'whole house solution' package of heating, loft insulation and cavity wall insulation measures. There were 14 properties that received heating and either cavity wall insulation or loft insulation and 55 properties that received only heating.

Measures Summary

Loft insulation	15
Cavity wall insulation	3
Heating System with Heating Additive	71
LEDs	276
Reflective Radiator Panels	50
Water Widgets	50

ENG 21 01 MP

Energy Efficient Homes

This was a Priority Whole House Solution scheme that targeted owner-occupied householders throughout Northern Ireland, that met set vulnerability criteria. To be eligible customers would have heating that was Economy 7 (on a case-by-case basis), solid fuel, LPG (boilers over 15 years old), oil (boilers over 15years old) or no heating, including oil boilers broken beyond viable economic repair. This was a fully funded scheme. The measures offered were a fully controlled natural gas heating system, loft/cavity wall insulation and up to 4 LED lightbulbs.

In total 41 properties received measures through this scheme. There were 21 properties that received heating and either loft insulation or cavity wall insulation.

Measures Summary

Loft insulation	21
Heating System with Heating Additive	41
LEDs	12

SGN 21 01 MP

Warm at Home Plus

This was a Priority Whole House Solution Scheme offering a fully funded natural gas heating system (with heating additive) and insulation measures, including cavity wall and loft insulation. Customers were offered reflective radiator panels, LED light bulbs, smart controls, water widgets and a hot water tank jacket. To qualify for the scheme, customers were

required to meet set eligibility criteria, which included being a homeowner within prescribed income brackets. Low-income households within SGN Natural Gas network area with Economy 7 (on a case-by-case basis), Solid Fuel heating, no central heating or an old (over 15 years) or broken beyond viable economic repair oil boiler were targeted.

In total 106 properties received measures through this scheme. There were 14 properties that received the ‘whole house solution’ package of heating, loft insulation and cavity wall insulation measures and 41 properties that received heating and either loft insulation or cavity wall insulation and 51 properties that received only heating.

Measures Summary

Loft insulation	52
Cavity Wall Insulation	17
Draughtproofing	3
Heating System with Heating Additive	106
LEDs	365
Water Widgets	10
Smart Heating Controls	58

FIR 21 01 MP

Home Comfort Plus

This was a Priority Whole House Solution scheme that targeted owner-occupied householders that met set vulnerability criteria. To be eligible customers had to be within the firmus energy gas network area and have Economy 7 (on a case-by-case basis), solid fuel, LPG (boilers over 15 years old), oil (boilers over 15years old) or no heating, including oil boilers broken beyond viable economic repair. This was a fully funded scheme. The measures offered were a fully controlled natural gas heating system (with heating additive), loft/cavity wall insulation, water widget, a remote smart heating controls and up to 4 LED lightbulbs.

In total 170 properties received measures through this scheme. There were 10 properties that received a ‘whole house solution’ package of heating, loft insulation and cavity wall insulation measures and 62 properties that received heating and either loft insulation or cavity wall insulation and 98 properties that received only heating.

Measures Summary

Loft insulation	62
Cavity Wall Insulation	20
Heating System with Heating Additive	170
LEDs	656
Water Widgets	71
Smart Heating Controls	64

OKPE 21 01 MP

Better Energy Homes Plus

The Better Energy Home Plus Scheme was a Priority Whole House Solution scheme aimed at low-income owner-occupied. It was a fully funded scheme where no customer contribution was sought. Households with no central heating, Economy 7 (on a case-by-case basis), solid fuel heating or an old oil or LPG heating system (where the boiler must be over 15 years old or broken beyond viable economic repair) were targeted. The scheme offered a fully funded natural gas or oil heating system (with heating additive) and fully funded cavity wall and loft insulation, energy efficient lighting and a hot water cylinder jacket.

In total 80 properties received measures through this scheme. Of these 80 properties, there were 10 properties that received a 'whole house solution' package of heating, loft insulation and cavity wall insulation measures. There were 37 properties that received heating and either loft insulation or cavity wall insulation and 33 properties that received only heating.

Measures Summary

Loft insulation	36
Cavity Wall Insulation	17
Heating System with Heating Additive	80
LEDs	320
Hot Water Tank Jacket	2

ESL 21 05 M P

Make it Cosy

This Priority domestic scheme was designed to offer grant funding to install heating, either gas conversion or boiler replacement, cavity and loft insulation and LED Bulb measures to enable energy saving to low-income domestic households. The scheme was fully funded and was targeted at customers in new gas network areas who had Economy 7 heating (on a case-by-case basis), solid fuel heating, no central heating, or an old inefficient oil or gas boiler (over 15 years) or beyond viable repair. In addition to a new heating system the customer would receive cavity wall and loft insulation measures, including ventilation, remote smart heating controls, a Water Widget and a maximum of 4 LEDs.

Overall, 129 properties benefited from measures. 12 household received WHS, 43 received heating and either cavity wall or loft insulation, and 74 received only heating measures.

Measures Summary

Loft insulation	33
Cavity Wall Insulation	34
Heating System with Heating Additive	129
Smart Controls	90
Water Widgets	111

PRIORITY SCHEMES - Whole House Solution Customer Contribution Schemes (6 schemes)

FUS 21 04 MP

Housing Association Energy Saver

This was a Priority Whole House Solution Part Funded Scheme that installed energy efficient heating and insulation measures in Housing Association (HA) properties with, existing solid fuel, inefficient Oil or LPG boiler heating system. This scheme also improved the thermal quality of homes in the Housing Association stock by offering loft and cavity wall insulation measures where required. Each heating system was also treated with a heating additive and each customer was offered up to 4 LEDs and a smart control (Climate Remote Heating Control Hub). A maximum grant of £750 per property was offered for heating and £150 towards both cavity wall and loft insulation. The HA met the remaining costs in excess of the grant value for each installation.

In total 95 properties received measures through this scheme. Of these 95 properties that received a new heating system, there were no properties that received a 'whole house solution' package as insulation was not required.

Measures Summary

Heating Systems with heating additive	95
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SGN 21 02 MP

Warm at Home Cashback

This was a Priority Whole House Solution Scheme offering a grant of 50% off the total cost of a natural gas central heating system (with heating additive) and fully funded insulation measures, including cavity wall and loft insulation. In addition, customers were offered LED light bulbs, draught proofing, hot water cylinder jacket, water widgets and smart heating controls. To qualify for the scheme, customers were required to meet set eligibility criteria, which included being a homeowner or private tenant within prescribed income brackets. Low-income households within SGN Natural Gas network area with Economy 7 (on a case-by-case basis), Solid Fuel heating, no central heating or an old (over 15 years) or broken beyond viable economic repair oil boiler were targeted.

In total 16 properties received measures through this scheme. There were 11 properties that received heating and either loft insulation or cavity wall insulation and 5 properties that received only heating.

Measures Summary

Loft insulation	10
Cavity Wall Insulation	1
Heating System with Heating Additive	16

Smart Heating Controls	3
Water Widgets	1
LED's	64

FIR 21 02 MP

Home Comfort 50/50

This was a Priority Whole House Solution Scheme aimed at homeowners and private tenants who met set income criteria. The scheme offered a grant of 50% off the total cost of a natural gas central heating system (with heating additive) and fully funded insulation measures including cavity wall and loft insulation. Customers were also offered LED light bulbs, water widget, and remote smart heating controls. Low-income households within the firmus energy gas network area with no central heating, Economy 7 (on a case-by-case basis), Solid Fuel heating or an old Oil or LPG heating system (where the boiler must be over 15 years or broken beyond viable economic repair) were targeted.

In total 200 properties received measures through this scheme. There were 18 properties that received a 'whole house solution' package of heating, loft insulation and cavity wall insulation measures and 79 properties that received heating and either loft insulation or cavity wall insulation and 103 properties received only heating.

Measures Summary

Loft insulation	88
Cavity Wall Insulation	27
Heating System with Heating Additive	200
Smart Heating Controls	40
Water Widgets	62
LED's	740

PNG 21 01 MP

Efficiency Plus

This was a Priority Whole House Solution scheme that targeted owner-occupied householders that met set vulnerability criteria. To be eligible customers had to be within the Phoenix Natural Gas network area, solid fuel, LPG (boilers over 15 years old), oil (boilers over 15 years old) or no heating, including oil boilers broken beyond viable economic repair. This was a 50% customer contribution scheme. The measures offered were a fully controlled natural gas heating system, loft/cavity wall insulation, remote smart heating controls, hot water cylinder jacket, water widget, reflective radiator panels and up to 4 LED lightbulbs.

In total 166 properties received measures through this scheme. There were 18 properties that received a 'whole house solution' package of heating, loft insulation and cavity wall

insulation measures and 78 properties that received heating and either loft insulation or cavity wall insulation.

Measures Summary

Loft insulation	85
Cavity Wall Insulation	31
Heating System with Heating Additive	166
Smart Heating Controls	138
Water Widgets	165
LED's	660
Radiator Reflective Panels	159

OKPE 21 02 MP

Better Energy Homes Cashback

The Better Energy Homes Cashback Scheme was a Priority Whole House Solution scheme aimed at low-income owner occupied or private tenants. It was a 50% customer contribution scheme. Households with no central heating, Economy 7 (on a case-by-case basis), solid fuel heating or an old oil or LPG heating system (where the boiler must be over 15 years old or broken beyond viable economic repair) were targeted. The scheme offered a 50% NISEP grant towards a natural gas or oil heating system (with heating additive) and fully funded cavity wall and loft insulation, energy efficient lighting and a hot water cylinder jacket.

In total 31 properties received measures through this scheme. Of these 31 properties, there were 4 properties that received a 'whole house solution' package of heating, loft insulation and cavity wall insulation measures. There were 11 properties that received heating and either loft insulation or cavity wall insulation and 16 properties received only heating.

Measures Summary

Loft insulation	12
Cavity Wall Insulation	7
Heating System with Heating Additive	31
LED's	124

ESL 21 04 M P

Help to Heat

This Priority domestic scheme was designed to offer grant funding to install heating, either gas conversion or boiler replacement, cavity and loft insulation and LED Bulb measures to enable energy saving to low-income domestic households. It was targeted at customers in new gas network areas who had Economy 7 heating (on a case-by-case basis), solid fuel heating, no central heating, or an old inefficient oil or gas boiler (over 15 years) or beyond

viable repair. The customer would pay 50% of the total heating costs, except where a new gas boiler was installed, as a gas supplier would contribute £250 toward the total heating cost. Where a heating measure was installed, the customer could also avail of fully funded cavity wall and loft insulation measures, including any ventilation and building control costs required. Customers were also offered a Water Widget and a maximum of 4 LEDs.

Overall, 36 properties benefited from measures. 1 household received WHS, 8 received heating and either cavity wall or loft insulation, and 27 received only heating measures.

Measures Summary

Loft insulation	5
Cavity Wall Insulation	5
Heating System with Heating Additive	36

PRIORITY SCHEMES - Individual Measures (Total 4 schemes)

ESL 21 03 IP

Housing Association Comfortable Living

This was a Priority Individual Measures scheme designed to give grant assistance to Housing Association properties, with a NISEP grant of £200 per cavity wall and loft insulation measure. The maximum grant assistance available per property was £400.

Overall, 14 cavity wall insulation measures and 14 loft insulation measures were installed.

Measures Summary

Cavity wall insulation	14
Loft insulation	14

WFL 21 02 IP

Homewarmer Plus

This was a Priority Individual Measures scheme that offered fully funded Cavity Wall and Loft Insulation measures. It targeted private tenants or owner-occupied households that met the scheme criteria. A fully funded package of measures was available including cavity wall and/or loft insulation measures, a hot water cylinder jacket and up to 4 LEDs, if required.

Overall, 239 loft insulation and 273 cavity wall insulation measures were installed in 430 different properties.

Measures Summary

Cavity wall insulation	273
Loft insulation	239
LED's	820

WORK 21 01 IP

Keep Warm Scheme

This was a Fully Funded Priority Individual Measures scheme, where applicants were required to meet set eligibility criteria. The overall aim of the scheme was to provide loft or cavity insulation to those households which qualified for the scheme. Up to 4 LEDs and a hot water cylinder jacket were also offered to every customer. The scheme was aimed at priority customers; no customer contribution was sought from customers.

Overall, 698 properties benefited from this scheme. A total of 596 loft insulation and 224 cavity wall insulation measures were installed.

Measures Summary

Loft insulation	596
Cavity wall insulation	224
Hot Water Cylinder jackets	111
LEDs	1,133

ESL 21 01 IP

Thermal Comfort

This was a Priority Individual Measures scheme that offered fully funded Cavity Wall and Loft Insulation (including ventilation) measures. It targeted owner-occupied properties that met the scheme criteria. A fully funded package of measures was available including cavity wall (including combustion wall ventilation where required) and/or loft insulation (including ventilation and Building control fees) measures, a hot water cylinder jacket and up to 4 LEDs, if required.

In total 892 properties received measures through this scheme. In these 892 properties, there were 307 loft insulation measures installed, and 681 cavity wall insulation measures installed.

Measures Summary

Loft insulation	307
Cavity wall insulation	681
LEDs	252
Hot Water Cylinder Jackets	25

NON-PRIORITY CONVENTIONAL SCHEMES - DOMESTIC (Total 2 schemes)

ESL 21 02 NP

£250 Insulation Cashback

This Non-Priority domestic scheme was designed to give grant assistance to insulate the cavity wall and the loft of a home. Homeowners or private tenants were offered an up-front discount on both cavity wall and loft insulation. A minimum installation value of £300 applied for either loft or cavity wall installation work to qualify for the grant. The customer received a maximum cashback of £250 on the installed costs for each type of insulation. The maximum grant available, where both loft and cavity wall insulation were installed, was £500.

There were 639 cashbacks provided.

Measures Summary

Loft insulation	121
Cavity wall insulation	518

WFL 21 01 I NP

Keeping You Warmer

This Non-Priority domestic scheme was designed to give grant assistance to insulate the cavity wall and the loft of a home. Homeowners or private tenants were offered an up-front discount on both cavity wall and loft insulation. A minimum installation value of £300 applied for either loft or cavity wall installation work to qualify for the grant. The customer received a maximum cashback of £250 on the installed costs for each type of insulation. The maximum grant available, where both loft and cavity wall insulation were installed, was £500. Hot Water Tank Jackets and LEDs were also offered to customers.

There were 50 cashbacks provided.

Measures Summary

Loft insulation	13
Cavity wall insulation	37
LEDs	32

NON-PRIORITY CONVENTIONAL SCHEMES - COMMERCIAL (3 schemes)

PNI 21 01 LNP

LED Lighting

This Non-Priority commercial lighting scheme offered a grant of 20% towards the cost of replacing the original metal halide/ SON / fluorescent / Tungsten / PL and 2D installations with LED luminaries so that the connected lighting load reduced. Dimming and movement

detection options were encouraged as part of this solution. Businesses targeted included; Retail (high street shops / shopping centers), Offices, Manufacturing (production/warehouses/offices), Leisure (gyms/activity centers), Hospitality (pubs/hotels), Agriculture (farms), Transport (ports/haulage depots) and Education (schools/colleges/universities).

Overall, a total of 27 commercial premises received measures through this scheme. In total 3,386 measures were installed.

Measures Summary

LEDs	3,386
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PNI 21 02 ONP

Intelligent heating controls

This Non-Priority commercial scheme offered a grant of 20% towards the cost of design and installation of an intuitive heating management system retrofitted to provide individual control of heating times and temperatures within each room. Businesses targeted included Hotels and Tourism, Care Homes, Offices and Education.

In total 6 measures were installed.

Measures Summary

Intelligent heating controls	6
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PNI 21 03 ONP

Variable Speed Technology

This was a Non-Priority Commercial scheme that offered a grant of 20% towards the cost of replacing a single Variable Speed Compressor (VSC) or Variable Speed Drive (VSD) with a new variable speed model. Commercial customers who used motors for ventilation, water circulation and air compressors were targeted. An Air leak detection/repair survey was also offered. Businesses targeted include; Airports, Factories, Hospitals, Cold Storage, Shopping Centres, Engineering, Farming, Textile, Manufacturing, Quarries, and Food Processors.

Overall, 10 Commercial premises benefited from this scheme. In total 10 Variable speed technologies were installed.

Measures Summary

Variable speed technology	10
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INNOVATIVE SCHEMES - (Total 3 schemes)

ESL 21 06 IV P

Pump up the Heat

Although the Innovative Category sits within the Non-Priority Funding Category, this scheme will be targeting Priority customers.

This Innovative scheme is designed to deliver to owner occupied properties, an air to water heat pump, cavity wall and loft insulation measures, including all ventilation where required. All measures on the scheme will be fully funded with no customer contribution.

Under this scheme 17 measures were installed, and 9 properties benefitted. Of these 17 measures 3 households received heating, cavity wall and loft insulation, 2 received heating and cavity wall or loft insulation, and 4 received only heating.

Measures Summary

Loft insulation	9
Cavity Wall Insulation	9
Air Source Heat Pumps	4

FUS 21 05 IV P

Housing Association – Efficient Electric

As detailed in the Framework Document, Innovative schemes (ring fenced in the Non-Priority Category) may be designed to target either priority or non-priority or both customer groups. This was a Priority Innovative scheme aimed at Housing Associations where customers met set vulnerability criteria and had old inefficient Economy 7 Heating Systems. The scheme offered a Part-Funded grant of £900 to the Housing Association to incentivise them to upgrade their vulnerable tenants' existing Economy 7 Electric Heaters with up to 4 High-Efficiency Electric Storage heaters. The scheme also offered the Housing Association a grant of up to £150 to install or top-up loft and/or cavity wall insulation in these customers' homes and up to 4 LEDs and a water widget. Each offer of energy efficiency measures included Up to 4 new High-Efficiency Quantum Electric Storage Heaters, Full Heating Controls, New Customer Unit, up to 4 new Circuits, Cavity Wall Insulation, Full Loft Insulation, and 4 LEDs. The balance of the costs of installing heating and insulation measures over and above the NISEP grant was met by the Housing Association.

There were 54 households that availed of this scheme to upgrade their Economy 7 electric heaters to High Heat Retention Storage Heaters, none of the properties required insulation or any of the additional measures offered.

Measures Summary

High Heat Retention Storage Heaters	54
LEDs	216

KORE 21 01 IV P

Whole House Warmer Homes NI

The Whole House Warmer Schemes was a Priority Whole House Solution innovative scheme aimed at low-income owner occupied throughout Northern Ireland. It was a 50% customer contribution scheme. Households with no central heating, Economy 7 (on a case-by-case basis), solid fuel heating or an old oil or LPG heating system (where the boiler must be over 15 years old or broken beyond viable economic repair) were targeted. The scheme offered a fully funded grant towards a natural gas or oil heating system (with heating additive), external wall insulation and loft insulation, energy efficient lighting, water widget and a hot water cylinder jacket.

In total 8 properties received measures through this scheme. Of these 8 properties, there were 2 properties that received a 'whole house solution' package of heating, external wall insulation and loft insulation measures. There were 6 properties that received heating and either loft insulation or external wall insulation.

Measures Summary

Loft insulation	2
Solid Wall Insulation	8
Heating with Heating Additive	8
LEDs	32
Water Widgets	0
Hot Water Tank Jackets	0

APPENDIX 2 - CUSTOMER TESTIMONIALS

PRIORITY SCHEMES

FUS 21 01 MP - Energy Plus customer - *"Very Helpful and Patient, good at explaining things, team very proficient."*

FUS 21 02 MP - Energy Plus – Efficient Oil customer - *"Very good professional attitude, no complaints and would recommend and definitely use again"*

ENG 21 01 MP - Energy Efficient Homes customer – *"Avenue Installation was tidy, quick, easy to deal with. Clear correspondence with installs team. Everything was explained clearly. Application process was straight forward / heating more efficient"*

FUS 21 04 MP - Housing Association Energy Saver customer - *"In regards to the heating improvements works completed at Stevenson Park & Beallachmor, I can confirm that from carrying out post inspections following the completed works that Choice Housing are happy with the work completed by Fusion. General workmanship was of a high quality, with few snags and high level of customer satisfaction."*

SGN 21 01 MP - Warm at Home Plus customer - *"The whole process was easy (for me) with minimum fuss and very few phone calls". "Great team of workers ready to answer any queries". "Thanks again to you and all involved with SGN NG for getting me set up".*

SGN 21 02 MP - Warm at Home Cashback customer – *Customer noted on their Customer Satisfaction survey that they were satisfied with the quality of work undertaken by the SGN NG installers H&A and Kier and that they were also satisfied with the overall energy saving scheme.*

FIR 21 01 MP - Home Comfort Plus customer - *"Excellent service from everyone, very happy. I would not have been able to afford to replace my old heating system without the grant"*

FIR 21 02 MP - Home Comfort 50/50 customer - *"Thanks to the installers for doing a great job, our house is warmer and we are very pleased with our new heating system. The new loft insulation has made a big difference."*

PNG 21 01 MP - Efficiency Plus customer – *"Very pleased with the work, all workers arrived early got stuck in and were very pleasant and helpful."*

OKPE 21 01 MP - Better Energy Homes Plus customer - *'Work was carried out to a very high standard'*

OKPE 21 02 MP - Better Energy Homes Cashback customer – *The finished job was great, Paul did a brilliant, tidy, clean job and explained everything fully.*

ESL 21 01 IP - Thermal Comfort customer – *“From the Surveyor to the Workers, everyone was very helpful, very efficient, and very tidy. I would recommend their work.”*

ESL 21 03 IP - Housing Association Comfortable Living customer – *Radius Housing Association were very pleased with all works carried out at Portcarnan Fold, from the initial site surveys to the completion of the works, Energystore conducted themselves in a professional manner. Great communication from Energystore to all parties involved in the works and also most importantly the residents within the scheme allowed the works to be completed successfully with the residents benefitting from the improved thermal comfort.*

WFL 21 02 IP - Homewarmer Plus customer – *“Very, very happy with the work and it has made such a difference to the home”*

WORK 21 01 IP - Keep Warm Scheme customer – *“The workers were very efficient, friendly and did a great job. Top class service.”*

ESL 21 04 M P - Help to Heat customer – *“Installers great and office staff were very helpful.”*

ESL 21 05 M P - Make it Cosy customer – *“Thought that the installers were very professional and helpful.”*

NON-PRIORITY AND INNOVATIVE SCHEMES

ESL 21 02 NP - £250 Insulation Cashback customer – *“Excellent customer services. Staff on site were very polite, friendly, and cleaned up extremely well.”*

ESL 21 06 IV P - Pump up the heat customer – *“A professional job and everything well explained through the process.”*

WFL 21 01 I NP - Keeping You Warmer customer – *“Very good job and already feeling the difference in heat.”*

PNI 21 01 LNP - LED Lighting customer – *“Very pleased with the communication and support regarding the scheme”*

PNI 21 03 O NP - Variable Speed Technology customer - *“The whole process was very straightforward from start to finish. The scheme has enabled us to make the jump to more efficient technology and allowed our business to become more sustainable. We are now starting to see the benefits of this technology and becoming more efficient and sustainable is now a key target for the business.”*

KORE 21 01 IV P - Whole House Warmer Homes NI customer – *“The external insulation and finish has made a huge impact on keeping my home warm. The difference is huge. The house has been transformed by Kore. Amazing staff led by Donovan. Absolute pleasure to be involved. Best experience and so grateful. Thank you so much.”*

APPENDIX 3: CASE STUDIES – AIR SOURCE HEAT PUMPS

Case Study 1: ENERGYSTORE ‘PUMP UP THE HEAT’ AIR SOURCE HEAT PUMP INSTALLATION WITH THE NORTHERN IRELAND SUSTAINABLE ENERGY PROGRAMME

THE PROJECT

Updating a private residents home heating system to a more environmentally friendly alternative by the replacement of an oil fired boiler system with an 11KW (modulating) air to water Heat Pump.

In collaboration with the Heat Pump Manufacturer, we designed and installed a Warmflow Zeno AS02 Air to water Heat pump and associated works to this property.

Location:
Carrickfergus, N. Ireland

Installed:
September 2021

Project
NISEP 2020/21
“Pump up the Heat”

Cost
£12,500

Property Details

Type- 4 bed detached bungalow

Occupants - 2 working adults

Insulation present - bonded bead, good condition

Heating Type - Oil Fired

Radiator Status - 8 existing, 4 upgraded

THE APPROACH

The client contacted us about the scheme. Initial eligibility checks were done to adhere with NISEP specifications. A thorough survey was carried out inspecting the dwellings make up and existing pipe work. The retrofit was then designed to accommodate the heat pump. Subsequently borescope inspections were carried out that identified sagging fibre insulation in the cavity. The existing insulation was extracted and the cavity filled with bonded bead. In addition, the loft insulation was upgraded to 300mm fibreglass

Design Considerations



Existing Pipework



Home Aesthetics



Existing Radiator Capacity



Home Acoustics



AIR SOURCE HEAT PUMP INSTALLATION WITH THE NORTHERN IRELAND SUSTAINABLE ENERGY PROGRAMME

TECHNICAL OUTCOME

- Radiators sized using a Delta T of 25 degrees
- Heating flow temperature 45 degrees
- 200L unvented heat pump cylinder achieving water temperatures of 50 degrees
- Thermal disinfection takes place once a week taking water temperatures above 60 degrees
Scop 3.68 – 4 star performance (MCS)
- 50L buffer tank and pressure vessel in Roof space
- Noise less than 42 decibels at critical junctures (equal to a modern fridge)

CONCLUSION & OBSERVATIONS

At the time of writing this report, the system has been working approximately 2 months and all is working well. There was a minor hiccup when the thermal disinfectant immersion cut out at 59 degrees instead of 60 but this item was replaced by the manufacturer in a timely manner. Comfort level temperatures have been achieved and the customer is delighted with the system so far. Outside temperatures have fluctuated during this period from + 12 degrees down to -1 degrees with no discomfort to the customer. As the temperature continues to drop over the winter, we will monitor the situation and report further.

To date though, the installation has been a complete success from a manufacturer, installer and customer perspective.

Edit - 07/2023

After the one year servicing check the customer reported they were very happy with the heat pump and had noticed a reduction in their fuel bills.



Case Study 2: ENERGYSTORE 'PUMP UP THE HEAT'

AIR SOURCE HEAT PUMP INSTALLATION WITH THE NORTHERN IRELAND SUSTAINABLE ENERGY PROGRAMME

THE PROJECT

In collaboration with the Heat Pump Manufacturer, we designed and installed a Warmflow Zeno AS02 Air to water Heat pump and associated works to this property.

The customer applied via the scheme notification on line and arranged a survey with us to discuss their eligibility and the suitability of the property to receive an installation of this nature

Location:
Downpatrick, N. Ireland

Installed:
September 2021

Project
NISEP 2020/21
"Pump up the Heat"

Cost
£12,000

Property Details

Type- 3 bed townhouse

Occupants - 1 adult, not working

Insulation present - fibre, extract & fill required

Heating Type - Oil Fired

Radiator Status - All upgraded



THE APPROACH

A visual inspection of the property along with the existing heating system. Then a detailed survey of the property was done that included accurate measurements of each room. Details of the make up of the dwelling including walls, floors, windows and emitters were taken.

We made adjustments to the existing pipe work as necessary. The location of the heat pump also mattered from an Aesthetic point of view as well as taking acoustics and noise levels into account. The existing 4kw PV array that will supplement the installation power usage

The customers existing radiators all had to be up-scaled. The required increase in surface area compensates for the lower water temperature and assists in achieving the room temperatures to the required level.

Design Considerations



Existing Pipework



Home Aesthetics



Existing Radiator Capacity



Home Acoustics



AIR SOURCE HEAT PUMP INSTALLATION WITH THE NORTHERN IRELAND SUSTAINABLE ENERGY PROGRAMME

TECHNICAL OUTCOME

- Radiators sized using a Delta T of 25 degrees
- Heating flow temperature 45 degrees
- 300L unvented heat pump cylinder achieving water temperatures of 50 degrees
- Thermal disinfection takes place once a week taking water temperatures above 60 degrees
- Scop 3.68 – 4 star performance (MCS)
- 50L buffer tank and pressure vessel in Roof space
- Noise less than 42 decibels at critical junctures (equal to a modern fridge)

CONCLUSION & OBSERVATIONS

At the time of writing this report, the system has been working approximately 2 months and all is working well. Comfort level temperatures have been achieved and the customer is delighted with the system so far. Outside temperatures have fluctuated during this period from + 18 degrees down to + 2 degrees with no discomfort to the customer.

As the temperature drops over the winter, we will monitor the situation and report further.

To date though, the installation has been a complete success from a manufacturer, installer and customer perspective.

Edit - 07/2023

After the one year servicing check the customer reported they were very happy with the heat pump and had noticed a reduction in their fuel bills.



APPENDIX 4 – CUSTOMER COMPLAINTS PROCESS

Primary Bidders are responsible for resolving customer complaints in the first instance. Customers are advised to contact their installer in the first instance (this may be a subcontractor to a Primary Bidder or be the Primary Bidder directly). The Primary Bidder should ensure the customer satisfaction is achieved. In instances where the Primary Bidder cannot resolve a complaint, the customer is able to contact Energy Saving Trust or the Utility Regulator for further support.

Energy Saving Trust will liaise directly with the customer and with the Primary Bidder to aid resolution.

APPENDIX 5 - NISEP ANNUAL kWh SAVING STATS FOR BEIS

April 2013 - March 2014 Outturn	67,668,882	kWh	67.669	GWh
Actual for 2014 calendar year	74,560,259	kWh	74.560	GWh
Actual for 2015 calendar year	133,729,019	kWh	133.729	GWh
Actual for 2016 calendar year	193,874,508	kWh	193.875	GWh
Actual for 2017 calendar year	247,883,964	kWh	247.884	GWh
Actual for 2018 calendar year	288,740,578	kWh	288.741	GWh
Actual for 2019 calendar year	319,451,003	kWh	319.451	GWh
Actual for 2020 calendar year	347,516,649	kWh	347.517	GWh
Actual for 2021 calendar year	372,400,459	kWh	372.400	GWh
Forecast for 2022 calendar year	396,367,704	kWh	396.368	GWh
Forecast for 2023 calendar year	420,367,704	kWh	420.368	GWh
Forecast for 2024 calendar year	444,367,704	kWh	444.368	GWh
Forecast for 2025 calendar year	375,807,445	kWh	375.807	GWh
Forecast for 2026 calendar year	316,638,685	kWh	316.639	GWh
Forecast for 2027 calendar year	256,493,196	kWh	256.493	GWh
Forecast for 2028 calendar year	202,483,740	kWh	202.484	GWh
Forecast for 2029 calendar year	161,627,126	kWh	161.627	GWh
Forecast for 2030 calendar year	130,916,700	kWh	130.917	GWh

Notes:

- 1) 2021-22 level of NISEP funding and mix of measures installed are assumed to be the same until scheme closes in March 2025 (used estimate of 24,000,000 for the remaining years)
- 2) Annual actual figure is calculated as 1/4 of previous year outturn total kWh plus 3/4 of current reported outturn total kWh.
- 3) BEIS requires figures based on a calendar year. NISEP functions over a financial year ending 31st March. Figures for 2025 calendar year therefore assume 25% of a typical NISEP annual outturn as NISEP is due to end in March 2025.
- 4) Savings are cumulative - i.e. forecasted savings for 2022 include measures installed in 2021 & estimated for 2022.
- 5) Figures vary annually as estimates are replaced with actuals every year.
- 6) From 2025 on, annual savings reduce as 10 year lifespan of measures is used to prevent over-reporting of savings, so in 2025, the 2014 annual figures are removed and so on.