



Heat Pump Sector in Northern Ireland

Research Study – Final Report

March 2022



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Glossary

ASHP	Air source heat pump	IEUG	Individual Energy Upgrade Grants
BEIS	Department for Business, Energy and Industrial Strategy	LCT	Low Carbon Technology
BUS	UK Boiler Upgrade Scheme	MCF	MCS Certificate Fund
CTSI	Chartered Trading Standards Institute	MCS	Microgeneration Certification Scheme
DETI	Department of Enterprise, Trade and Investment	NI	Northern Ireland
DfE	Department for the Economy	NIE/NIEN	Northern Ireland Electricity Networks
EPC	Energy Performance Certificate	NIHE	Northern Ireland Housing Executive
EST	Energy Savings Trust	NZIP	Net Zero Innovation Portfolio
EU	European Union	OSSS	One Stop Shop Service
FEU	Free Energy Upgrade	RECC	Renewable Energy Consumer Code
GB	Great Britain	RHI	Renewable Heat Incentive Scheme
GDPR	General Data Protection Regulation	RoI	Republic of Ireland
GSHP	Ground source heat pumps	SEAI	Sustainable Energy Authority of Ireland
HESL	Home Energy Scotland Loan	SONI	System Operator for Northern Ireland
HIES	Home Insulation and Energy Systems	TC	UK Tax Reform
HVAC	Heating, Ventilation and Air Conditioning	UK	United Kingdom
HVO	Hydrotreated Vegetable Oils	UR	Utility Regulator
ICL	Imperial College London	VAT	Value Added Tax

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Introduction



Introduction

The Department for the Economy (DfE) is one of the nine NI Departments and its responsibilities include:

- wider economic policy, including specific areas like Energy, Tourism and Telecoms
- the operation of a range of employment and skills programmes
- oversight and funding of the further and higher education sectors
- various aspects of employment law
- the management and operation of various EU funding programmes.

Its vision is for “**Northern Ireland prospering through a decade of innovation which will deliver an economy that is ten times better than it is today, with benefits for all our people**”, and its accompanying mission is to develop and implement agile policies and programmes which promote a competitive, sustainable and inclusive economy.

A key strategic focus is energy policy and meeting the UK’s target of net zero emissions by 2050. DfE’s recent energy strategy¹ has set a long-term vision of net zero carbon and affordable energy for Northern Ireland. This strategy is centred around five key principles, including growing the green economy, doing more with less, and replacing fossil fuels with renewable energy. The strategy therefore sees those consumers currently dependent on oil transitioning to zero carbon heating technologies such as a heat pumps and taking advantage of NI’s substantial and growing renewable electricity resources.

What is a Heat Pump

A heat pump is a type of heating system. Rather than generating heating of its own like a traditional boiler, the heat pump draws heat from the external ambient ground or air to the inside of a property. Powered entirely by electricity, these devices offer an energy efficient means of heating a home that avoids the direct use of pollution-heavy fossil fuels such as oil, gas, and solid fuel.

As they transfer heat rather than generate heat, heat pumps offer greater heat output per unit of electricity consumed than alternative sources of heating therefore they are more efficient.

NI Heat Pump Sector

Unlike in Great Britain (GB) and the Republic of Ireland (RoI), there are no formal support schemes to incentivise and/or increase the deployment of heat pumps, nor industry body in NI to promote this deployment. Furthermore, data from the Microgeneration Certification Scheme (MCS) suggests few heat pumps are installed in NI. This lack of support, industry body and limited data all suggests that the NI heat pump sector is in its infancy. Correspondingly, DfE considers that a well developed sector would be beneficial to support UK targets on heat pump installations. Therefore DfE has commissioned this research study to examine the heat pump sector in Northern Ireland, current capacity, and recommendations for future growth



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Policy Context

Policy Context – Global & UK

Introduction

Climate change is now accepted as the greatest challenge of our generation, with a range of international, national and local accords being developed, setting out actions to tackle climate change and ambitious targets to reduce carbon emissions.

Global Targets

Internationally, the 2016 Paris Agreement was a landmark environmental accord which sets out a global action plan to address climate change by pursuing efforts to limit global warming to 1.5°C above pre-industrial levels. The Agreement sent a clear signal that the global transition from fossil fuels to clean energy is permanent.

UK

In June 2019, the UK became the first major economy to commit to a 100 per cent reduction in greenhouse gas emissions by 2050. This ‘net zero’ target represented a significant step-change in the commitment to addressing the climate crisis. This commitment was also strategically aligned with growing the economy, putting clean growth at the heart of our modern industry and helping to drive growth in new and emerging green industries.

This has been demonstrated in a range of recent UK policies, strategies and incentives, with a specific recognition that meeting net zero will require virtually all heat in buildings to be decarbonised.

In addition, recent strategies³ have set out a commitment to:

- Work with industry to reduce heat pump costs by 25 to 50% by 2025, and ensure that they are no more expensive to buy and run than gas boilers by 2030 by growing the heat pump market.
- Develop the growing UK heat pump manufacturing base and expand supply chains for building efficiency

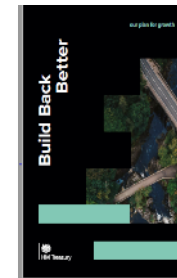
- Aim for 600,000 heat pump installations per year by 2028, and a suggestion of 7 to 11 million heat pumps by 2035.

There is also recognition of the need for:

- Positive public reception and demand for low carbon solutions, with customers having access to the right technologies, understand their benefits and have confidence that they will have appropriate consumer protection if required.
- The workforce to have the requisite skills in, for example, housing retrofit and heat pump installation.



November 2020



March 2021



October 2021



October 2021

Key Initiatives:

The Heat Pump Ready Programme – UK wide, including NI

Part of the Department of Business, Energy and Industrial Strategy's (BEIS) £1 billion Net Zero Innovation Portfolio (NZIP), which aims to accelerate the commercialisation of innovative clean energy technologies and processes. This programme will support the development of innovative solutions across the heat pump sector.

Boiler Upgrade Scheme Grant – to be launched in April 2022 (England and Wales)

Households to benefit from £5,000 government grants through a £450 million Boiler Upgrade Scheme to help install low-carbon heating systems, part of more than £3.9 billion of new funding to decarbonise heat and buildings.

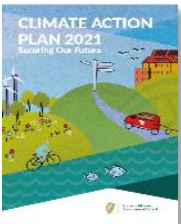
Policy Context - Rol

Decarbonisation Agenda

Historically, Ireland's energy policy has increasingly been shaped by the decarbonisation agenda. This means that reducing dependency on fossil fuels, lowering carbon emissions and taking advantage of energy efficiency initiatives have increasingly taken central stage in energy policy since at least 2007.

The Climate Act 2021 commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030.

Climate Action Plan



- Ireland produced its first Climate Action Plan in 2019, which was a detailed and ambitious plan providing a statutory basis for long-term decarbonisation and unequivocally outlined the direction of travel for Ireland. It produced its second Climate Action Plan, Securing Our Future, in 2021⁴ and intends to update this annually.
- Key commitments in relation to buildings include:
 - Retrofit 500,000 homes by 2030.
 - Install 600,000 heat pumps by 2030, of which 400,000 to be installed in existing buildings.
 - Opening training centres for retrofit upskilling.
 - Blend low-cost loans with SEAI grants to make retrofit affordable.
- The plan reports that, since 2015, 51% of all new dwellings use heat pumps as their main heating system. It further reports that oil boiler installation in new dwellings dropped from 35% in the period 2000-2004 to 4% in the period 2015-2020.
- However it recognises Ireland needs to increase the number of heat pumps installed in retrofit homes to meet its target of 400,000 heat pumps to be installed in existing buildings.

- Ireland has introduced a range of initiatives and support schemes to help meet these commitments, including:
 - Establishment of a Retrofit Taskforce to oversee the design and delivery of a national retrofit model/programme to deliver 500,000 retrofits and 400,000 heat pump installations by 2030.
 - Launch of a new National Retrofitting Scheme⁵, in February 2022, offering increased grant levels of up to 50% of the cost of a typical deep retrofit. This represents an increase in grant support from 30%-35% grants previously and has been introduced to reflect the step-change needed – in pace and scale of delivery – to achieve Rol's target of 500,000 home energy upgrades.

Further details on new National Retrofitting Scheme are contained in Chapter 9, Rol financial support.

Heat Pump Sector in Northern Ireland – Research Study

Policy Context – Northern Ireland

As noted, the UK has a legal target to achieve net zero greenhouse gas emissions by 2050 and this means that Northern Ireland must work together and alongside all other parts of GB to meet this UK target. In addition, a range of laws and strategies are being or have been developed to support NI to ensure it makes the changes necessary to cut greenhouse gases. These include the following key developments:

Northern Ireland Assembly - Climate Change Act

Currently the Northern Ireland Assembly is progressing with a Climate Change Act, putting into law the need to greatly reduce greenhouse gas emissions.

Northern Ireland Executive - Final Draft Green Growth Strategy for Northern Ireland - Today we act. Tomorrow we thrive, 2021⁶



- Final Draft strategy looking ahead to 2050 and sets out a way for Northern Ireland to lower greenhouse gas emissions, improve the environment and create green jobs.
- Sets out a vision to move from a high to low emissions society and have a more resilient environment and a strong sustainable economy.
- Makes clear the linkages from climate action to green jobs to a clean environment.

Energy Policy

Energy accounts for almost 60% of Northern Ireland's greenhouse gas emissions, and while NI has transformed its power sector so that almost 50% of electricity now comes from renewable sources, there is continued reliance on fossil fuels for domestic heating.

In Northern Ireland, energy policy is a mainly devolved matter, with responsibility for energy sitting with DfE.

DfE has recently published an energy strategy for Northern Ireland, setting out a long term vision of net zero carbon and affordable energy for NI.



6. [Green Growth Brochure V8.pdf \(daera-ni.gov.uk\)](#)

7. [The Path to Net Zero Energy. Safe. Affordable. Clean. \(economy-ni.gov.uk\)](#)

8. Ibid

DfE - Path to Net Zero Energy: Secure. Affordable. Clean, December 2021⁷

This strategy sets out two energy related targets and one economic related target, all by 2030:



1. Energy Efficiency: Deliver energy savings of 25% from buildings and industry.
 2. Renewables: Meet at least 70% of electricity consumption from a diverse mix of renewable sources.
 3. Green Economy: Double the size of our low carbon and renewable energy economy to a turnover of more than £2 billion – recognising that achieving net zero carbon vision can also help support growing the economy.
- The strategy recognises that net zero carbon cannot be achieved without phasing out fossil fuel heating oil, which is used in about 68% of homes and businesses in NI, and sees that switching to zero carbon heating technologies such as a heat pump can be part of the solution to achieving net zero carbon.
 - The strategy commits to introducing support for low carbon heat technologies including heat pumps. It also proposes introducing a pilot domestic retrofit scheme in 2022, which will take account of energy efficiency upgrades required for homes to be suitable for heat pumps.

DfE - Path to Net Zero Energy: Secure. Affordable. Clean. Action Plan, 2022⁸



An accompanying action plan commits to:

- meeting at least 70% of electricity consumption from a diverse mix of renewable sources.
- Replacing high carbon heating sources with lower and zero carbon sources in households and businesses

While there is no specific target for heat pumps installations, it is useful to highlight that NI must work alongside all other parts of the UK to meet the target of 600,000 heat pumps per year by 2028.

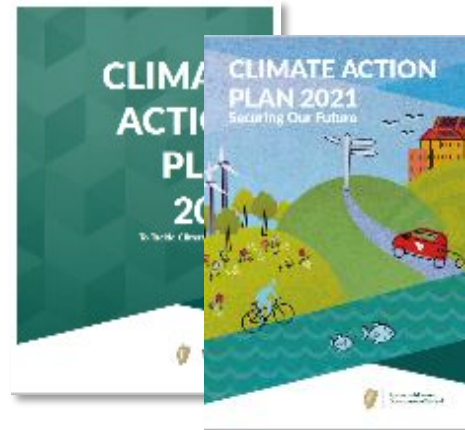
Policy Context- Summary

Summary

Climate change is now one of the most profound challenges facing the world and it is recognised that tackling this challenge will require substantial reductions in carbon emissions and a rapid transition to a net zero-carbon energy system.

This has been recognised in Ireland and in the UK through a range of strategies and policy initiatives. More recently, Northern Ireland has published its Energy Strategy and accompanying Energy Action Plan.

Notably, Scotland, England and Wales as well as Ireland have a range of initiatives and support schemes to stimulate uptake of heat pumps both as an energy efficient heating system and as part of a wider aim to decarbonise heat and buildings. Northern Ireland is the only jurisdiction without any specific support mechanism.



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Summary of Client Brief

Summary of Client Brief

DfE commissioned desktop research and a market survey to produce a report detailing the current capacity of the Heat Pump Sector in Northern Ireland and recommendations for future growth.

The terms of reference included consideration of the following aspects:

-  **Data on installations in NI in the three year period - January 2019 – December 2021, by type (i.e. air source heat pump (ASHP), ground source heat pump (GSHP) and domestic and non-domestic installations.**
-  **Building suitability for heat pumps and assessment processes.**
-  **Number of heat pump manufacturers in Northern Ireland.**
-  **Number of heat pump suppliers and wholesalers in Northern Ireland.**
-  **Number of heat pump installers in Northern Ireland**
-  **Costs associated with heat pumps including maintenance and lifecycle costs.**
-  **Links between the heat pump sector and building fabric improvement measures (energy efficiency)**
-  **Training and accreditation processes within the heat pump sector.**
-  **Heat pump sector growth plans and barriers.**
-  **identification of barriers to sector growth and how these can be overcome.**
-  **Recommendations to support further sector growth.**

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Survey & Research Methodology

Survey & Research Methodology

Introduction

The focus of the research study was to examine the heat pump sector in Northern Ireland, current capacity, and make recommendations for future growth, with a focus on the heat pump supply chain i.e. manufacturers, suppliers and installers.

The methodology and approach consisted of four key activities:

- Desk research including analysis of available data from MCS.
- Survey design and distribution to the heat pump sector.
- Consultation with stakeholders involved in the heat pump sector.
- Analysis of all information.

Desktop review

A high level desktop review was undertaken of relevant strategies and policy documents specifically relating to climate change and to energy efficiency to set out the policy context for the research.

In addition, information on installations in England and in Northern Ireland as provided by MCS was analysed to help provide contextual data on the scale of installations and also to map out the impact of incentives and/or initiatives in the UK to improve energy efficiency and/or introduce heat pumps.

Survey Design and Distribution

KPMG developed an online survey tool comprising a series of questions seeking both qualitative and quantitative information, tailored for manufacturers, suppliers and installers. The survey instrument was co-designed with representatives from DfE's Heat Policy Branch.

The survey asked for information on the following:

- Processes to determine building suitability.
- Energy efficiency services provided.
- Information on the number and type of domestic and non-domestic heat pumps installed in NI in the period 2019-2021.

- Information on the number of installers, suppliers and manufacturers in Northern Ireland.
- Supply chain matters.
- Plans for business growth regarding heat pumps.
- Barriers to increasing heat pump deployment and ideas to support sector growth
- Any other comments.

The survey was anonymous, with no organisational information collated. However, the survey did contain a link for respondents to provide their personal contact details should they be interested in engaging further with DfE's Heat Policy Branch. This allowed respondents to both submit anonymised responses as well as opt into subsequent correspondence with DfE.

A copy of the survey questions is contained in Appendix 1.

Survey Database and Distribution

A key challenge in the research was identifying and developing a database of manufacturers, suppliers and installers in Northern Ireland.

A multiple approach was used comprising the following:

- Installer details were drawn from two main sources:
 - MCS offers a “Find a Contractor” facility which allows the public to find an installer in their geographical region. KPMG used this facility to identify installers of any type of heat pump from across the UK who were registered with MCS and who had selected Northern Ireland as a region they covered. This provided a listing of 523 installers including 10 from Northern Ireland.
 - Similarly the Sustainable Energy Authority of Ireland has a “Find a Renewable Energy Professional” allowing the public to find a heat pump installer by county. This provided a listing of 436 installers including one from Northern Ireland.
- Details on manufacturers and suppliers were identified from sector knowledge and sector contacts.

Survey & Research Methodology

In addition, DfE identified a cohort of contacts from a departmental energy stakeholder engagement list and disseminated the survey link to these contacts. Due to data protection and GDPR considerations, this list could not be shared with KPMG.

The survey was distributed electronically with a cover email explaining the rationale and remit of the research, and a follow-up reminder email was sent to help maximise response rates.

Stakeholder Consultation

Consultation was undertaken with key stakeholders as identified by KPMG and DfE. This included representatives from industry bodies, academics and social housing providers who are involved in heat pump pilots

Analysis

Quantitative data from the online survey was analysed and qualitative data was categorised to allow further thematic analysis. Data from the individual interviews was categorised and analysed according to emerging themes.

Note on the Data

The survey was distributed to over 1,000 contacts and the response rate was 46 respondents, of which 17 respondents identified as being from Northern Ireland. This represents a response rate of less than 5% which is very low.

The reasons for the low response rate are not known.

- It may reflect that the number of organisations directly working in the heat pump sector in Northern Ireland is very small.
- A large proportion of contacts on the distribution database were based in Great Britain (GB) or Ireland (Republic of Ireland). While these contacts indicated on MCS or SEAI databases that they covered Northern Ireland, they may not provide any/notable services related to heat pumps in Northern Ireland. Accordingly they may have considered this research was not relevant to them and/or they chose not to respond.

Given the small number of responses, care should be taken in the interpretation of any findings.

In addition, the following should be considered in relation to the findings contained in this report:

- Survey responses and stakeholder feedback is based on the comments and views of survey respondents and interview consultees and the factual accuracy cannot be ascertained.
- Findings may sum to more than 46 responses for multiple response items when reporting on survey responses i.e. respondents may have selected more than one option. This data is marked with an asterisk (*).
- Data may sum to more than 100% due to rounding.

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Size and composition of the heat pump sector in NI

Responses and Demographics

The responses to the survey are outlined over the following sections.

1,100

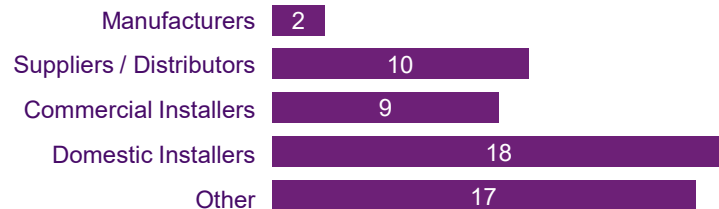
Organisations were surveyed

46

Responded

The survey was distributed amongst stakeholders from across the supply chain, with role distributions of respondents presented below. One respondent did not indicate their role. Results are shown in *Figure 1*.

Figure 1: Respondents by role*

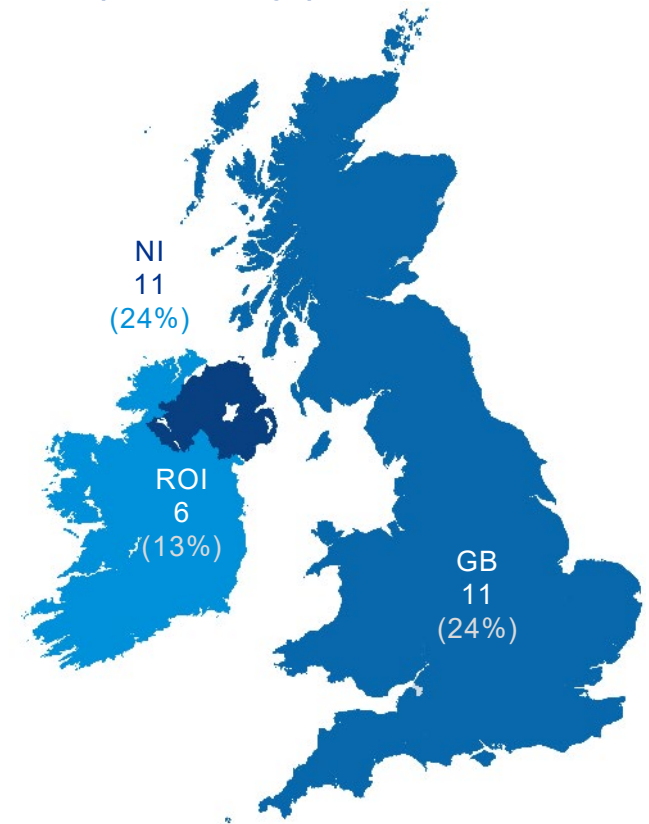


Note: Data will sum to more than 46 responses as respondents could have more than one role across the supply chain e.g. be both a manufacturer and commercial installer.

Within "Other", respondents identified themselves as researchers (n=2), consultants providing professional support regarding heat pumps (i.e. specifications or training) (n=2), organisations working to promote renewable energy (n=3), end users (n=6), manufacturers of heating related products (n=2), trade association (n=1) and one business (sector undisclosed) interested in renewable energy.

Respondent Locations: Of the 46 respondents, 18 did not indicate their location. The distribution is shown in *Figure 2*.

Figure 2: Respondent Demographics



Domestic Installations

18 respondents provided information on the subject of domestic installations and it is noted that analysis is skewed by the response from one installer.

5

**Domestic installers
have installed in
Northern Ireland**

167

**Domestic heat pumps were
installed in NI in the last
3 years by Respondents**

Approximately 100 of the above installations were fitted by a single respondent whilst the remaining were fitted by the remaining four installers. Of note is that **only NI-based installers reported as having installed in NI.**

Whilst respondents were asked to provide details about their historic installations, with regards to makes, models, and power-rating, full details were not provided. It is not clear why respondents did not generally provide such details. It is possible that respondents did not provide such detail as they considered this to be commercially sensitive information, and/or it could compromise their anonymity, and/or it was too onerous to provide or some other reason.

69.5%

**Of above installations were
in new build versus retro-
fits to existing premises**

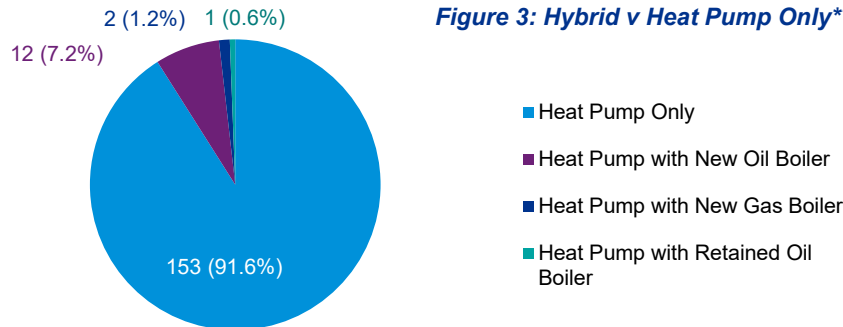
This figure is significantly impacted upon by the one installer described above who installed circa 100 heat pumps and delivers on average 90% of domestic installations to new builds.

This is in contrast to the remaining four respondents for whom less than 40% of installations were in new build premises.

This suggests the market is geared more towards new build installations.

Domestic Installations

Of interest was to understand the degree of hybrid heat pump installations in Northern Ireland.



Per *Figure 3*, approximately 91% of installations are designed to solely utilise the heat provided by the heat pump system. In very few instances is a new dedicated boiler fitted in combination with the heat pump and in fewer again is an old boiler retained. This reflects that the majority of heat pumps are installed in new build homes, where it may be both unnecessary and uneconomical to install a boiler in addition to a heat pump. The data suggests that the majority of installations in retrofit homes are heat pumps only. It is not clear why some retrofit homes do not retain their existing boiler. This could indicate that a decision to install a heat pump is based on energy efficiency considerations, or is predicated on an existing heat source becoming uneconomical to repair/operate, or that the retrofit was of a comprehensive standard to make retaining an existing boiler unnecessary, or for some other reason. Similarly, it is not clear why some retrofit homes install a heat pump and new oil/gas boiler, especially given the additional expense incurred. This could reflect the standard of retrofit and the necessity of an additional heat source. Consumer research could explore this in more detail.

In the above statistics 12 of the 14 installations featuring a new boiler, utilised oil in the new hybrid system. The installation of an oil boiler rather than gas suggests these are off-gas-grid premises and potentially that in the majority of instances, heat pumps are replacing the usage of oil rather than gas.

Heat Pump procurement was another theme of inquiry for domestic installers.

The 5 NI installers provided detail on their supply chain.

Three installers buy heat pumps from suppliers, with one buying from suppliers in NI, one from GB suppliers, and one from suppliers in both NI and RoI. It is not clear if these installers are buying the same or different heat pump types, brands, sizes etc from the same supplier. It is possible that the one installer buying from both NI and RoI is buying different heat pump types or brands, suggesting this installer may not specialise in a specific brand.

Two installers buy directly from the manufacturer, one buying from manufacturers from NI, GB and the rest of the world and the other buying from the rest of the world. This suggests these installer may not specialise in one type and/or brand of heat pump.

These findings are not surprising given that all five installers indicated they carry out a full feasibility study (which includes a heat pump specification) and suggests that the type, brand and size of heat pump is specific to home requirements.

Commercial Installations

9 respondents provided information on the subject of commercial installations.

2

Commercial installers have installed in Northern Ireland and are based in NI.



The first respondent has installed 2 commercial heat pumps to date both of which were for new-build projects.

3

Commercial heat pumps installed in NI in the last 3 years by respondents

They source both domestic and commercial heat pump products from a GB-based third party supplier.



The second respondent has installed 1 commercial heat pump to date as part of a commercial retro-fit project

They source their commercial products directly from a GB-based manufacturer.

Neither respondent provided information on the size and scale of their installations.

Given the low survey response rate, it is highly possible that the data on commercial installations is an underestimate of the total number of commercial installations.

MCS and Energy Performance Certificate (EPC) Data Comparison

With regards to both commercial and domestic installations, KPMG looked to compare the numbers captured as part of the survey responses against the MCS database and with EPC data sourced by DfE.

MCS

As part of their accreditation scheme, MCS records installations in accordance with the requirements for wider UK incentive schemes. However, given the lack of incentive schemes with respect to heat pumps in NI, there is no requirement for an installer to record installations in Northern Ireland. This means that MCS data relating to NI installations is likely to be incomplete and therefore insufficiently robust to carry out a comparison and validation exercise.

As a point of fact, the MCS database contains details of only two ASHP installations in NI in the period 2019-2021; one is a domestic heat pump and one is unspecified⁹.

The MCS database indicates 253 domestic, 13 non-domestic, and 685 unspecified installations in the period 2010-2018, suggesting an average of approximately 120 per year. 59% were ASHPs (versus GSHPs) across the three categories. This would suggest that the number of heat pumps installed in NI has historically been low, even when there were financial incentives to do so, and correspondingly, a requirement for installations to be recorded with MCS.

EPC Data

EPC data for NI suggests there have been at least 1,100 ASHPs and 550 GSHPs installed in the period 2008-2021. The percentage of GSHPs versus ASHPs possibly reflects the number and type of new builds captured in this data, i.e. possibly bespoke detached one-off homes where it would be viable to install a GSHP, in contrast to retrofit properties where it is generally easier to install an ASHP than a GSHP.

The EPC data therefore would indicate that MCS data for NI is an underestimate of the number of heat pumps installed. Furthermore, the EPC data is also likely to be an underestimate as EPCs are only typically carried out where a property is built, sold or rented, or potentially as a requirement for a financial support scheme, and so not all homes in NI will have an EPC.

Heat Pump Manufacture

The survey explored the perspectives of manufacturers.

2 **150** **200**

Manufacturers responded to the survey

Domestic Heat Pumps Supplied by Manufacturers

Commercial Heat Pumps Supplied by Manufacturers

The data on commercial heat pumps could suggest that more commercial heat pumps have been installed in NI than the survey data provided by installers would suggest. However, it is possible that some commercial heat pumps purchased by NI installers are not actually installed in NI. However there is no further information from manufacturers from which to draw any conclusions. Given the relatively low response rate, detailed information for both manufacturers is provided below.

The first respondent is based in the Republic of Ireland.

The respondent indicated that the “removal of grants” has prevented all sales in NI in the last 3 years. They use a preferred supplier to distribute their products.

The second respondent is based in Northern Ireland.

They have sold 150 domestic heat pumps and 200 commercial heat pumps in the last 3 years. They sell products directly to installers. No other detail was provided.

Manufacturers were asked about the additional support services offered to installers in Northern Ireland. The results for the different support mechanisms are presented in *Table 1*.

*Table 1: Manufacturer Support Mechanisms**

Support Offered	Manufacturer Responses
Brochures and Information	2
Sales Advice	2
Training in Heat Pump Installation	2
Warranty	2
Service Manual	1
Aftercare	1

* Multiple response items

Heat Pump Supply and Distribution

The survey also explored the perspectives of supplier operations in NI.

10

Suppliers responded to the survey

147

Domestic Heat Pumps Supplied by Manufacturers

Of the 10 respondents, 3 indicated having supplied domestic heat pumps to the NI market.

Sourcing. When asked from where suppliers source their heat pump products, 1 indicated that they sourced from a manufacturer in GB. Four respondents indicated that they sourced from manufacturers from the rest of the world, and of these, one also sourced from GB, and one also sourced from RoI.

The three NI suppliers who supplied information, indicated they all sourced from the rest of the world, and one also sourced from GB and one sourced from RoI.

Five respondents did not indicate the origins of their heat pump products. The reasons why they did not provide any information are not known.

Suppliers were asked about the additional support services offered to installers in Northern Ireland. The results for the different support mechanisms are presented in *Table 2*.

*Table 2: Supplier Support Mechanisms**

Support Offered	Supplier Responses
Brochures and Information	4
Sales Advice	3
Training in Heat Pump Installation	3
Warranty	3
Service Manual	4
Aftercare	4

6 /

Maintenance and lifecycle costs and post installation servicing regimes

Maintenance & lifecycle costs & post installation servicing regimes

Our survey asked questions around typical maintenance and servicing regimes including estimated costs.

Very few installers provided detail on the subject of servicing. With regards to costs, 5 respondents gave estimates for service / maintenance visits. These are listed below, and it is assumed these costs exclude the costs associated with the repair or replacement of any component parts.

Table 3: Call Out Costs per Service / Maintenance Visit

Respondent Type	Typical Call Out Costs Per Visit
Domestic Installer	£125-£300 depending on service
Domestic Installer	£120.00
Domestic Installer	£70.00 per hour
Domestic / Commercial Installer	£150.00
Domestic / Commercial Installer	£140.00

Given the lack of detailed information provided by the survey responses, additional desktop research was conducted in conjunction with stakeholder interviews exploring this theme.

Heat Pump Maintenance



The Energy Saving Trust¹⁰ recommends that, as with any heating system, a heat pump needs to be well maintained to operate as designed. It also reports that most heat pumps tend to be easy to maintain with minimal input required from the end user and that, with regular scheduled maintenance, a heat pump can operate for 15 years or more.

SEAI Heat Pumps – Operation and Maintenance Guide¹¹

In the Republic of Ireland, sector authority SEAI have disseminated advice on the subject of operation and maintenance of heat pumps. It advises that a heat pump should be serviced by a trained professional annually. This matches with current UK and ROI regulations for gas boiler servicing according to the Gas Safe standards. SEAI does not hold information on maintenance and servicing costs, nor does it provide guidance on costs.

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10. [Heat pumps - Energy Saving Trust](#)

11. [Heat-Pump-Operation-and-Maintenance-Guide.pdf \(seai.ie\)](#)

12. [Spiral: The future of home heating: The roles of heat pumps and hydrogen \(imperial.ac.uk\)](#)

Imperial College London – The Future of Home Heating¹²

Imperial College London (ICL) has recently published a report comparing heat pump technology with that of hydrogen as potential decarbonised sources of domestic heat.

Herein is considered the maintenance and servicing requirements for a heat pump system. It indicates that heat pumps require annual servicing to ensure they are running at peak efficiency.



It also describes potential higher servicing costs and requirements with hybrid installations whereby the heat pump and supporting boiler are two independent systems and therefore each require servicing. The report provides no detail on the costs of maintenance and servicing.

However, it does highlight that there are fewer qualified installers for heat pumps than for gas boilers, meaning labour costs may be higher and installers more difficult for customers to find.

Supplementary Desktop Research

A number of online companies offer building cost quotes for specific services, helping to match homeowner requirements with contractors in their area.

A high level perusal of some of these typical companies suggests servicing costs for ASHPs of circa £150 plus VAT for a standard-sized unit. However, more specific details on costs are dependent on location and region, and more information on the type, brand and size of heat pump.

Manufacturers

Manufacturers generally offer some form of warranty on their product. Some may offer a more extensive warranty, for example, a 10 year parts limited warranty, with replacement units if a major component, such as a compressor, coil or heat exchanger, should fail during the coverage period. However terms and conditions generally apply, and the nature, level of warranty and coverage is generally product/range dependent.

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Links between the heat pump sector and energy efficiency

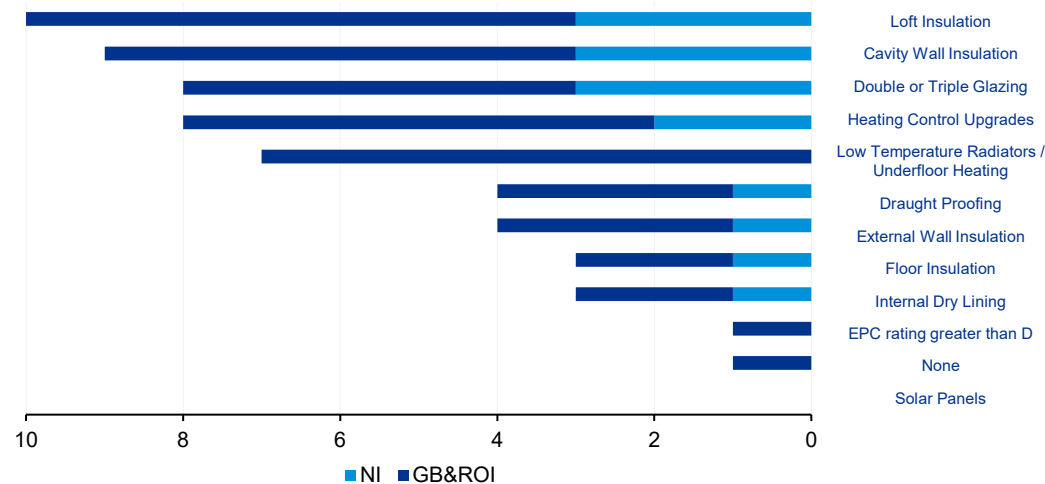
Installer Whole-Building Considerations

Our survey asked questions on the theme of energy efficiency and wider building upgrades in relation to heat pumps.

The survey asked installers which measures they require in advance of a heat pump installation.

In addition to the question on required measures, the survey enquired as to the capability of installers to install these measures themselves. 16 domestic heat pump installers provided details on other energy efficiently measures provided directly by them. One domestic heat pump installer indicated no other measures were provided but signposted customers to glazing and insulation companies, and one domestic heat pump installer did not respond to this question.

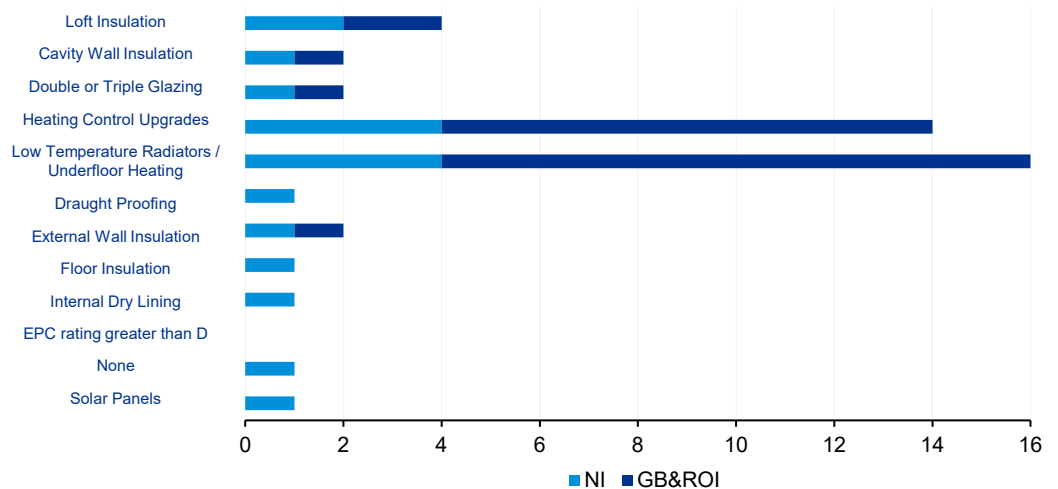
Figure 4: Energy Efficiency Pre-Requisites Prior To Heat Pump Installation*



The results in *Figure 4* indicate that loft insulation, cavity wall insulation, and double/triple glazing are the primary requirements, particularly in NI.

Please note that some installers indicated that each of these energy performance measure may not be required for every installation, with measures evaluated as part of the comprehensive heat pump feasibility study. For example, if a domestic property possesses sufficient wall and roof insulation, it may not be required to have floor insulation.

Figure 5: Which Energy Efficiency Measures Installers Provide In-house*



As evidenced in *Figure 5*, the principal offering from heat pump installers by way of additional energy efficiency measures are low temperature radiators / underfloor heating and heating control upgrades. These steps naturally form part of the installation process for a heat pump and these results align with expectation.

Please note that for the above, it was a single respondent that provided draught proofing, glazing, floor insulation, dry lining, and one of the responses for external wall/loft insulation. This indicates that holistic fabric upgrades are not a widespread capability amongst heat pump installers in NI.

* Multiple response items

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Current training and accreditation processes NI, GB and ROI

Current training and accreditation processes NI, GB and ROI

There are two principal organisations that manage accreditation across the three regions. The Sustainable Energy Authority of Ireland (SEAI) certifies the heat pump sector across ROI whilst the Microgeneration Certification Scheme (MCS) manages both GB and NI, as parts of the UK.

Below is a summary of each of these principal organisations and highlights additional organisations that may be involved in the accreditation process.



Microgeneration Certification Scheme (MCS)

United Kingdom

MCS is a standards organisation.

They create and maintain standards that allow for the certification of products, installers and their installations. Associated with these standards is the certification scheme, run on behalf of MCS by Certification Bodies who hold UKAS accreditation to ISO 17065.

MCS certifies low-carbon products and installations used to produce electricity and heat from renewable sources, this includes heat pumps.

MCS is a mark of quality. Membership of MCS demonstrates adherence to these recognised industry standards; highlighting quality, competency and compliance.



Sustainable Energy Authority of Ireland (SEAI)

Republic of Ireland

SEAI is the authority in Ireland for all things related to sustainability and energy.

As part of its role, SEAI manages national grants aimed towards incentivising growth across clean-technologies, heat pumps included. They currently manage the accreditation process across ROI and provide structure around the provision of heat pumps so that consumers can be assured their installation will be of an appropriate standard and have long-term benefits.

There is a fundamental difference between the two organisations in that one is purely an accreditation provider (MCS) whilst the other (SEAI) has additional scope to administer grants, provide impartial advice, and directly supports growth across the domestic and commercial sectors.

Supporting Groups. In addition to the above parties, there exist supporting groups in the UK which manage wider consumer protections and quality assurance. These organisations have been identified as part of the research and will be discussed in the following section. MCS accredited status is awarded via certification groups which are identified and discussed.

Installer Accreditation

The survey queried installers on their accreditation relating to heat pumps. The pre-emptively identified accreditation mechanisms were *Microgeneration Certification Scheme (MCS)* and the *Renewable Energy Consumer Code (RECC)* for UK companies. In the Republic of Ireland, installers are accredited by the *Sustainable Energy Authority of Ireland (SEAI)*.

In addition to the above, respondents also identified the *Home Insulation and Energy Systems (HIES)* scheme which provides contractor quality assurance across various renewable energy sectors in the UK, including heat pumps. The HIES scheme operates in recognition and support of MCS accreditation but remains independent. The distribution of responses are presented in *Figure 6*. Note that 1 respondent did not identify any accreditation while 4 indicated that accreditation was not applicable. This possibly reflects that registration and/or certification for installers is not mandatory. However, in both the UK and RoI, heat pump grants require installation by registered/accredited installers and registered/accredited products. This means that most, but not all, installers and installations in the UK and RoI are registered. As there is no heat pump grant scheme in NI, there is less incentive for installers to be registered/accredited, especially considering they will incur registration/certification fees. It is noted that both the UK and RoI grant schemes link accreditation to accessing grants, indicating they see a clear link between accreditation and maintaining standards as well as improving consumer confidence.

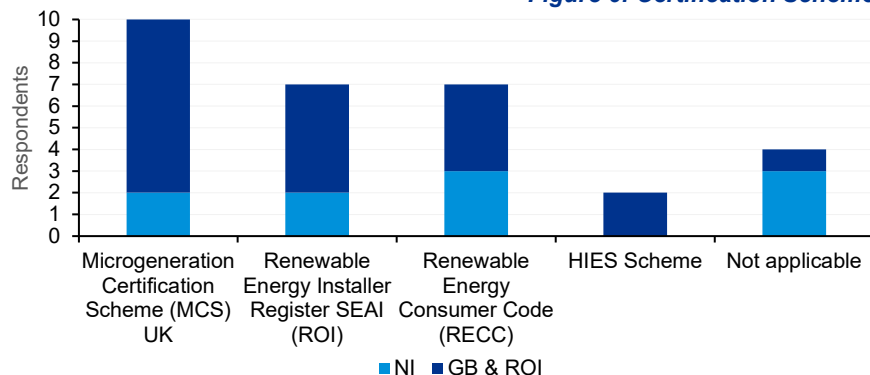


The aim of the Renewable Energy Consumer Code is to ensure that consumers wishing to install a small-scale heat or power generation unit for their homes have the necessary confidence and service standards so that they can make an informed choice. The RECC is backed by the Chartered Trading Standards Institute (CTSI) and sets out high standards of consumer protection for domestic consumers. It dovetails with MCS and the two operate in official partnership, as of January 2020 ensuring that all MCS certified installers are also RECC compliant.



HIES is another CTSI approved Consumer Code that covers the installation of renewable energy and home energy efficiency products. Its role mirrors that of the RECC but also offers other benefits such as free consumer deposit protection, stage payment protection, and insurance backed guarantees on the works carried out by HIES registered installers. It lacks an official partnership but does actively encourage that all registered installers are also accredited by MCS.

Figure 6: Certification Schemes*



Granular review of the responses indicates a few additional trends:

- Of the 7 respondents claiming RECC accreditation, 6 were also accredited by MCS. The single outlier corresponds with a company that outsources its installations and therefore does not require MCS accreditation itself.
- Where 2 respondents indicated membership with HIES, they were also accredited by the MCS. This aligns with HIES endorsement of MCS.
- Only 1 respondent, who is NI based, claimed accreditation in the UK and ROI via the MCS and SEAI schemes implying that they operate across both regions.
- Of the 4 respondents indicating no accreditation, they are all predominantly commercial heat pump installers in the UK. Their lack of accreditation correlates with the lack of historic incentivisation in the commercial market.

* Multiple response items

Installer Quality Assurance

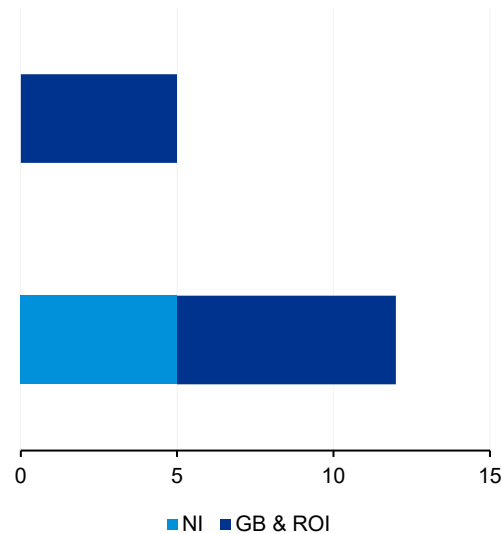
An area of inquiry within the survey related to the processes that installers have in place to validate the suitability and effectiveness of a heat pump installation in a home.

The findings are as follows:

Figure 7: Installer Assessment Processes

Technical Assessment
(i.e. a technical assessment of heat loss and identified fabric upgrades)

Heat Pump Feasibility Study
(i.e. full assessment covering advice, building consideration, technical heat loss, heat pump specification, costs and estimated running costs and payback)

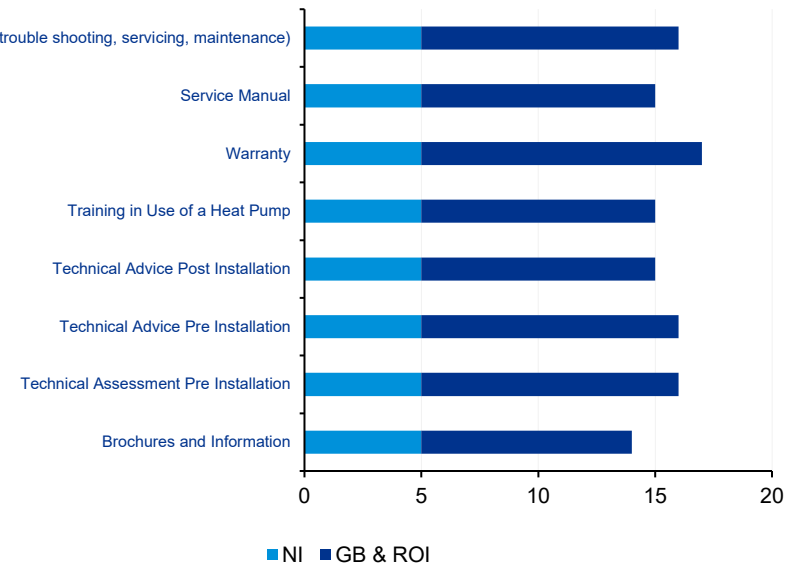


Per Figure 7, 100% of domestic installer respondents in NI claimed to complete full Heat Pump Feasibility Studies prior to installation. This is in contrast to GB and ROI where 42% of respondents indicated that they only carry out surveys as advanced as a technical assessment. The lowest tier option of a *basic building assessment* was offered to respondents, whereby they only go as far as to identify the house characteristics; however all respondents stated that they offer at least a technical assessment.

In addition to quality assessments prior to installation, the survey explored the support offered by installers as part of the heat pump installation process.

The results are presented in Figure 8:

Figure 8: Installer Support Mechanisms*



As presented in Figure 8, all NI domestic installer respondents claimed to provide all the measures captured, providing a comprehensive suite of information and support to their customers.

Notably, all domestic installers across all the regions indicated that they provide some sort of warranty on their services.

* Multiple response items

Installer Staff and Training

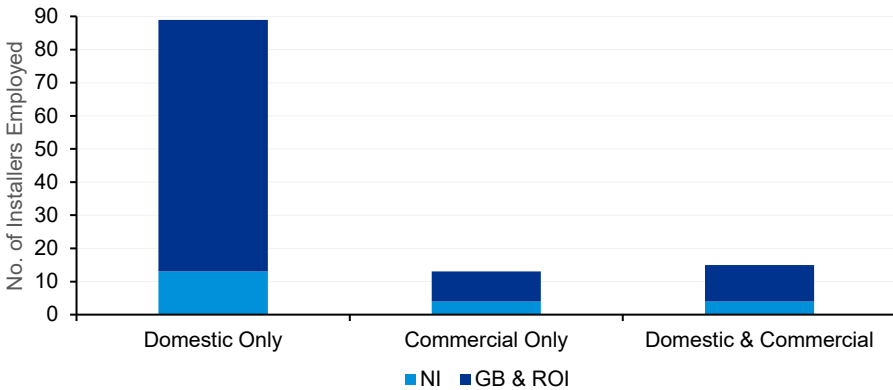
The survey explored installer capacities. 22 entities identified themselves as installers.



Of the above, 5 domestic installers and 4 commercial installers are based in NI.

The survey asked respondents how many heat pump installers they currently employ, of which 21 provided detail. The total number of installer employees reported by market installation sector, and stratified by NI, and GB and ROI is illustrated in Figure 9.

Figure 9: Total Number of Installers Employed

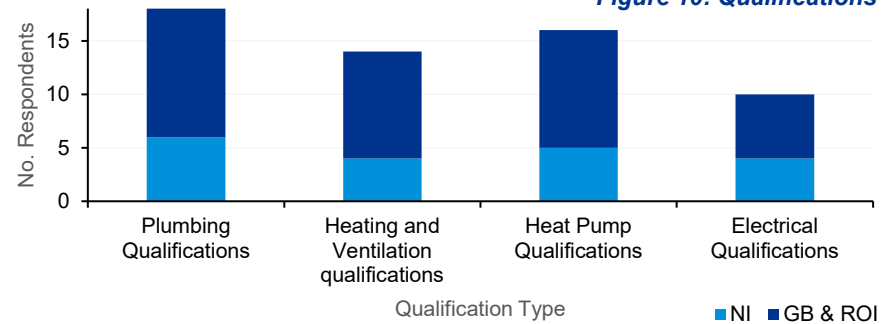


Of note is that the majority of installers in NI (and ROI) are small, one to two person companies, versus GB where companies have more employees on average.

Additionally, the survey asked about the types of qualifications that staff currently have and whether they are accredited/registered with a sector body.

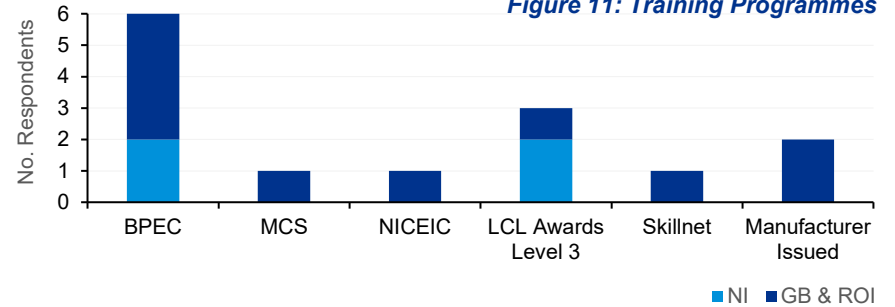
With respect to NI, respondents claimed a consistent range of qualifications across the types as indicated in Figure 10.

Figure 10: Qualifications



Reviewing responses on accredited heat pump qualifications, the principal pathways for NI installers are BPEC and LCL Level 3 – both training programmes accredit the installer with respect to MCS in the UK.

Figure 11: Training Programmes



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RoI Financial Support

Rol Support Schemes

As noted, Rol launched a new National Retrofitting Scheme, in February 2022, offering increased grant levels of up to 50% of the cost of a typical deep retrofit to a B2 Building Energy Rating (BER) standard. This represents an increase in grant support from 30%-35% grants previously.

Energy upgrade schemes forming part of the new National Retrofit programme in Rol are currently administered by SEAI, with three principal avenues that homeowners may seek support for energy fabric upgrades, which includes the option of installing a heat pump. Key schemes are summarised below.

FEU

Free Energy Upgrade

SEAI deliver free energy upgrades to homeowners who receive certain welfare payments such as disability, fuel, or one-parent allowances.

As of February 2022, The scheme will target the worst performing properties, by prioritising homes that were built and occupied before 1993 and have a pre-works BER of E, F or G.

This scheme supports energy upgrades holistically and as such available grant support includes attic insulation, wall insulation, lighting upgrades, as well as the procurement of a heat pump.

Full details can be found at [Free Home Energy Upgrade | Home Energy Grants | SEAI](#)

OSSS

One Stop Shop Service

One Stop Shops offer homeowners all the services required for a complete home energy upgrade. These registered private operators will manage the entire process for you, from the initial assessment of your home, through to the final BER.

The OSSS has several requirements e.g. house must have been occupied since before 2011 and the upgrades must achieve a B2 rating whilst saving at least 100kWh/m²/year.

This service offers grants covering more areas than the FEU or IEUG including up to €6,500 towards a heat pump.

Full details can be found at [One Stop Shop Services | Home Energy Grants | SEAI](#)

IEUG

Individual Energy Upgrade Grants

Some homeowners and landlords choose to manage their own home energy upgrades. This option is suitable for homeowners and landlords who want individual energy upgrades, to manage their own project, or pay for the works upfront and claim back later.

Grants cover all the upgrades provided by the OSSS but without the formal structure nor the included BER assessments.

Again, consumers may apply for up to €6,500 towards a heat pump, for homes which were build and occupied before 2021 and requires an SEAI registered advisor to assess the property first.

Full details can be found at [Individual Energy Upgrade Grants | Home Energy Grants | SEAI](#)

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UK Financial Support

UK Capital Cost Support Schemes

The UK has a long history of offering financial support inclusive of heat pumps in order to encourage nationwide market growth.

Key schemes from the UK are summarised below. Note that of the three, only the UK Tax Reform currently applies within Northern Ireland; and HESL applies only to Scotland.

HESL

Home Energy Scotland Loan

The Home Energy Scotland Loan is an opportunity for homeowners and private sector landlords to access interest-free funds, for the purpose of adding renewable energy technology or making energy efficiency improvements to a property. For heat pumps specifically, the loan covers up to £10,000 interest-free of the capital costs, with a payback terms of up to 12 years .

The scheme is funded by the Scottish Government via the Energy Savings Trust and administered via a dedicated and independent body called Home Energy Scotland.

TC

UK Tax Reform

In 2021, the UK VAT system was reformed so that works carried out related to the procurement and installation of energy saving materials in residential accommodation including ASHPs and GSHPs are charged at the reduced VAT rate of 5%. This applies where a social policy condition is satisfied or where the cost of goods involved in the installation i.e. the cost of the heat pump itself, is no greater than 60% of the total cost of installation.

This means an installer providing and installing a heat pump should charge the reduced rate. However, a customer purchasing a heat pump from a supplier will be charged the standard rate on the pump and reduced rate on installation. Note that new-builds are 0 tax rated. These changes may not be widely known nor easily calculated by installers across the UK.

BUS

UK Boiler Upgrade Scheme

The UK recently announced the BUS, a heat pump-specific grant to be implemented from the first half of 2022.

This grant will offer to homeowners up to £5,000 for an ASHP (and £6,000 for a GSHP), with provisions assigned to fund just over 90,000 heat pumps over three years. The scheme does not support directly any of the wider insulation and energy efficiency upgrades necessary to bring a home up to standard.

Detail on the funding and administration of the scheme has yet to be formally announced.

UK Financial Support Schemes

Across the UK there are other support schemes in place to support the market beyond alleviating capital costs.

Key schemes from the UK are summarised below. Note that of the two, the MCS Certification Fund currently only applies to Scotland; and RHI applies to Great Britain. A non-domestic Northern Ireland RHI scheme was suspended to new applications in February 2016 by the (as then) Department of Enterprise, Trade and Investment (DETI).

RHI

Renewable Heat Incentive Scheme

The Domestic Renewable Heat Incentive (Domestic RHI) is a government financial incentive to promote the use of renewable heat in Great Britain.

People who join the scheme and comply with its rules receive quarterly payments for seven years for the amount of clean, green renewable heat it's estimated their system produces. The scheme is intended to offset the operational cost of renewable heat technologies and not to provide an income.

BEIS funds the scheme and makes key policy decisions whereas Ofgem E-Serve administers.

MCF

MCS Certification Fund

In Scotland, the Energy Savings Trust, has developed the MCF to provide heating engineers with an interest in installing heat pumps with a grant to become MCS certified on heat pumps.

The grant will pay 75%, up to a maximum of £1000, of the certification fees and will run until funds run out or until the end of March 2022, whichever comes first.

The scheme is funded and administrated by the Scottish Government via the Energy Savings Trust.

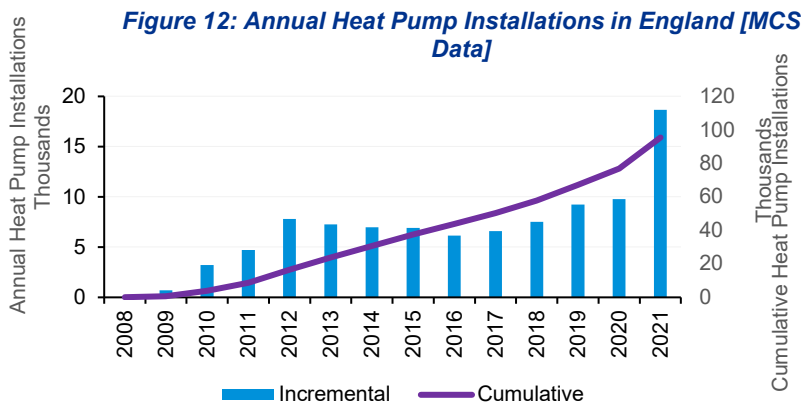
11

Sector Views and Market Growth

Historic Market Growth

The MCS organisation, which delivers the principal accreditation pathway in the UK with respect to heat pumps, captures data on installations as required by their accreditation mechanism to which, particularly in the UK, installers are required to adhere to in order to benefit from any existing financial incentives.

MCS has shared anonymised data as part of this research which provides general indications of market trends. MCS, as a standards organisation, tracks installations of its accredited members. MCS accredited installers are required to report installations so that consumers may secure grant funding from the various schemes across the UK. As there are no active schemes in NI, and not all installations in the UK are grant-funded, there is uncertainty surrounding to what degree these values reflect actual installations.



Of note amongst the data on trends in England, is that despite an overall increase in installations, the growth rate plateaus between around 2012 and 2018. This may correlate with the implementation of the RHI scheme which has a limit to the volumes of installations it can support due to funding constraints.

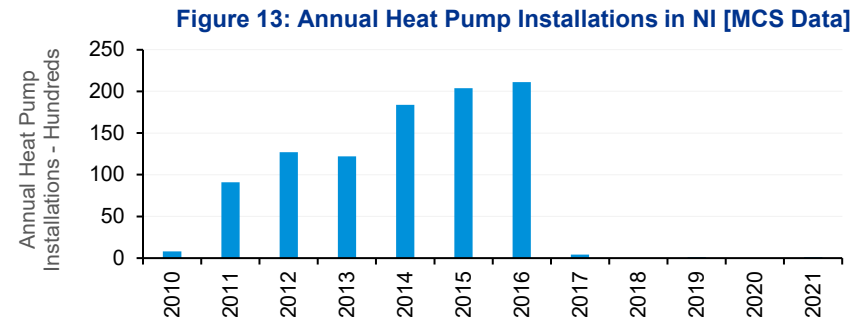
In the last three years, the trend has spiked rapidly which may in part be due to rising awareness of climate change. As this data is for MCS-accredited installations and MCS accreditation is only required as part of an incentive scheme, it may instead be inferred that this charted increase is due to the introduction of new incentive schemes.

With the impending introduction of a new Boiler Upgrade Scheme to provide upfront capital grants to support the installation of heat pumps in England and Wales, trends are expected to continue rising as we move into 2022 and 2023.

In contrast to the English trends, in Northern Ireland the data below tells a different story. Initially there is a surge in uptake, relative to its size as a region from 2011 to 2016. This correlates with the implementation of the NI RHI scheme, which was separate to the GB RHI scheme, and which was suspended to new applications in February 2016 by DETI.

The rate of reported installations drops to virtually negligible levels in 2017, and has stayed there since, which correlates with the suspension of the RHI scheme in NI to new participants.

However, this research has identified 167 domestic installations in NI over the past three years. This suggests that installers are not reporting installations to MCS, either because they are not accredited with MCS or they are not obligated to report installations to MCS for grant purposes (as there is no grant scheme). As previously noted, both the UK and RoI grant schemes link accreditation to accessing grants, indicating they see a clear link between accreditation and maintaining standards as well as improving consumer confidence.



Heat Pump Sector in Northern Ireland – Research Study

Barriers and Consumer Challenges

We asked respondents their thoughts on the barriers faced by the heat pump market as a whole as well as potential solutions.

Figure 14 captures the top responses when respondents were asked their views on the top 3 barriers to domestic and non-domestic heat pump deployment.

In contrast, Figure 15 highlights the response trends on how respondents believe these barriers may be addressed and mitigated.

Figure 14: Top Sector Barriers*

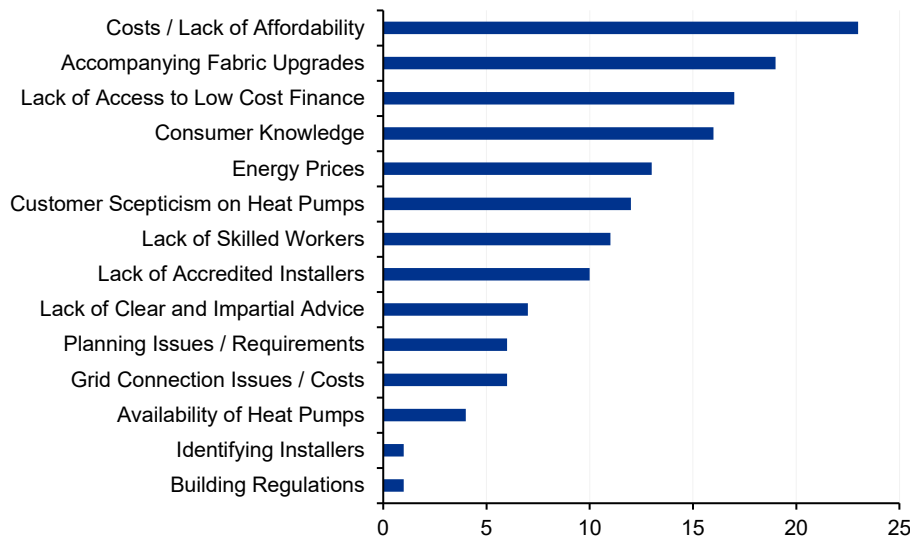
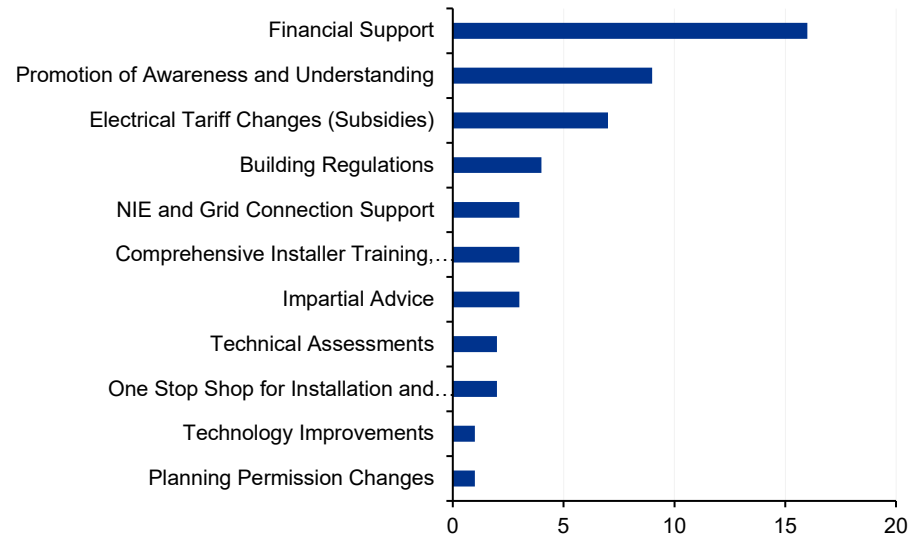


Figure 15: Barrier Mitigation Mechanisms*



In both instances the key themes centre around the challenging high capital investment required for heat pump installation, the lack of supporting finance / grants, higher operating costs due to perceived high electricity prices, consumer understanding / behaviours, and supporting fabric upgrades (e.g. wall insulation).

Respondents were further surveyed on their views on the top 3 measures that could be implemented to support development of the sector, the top three themes were:



1. Heat Pump and Fabric Upgrade Grants



2. Marketing to Improve Consumer Awareness



3. Interest-Free / Low-Interest Loans

Heat Pump Business Growth

We asked respondents about their expectations for business growth in Northern Ireland over the next five years.

Presented below are the results of areas respondents expect to grow.

Table 4: Areas of Forecasted Growth*

Area of Growth	No. Responses
New Build Market	14
Retrofit Market	14
Domestic Market	14
Installation Market	11
Commercial Market	9
Range of Models	9
Type of Heat Pump (ASHP, GSHP, etc)	9
Supply Market	7

Table 4 above indicates the responses per each category.

None of the installer respondents indicated an interest in diversifying across commercial / domestic markets where they were not currently working in that market. In one instance, a respondent who identified as a manufacturer indicated an interest in the installation market. Likewise, a respondent who identified as a supplier indicated interest in the installation market.

Growth in Northern Ireland.

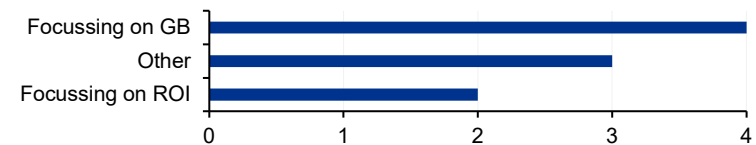
Of the 11 NI-based respondents, 10 indicated an expectation for positive growth in the sector over the next 5 years.

Focussing on NI-based installers, several gave indications for the scale of growth at an average forecast of a 48% increase over the next 5 years. This value is heavily skewed by outliers predicting extremely high growth for example, one installer responded with a forecast growth of 1000%. The median value is 25% for installers.

Analysis of the results for suppliers, manufacturers and other regions has been omitted due to the reduced sample size.

Some respondents did not express plans to grow their business in relation to heat pumps in NI; their reasonings were analysed and the results have been categorised into themes which are presented in Figure 16.

Figure 16: Reasons for Lack of Forecasted Growth*

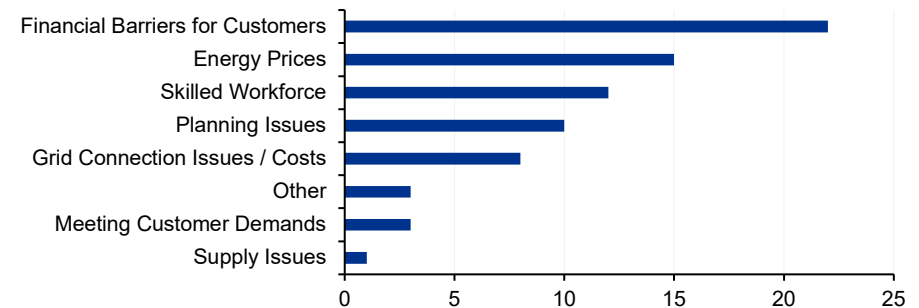


Other, in Figure 16, included limited demand, expensive upgrades, and an alternative technology being cheaper and effective.

In relation to their views on business development, respondents were surveyed on their views of anticipated challenges to growth.

We asked respondents to vote on the top 3 challenges they face growing their business over the next five years. The top responses are indicated in Figure 17.

Figure 17: Barriers to Business Growth*



Other includes a lack of clarity on retrofit suitability; lack of government policy and support; and high running costs.

Heat Pump Wider Comments

The survey gave respondents an opportunity to raise any comments in addition to the specific questions provided. Key themes have been identified from these comments for discussion below.



Simple Accessible Funding. Financial support was a dominant theme across the survey findings but comments expressed that this support should be accessible, clear, and consumers should not have to “jump through hoops” to access it.

Funding should be assured and protected so that consumers and installers are guaranteed to receive finances that are granted.



Confidence in the Government. A prevalent theme amongst respondents was concerns surrounding confidence in the government to support sector growth. Concerns with respect to the past RHI NI scheme were stated by some respondents.



Well-Informed Leadership. A selection of respondents were keen for policy and financial support across the sector to be well-informed, data driven, with qualified persons making the decisions at the government and sector body level.



Building Regulations and Energy Performing Certificates (EPCs). A common theme centred around Building Regulations in NI and EPC standards. Heat pumps generally suit well-insulated properties and considerations should be made for supporting premises in meeting ideal EPC standards before supporting the specific installation of a heat pump.



Energy Costs and Tariffs. Some respondents stated that subsidies and levies should be reviewed across the energy sector. Specifically the perception that the high cost of electricity is reducing the viability of heat pumps versus fossil fuel heat sources despite heat pumps’ enhanced operating efficiencies. Consideration should be made for dynamic and time-specific tariffs.



Appropriate Regulation. A strong theme amongst respondents was for the facilitation of structure and regulation across the heat pump market to protect consumers and also ensure that the right heat pumps are being fitted under the right circumstances. Third parties should perhaps inspect installations and ensure consumer interests are protected.



Comprehensive Training Regulation. Structures should be implemented to ensure installers are appropriately qualified and operating per a set of standards.



Heat Pump Sector Roadmap. It was expressed that DfE should produce a clear roadmap of their plans which will signal to the sector and encourage investment.



Demonstration Projects. Some respondents suggested that demonstration projects with openly available data might demonstrate to the public how heat pumps operate and under which circumstances they are best applied.



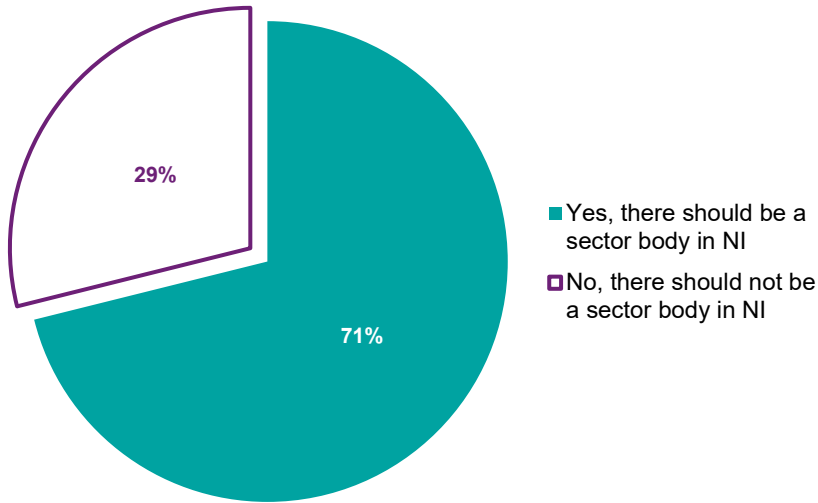
Impartial Advice and Information. Respondents both for and against heat pumps as a technology expressed a desire to see honest, impartial information available to consumers on what a heat pump would actually do for them. There is concern that the government is pushing for a technology that consumers do not understand and will potentially mis-use, which may ultimately damage the market in the long-run.

Heat Pump Sector Body

The survey explored the concept of a heat pump sector body dedicated to Northern Ireland to support growth of the sector.

Respondents were asked whether they agree or disagree with the concept of a such a body.

Figure 18: Views on Sector Bodies



Elaborating further, key reasoning and potential remits for a new sector body are presented below:

Providing Structure to the Heat Sector

Impartial Support Independent from Government

Independent Assessors and Post Installation Inspections

Facility for Providing Both Installer and Consumer Understanding

Of those who were disinterested in a sector body, justification centred around the following:

Sector Needs to Grow in Advance of a Sector Body's Establishment

Sector Bodies Cost and do not Add Value

Bodies Already Exist Which Can Adopt this Role

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Stakeholder Feedback

Stakeholder Feedback – General Views

A series of one to one consultations was held with a range of stakeholders working in or with a vested interest in heat pumps and the heat pump sector. We have reported on findings where these were commented on, or expressed, by more than one consultee, or, in the case of a single comment, where this explains or elaborates further on commonly expressed views. All consultees were assured of confidentiality and informed that findings would be aggregated and reported on by key findings and common themes.

Stakeholder feedback was largely positive on the subject of heat pumps with general confidence in their effectiveness as a technology across the board. Variances in opinion centre around their implementation and the necessary processes to assure on quality. Key common themes are presented here with commonly identified barriers presented and discussed over the next few pages.



Positive Views on Heat Pump Technology

Stakeholders have demonstrated consistently positive views with regards to the technology itself and the robustness and lifespan of the pumps. They believe that heat pumps are sufficiently advanced as to present an efficient and long-term cost effective choice for consumers.

The majority of stakeholders believe that heat pumps offer an effective route to decarbonisation across the UK and NI.



Stakeholders Understand Heat Pumps

Stakeholders have presented a good understanding of the nature of heat pumps and the considerations that should be made with respect to financing, building efficiency, and consumer behaviours.

This indicates a large pool of knowledge already available within NI, and representative bodies in GB and ROI from which the government can continue to draw insight.



Few Concerns for Scaling the Sector

Stakeholders have said that scaling up of the NI market will not negatively affect the sector in ROI or vice versa.

Stakeholders have additionally pointed out that the manufacture and supply markets will not present a barrier to growth as the sector scales. The more probable barriers lie in accreditation and training of installers but this may be easily facilitated with sector support.

Stakeholder Feedback - Finance & Costs

Stakeholders identified the following finance and cost barriers and potential solutions.

Barriers



Higher Capital Costs

A number of respondents identified the higher capital costs of heat pumps as the most significant barrier for a consumer. In relation to their immediate competitors, gas and oil boilers, heat pumps are typically more expensive. These concerns on cost align with the analysis of survey responses.



Operating Costs

It has been stated that there are challenges surrounding operating costs for heat pumps. Some stakeholders expressed a view that heat pumps are not cheaper to run, largely due to consumer behaviours (i.e. they run their heating for short bursts at high temperatures) whereas others made the point that this is due to higher electricity costs given that the unit price per kWh of electric is notably more expensive than the unit price per kWh of gas.



Accreditation and Training Costs

Given the lack of current demand amongst the sector in Northern Ireland, it has been expressed that installers are not incentivised to seek proper accreditation and training given the upfront financial costs for no immediate return on investment. Currently installers have to pay for training in addition to formal accreditation via the UK's standards body in this area, MCS.

Stakeholder Comments on Addressing Barriers

- Strong interest amongst the majority of stakeholders for a grant towards the cost of a heat pump.
- The grant should support both a heat pump and the accompanying energy efficiency upgrades e.g. wall insulation, glazing.
- Stakeholders opted for a means-tested grant that supported those with the lowest EPC ratings i.e. criteria for an EPC rating of D or below, and a 100kWh/m²/year improvement in energy usage following upgrades and installation (like the system in ROI).

- There was some support for a scheme that offsets the operating costs for running a heat pump.
- Others stated that such a scheme would be too similar to the suspended RHI scheme in NI.
- Others described such a scheme as redundant and that a focus on improving energy efficiency as a whole would naturally reduce running costs for consumers.

- There has been a suggestion for a fund to promote accreditation in heat pump installation for the initial deployment phase until demand builds.
- The Scottish Government, via the Energy Savings Trust, have formed the MCS Certification Fund which provides heating engineers with funds to pay their first year fees to become MCS certified on heat pumps (either air, ground or water source). The grant will pay 75% of the certification fees, up to £1,000, and will run until the end of March 2022 while funding lasts.

Stakeholder Feedback- Wider Energy Efficiency Considerations

Stakeholders identified the following wider energy efficiency considerations and potential solutions.

Barriers

Whole Building Energy Efficiency



It has been clearly identified by stakeholders and survey respondents that heat pump installation requires consideration of building efficiency in advance of implementation. Heat pumps perform within a narrow band of criteria which are largely associated with a buildings ability to retain heat. An EPC rating of D is the average for dwellings in NI¹³ which is insufficient for sensible installation of a heat pump according to stakeholders.

As part of the heat pump installation process, necessary heat loss calculations and subsequent building upgrades should be carried out to bring a dwelling up to standard. There is concern that some installers, such as traditional plumbers, cannot offer these additional services and risk installing a heat pump negligently.

The Legislative and Regulatory Environment



Some stakeholders highlighted that building regulations and planning permission requirements do not support or encourage or may hinder a higher take up / installation of heat pumps.

Stakeholder Comments on Addressing Barriers

- Many stakeholders claimed that the majority of homes in greater Belfast lack sufficient insulation, which aligns with the NIHE statistics.
- Some were of the opinion that any schemes implemented should favour dwellings with poorer insulation, and only if these wider fabric upgrades are carried out prior to installation.
- Some postulated that a pre-installation survey is necessary for all projects whereby pre-requisite building upgrades are identified with the expectation that homeowners address these as the priority.
- A concern was expressed that traditional plumbers, and smaller organisations, cannot offer these additional services and risk installing a heat pump negligently.
- There could perhaps be a facility available to heat-pump-only installers that connects them with 3rd party energy efficiency upgrade installers.

- Permitted development need to be reviewed to ensure restrictive conditions do not restrict the installation of heat pumps in, for example, terraced housing, or other high density housing configurations.
- The minimum standards and requirements stated in the current NI building regulations have not been updated to reflect on the national goals for improved energy efficiency. Some respondents stated that renewable technology considerations should be mandated as part of any new build (or retrofit).

Stakeholder Feedback - Energy

Stakeholders identified the following energy barriers and potential solutions.

Barriers



Energy Tariffs

Energy tariffs were a major theme amongst stakeholders who state that current tariffs incentivise homeowners to use gas over electrical heating. Higher electricity prices are offsetting the higher energy efficiency offered by heat pumps.



Grid Capacity

Some stakeholders identified the theme of grid capacity as a potential challenge to the sector.

A surge in heat pump installations and other grid-edge technologies¹⁴ may place strain on the grid



Grid Connection Issues

A prominent challenge expressed by some stakeholders is the process of connecting to the grid.

It was highlighted that grid connections and upgrade costs are not socialised. With capital investment barriers already prominent, additional charges to be connected to the grid may disincentivise consumers to install a heat pump.

Stakeholder Comments on Addressing Barriers

- Some stakeholders wished to encourage the government to work with the Utility Regulator (UR), and other stakeholders, in the development of renewable technology focussed tariff e.g. dynamic tariffs
- Northern Ireland Electricity Networks (NIE Networks or NIEN) is currently working with the UR in the development of tariff reform.

- NIE Networks recognises the concern for grid loading should NI follow a highly electrified pathway to net zero, per the Energy Strategy. NIEN's strategy in this area is presented in its "Network for Net Zero" document.
- NIEN has fostered a data driven approach to guide its capital investment as it pre-emptively upgrades the network. E.g. use of heat pump (and other renewable technology) installation data may be used to indicate regions of reinforcement. This pre-emptive upgrade introduces enhanced financial risk however as there is no guarantee of its immediate value-add and that investment may have been required elsewhere.

- New build homes requiring a new connection, are required to pay for the connection and these costs are not socialised. In the instance of a heat pump installation where the network structure up to the new property is incapable of supporting the higher loads, the consumer may see substantial charges.
- This contrasts with GB and RoI where connection costs are socialised through the regulated consumer pricing model. Not only does this mean that homeowners wishing to install heat pump or other low carbon technology face an additional financial barrier, it also discourages homeowners from disclosing accurate or full information to NIE when they connect to the grid. It therefore means NIE does not have robust information on, for example, the number of heat pump installations.
- The theme of connection cost socialisation is being explored by the UR, NIEN and DfE.

Stakeholder Feedback - Installer Training and Accreditation

Stakeholders identified the following issues regarding installer training and accreditation and potential solutions.

Barriers



Inadequate Training Amongst Installers

A significant population of stakeholders commented on the inadequacy of installer understanding and knowledge. They considered that many installers treat heat pumps as a direct alternative to traditional boilers leading to poor implementations. This was bad for the consumer and damaging to the technology's reputation.



Shortage of Accredited Installers

Per the above, there exists a shortage of well-trained and accredited installers in NI.

There is currently no system in place to force or incentivise installers to become accredited or take-up industry recognised heat pump qualifications. This aligns with survey responses where just 4 of the 22 installers have claimed participation in an accredited training course such as BPEC or LCL Awards Level 3.



Challenging Accreditation Processes

Some stakeholders have stated that the MCS accreditation process is challenging to follow, both initially and operationally. Installations require substantial paperwork for which smaller companies may not have the administrative staff to complete properly and accurately.

Stakeholder Comments on Addressing Barriers

- Training courses should be comprehensive, covering the *when* and *why* to installing a heat pump, not just how to carry out the installation.
- Short 1-day courses would not be appropriate.

- There is presently a low volume of heat engineers qualified to install heat pumps.
- There is a consistent belief that the sector would not struggle for engineers, but they must be incentivised to receive training and get accredited.
- In addition to installers, there is very little capability in NI with regards to 3rd party assessments and inspections. These were prominent during the deployment of the RHI scheme but since then the volumes have dropped substantially of installers and assessors alike.

- MCS is currently working on guidance documents to facilitate the accreditation process in the short-term.
- MCS is developing an Accreditation Wizard for long-term installer support.
- MCS has expressed openness to recognising international equivalent accreditations (e.g. SEAI).

Stakeholder Feedback - Consumer Awareness & Quality Assurance

Stakeholders identified the following issues associated with consumer awareness and quality assurance and potential solutions.

Barriers



Poor Understanding Amongst Consumers

A common theme is that heat pumps are widely misunderstood amongst consumers who attempt to treat them like traditional boilers. Heat pumps are much more passive in their heating, for example they take longer to heat, operating at a lower temperature than traditional gas/oil boilers, and there is limited ability to boost the heat. They are designed for a steadier heat supply. This has historically led to consumer disappointment and misuse; potentially contributing to some of the negative perspectives uncovered as part of this research.



Impartial and Accessible Advice

There is a disparity across the stakeholders and survey responses in the general mood towards heat pumps and their efficacy. It was clearly suggested by those of both groups that honest, accessible, and impartial advice is not widely available to consumers.

There are no clear demonstrations of the conditions under which heat pumps do and do not work.



One Stop Shop and Sector Body

Some stakeholders postulated that the lack of a single entity that oversees the sector and manages the quality assurance process nationwide poses a significant challenge. Consumers need a system of clear structure that they can trust to protect their own interests and make easier the process of procuring advice, funding, and an accredited installation.

Stakeholder Comments on Addressing Barriers

- Installers have too much power over uninformed consumers and may push for installation without necessary energy efficiency pre-requisites.
- A behaviour change campaign is necessary to foster wide-spread understanding and avoid misuse of a heat pump system.
- Consumer perception around operating costs are a potential challenge whereby those used to bi-annual oil purchases may feel an increase in monthly electrical bills are more expensive where in practice they are not.

- Suggestions align with a model like that of the Energy Savings Trust in Scotland that oversees the sector, administrating any market development incentives as well as advice and support.
- Strong implications that any such body should be independent from the wider government and the Department for the Economy.
- Clear demonstration projects should be setup highlighting the necessary upgrades and the route to a heat pump installation that consumers may use as a guideline for their own homes.

- Suggestion is to adopt a model similar to that governed by the SEAI in ROI whereby a strict structure is implemented and managed by a third-party, independent organisation.
- This organisation assures quality by providing a system of strict structure that facilitates the steps of technical surveyance, prescription of necessary supporting upgrades, accredited installation, and post-installation quality assessment in accordance with any regulatory or funding requirements.

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Sector SWOT Analysis

Sector SWOT Analysis

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Strengths

- Key stakeholders recognise the links between energy efficiency and heat pump installation
- Most stakeholders believe in the efficacy of heat pumps as a technology
- A substantial and diverse group of sector stakeholders has expressed interest in future consultation with the Department on the subject of heat pumps.
- Heat pump technology is well established and robust versus developing alternatives such as hydrogen.

W

Weaknesses

- Poor consumer knowledge on the subject of heat pumps and their practical implementation
- Lack of consumer incentive due to high capital costs and perception of higher energy costs.
- There are few large scale organisations involved in heat pump installation
- Limited governance structures and quality assurance processes across NI to ensure that heat pumps installations are being carried out properly and in the best interest of consumers and the sector as a whole

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Opportunities

- Advancement of sectors in ROI and GB offer platforms and associated research from which NI may learn and base its strategy. Historic schemes and their results in these jurisdictions offer *lessons learned* and help inform on the means of development of NI's heat pump sector.
- Stakeholder consensus is that the market is ready to ramp up as and when demand develops with members of related industries (plumbing, HVAC) able to laterally place themselves in the heat pump market if the appropriate demand and structure is developed

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Threats

- Poor public confidence and trust in the ability of government to successfully implement an effective support mechanism.
- Alternative low-carbon heat sources; HVO, Hydrogen, Biofuels may tempt consumers with alternative technology solutions

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Recommendations

Recommendations

The UK has a target for 600,000 heat pump installations per year by 2028, and a suggestion of 7-11 million heat pumps by 2035. NI must work alongside all other parts of the UK to meet these UK targets. Therefore it is necessary to identify a specific target for Northern Ireland, which takes account of its low base, current lack of financial support and other factors such as fuel poverty, current housing stock conditions and the other factors described which act as current barriers.

Our **principal recommendation is that the Department develops a comprehensive roadmap** for meeting this NI-specific target with consideration for five key themes that have been identified as part of this report: Finance, Energy Efficiency, Electricity and the Grid, Sector Skills, and Consumer Awareness. **DfE should also develop a working group** to further explore these themes and ensure that the development of such a roadmap aggregates the knowledge of sector stakeholders with lessons learned from similar entities in other jurisdictions such as Rol's SEAI and Scotland's Energy Savings Trust (EST).

Finance

Financial support has been a dominant theme across this research with survey respondents and stakeholders all identifying the lack of financial incentive in NI as a principal challenge to sector growth. As part of its roadmap, DfE should consider the various avenues of financial support as discussed across this report such as capital cost grants, interest-free loans and accreditation-supporting grants. The decision surrounding types of schemes as well as their sizing and funding should be a primary focus of a working group. The administration of any incentives, quality assurance, and auditing are all vital considerations for a working group and roadmap.

Energy Efficiency

Any intervention to stimulate the heat pump sector market must be focused on energy efficiency outcomes – i.e. a measurable move towards net zero carbon emissions, in keeping with NI's energy strategy. This means any intervention needs to take a holistic approach to stimulating the uptake of heat pumps, with clear alignment to housing suitability and assessment processes, retrofit activity, quality assurance and consumer protection, with a clear intent to improve the energy efficiency of each home.

The Regulatory Environment

Building regulations and planning permissions (permitted development) need to be reviewed to ensure they support NI's energy strategy, renewable energy technology and do not present unnecessary barriers to prohibit increased take up of heat pumps.

In summary, a roadmap should consider all the barriers presented in this report. Offering one incentive or solving one challenge alone is not enough to develop this sector. Furthermore, DfE alone may not be sufficiently well-placed to develop such a plan and it is essential that its working group unites invested entities, public and private alike, in the assembly of said roadmap.

Electricity and the Grid

In the development of its roadmap, perhaps via members within the working group itself, the Department should make considerations for electrical infrastructure and energy tariffs across NI. A number of stakeholders identified grid capacity and grid connections (e.g. socialisation of costs for new connections) as current and potential challenges to installation whereas current electricity tariffs may be disincentivising consumers from upgrading to a heat pump due to the lack of operational cost savings. The electrical sector is a key enabler, so DfE needs to collaborate with NIE, SONI, and the Utility Regulator who influence the electrical market, as well as with the UK government, recognising that most of the potential options around changing energy prices may relate to wider UK discussions. Furthermore, there are other constraints, e.g. the oil sector being unregulated, which present challenges in impacting on the cost of alternative heating options, and where discussions and actions need to be at the UK government level.

Sector Skills

Accreditation and installer training are continuous challenges as the sector grows. Installers delivering, maintaining and servicing installations without the necessary advanced technical assessments and quality assurance processes influence poor public perception of the technology and may be detrimental to its mass adoption. The working group needs to consider developing a structure (and potentially an overseeing body) that ensures installers are accredited/qualified, accountable, and that they understand the necessary steps for the proper installation of a heat pump, and for subsequent servicing and maintenance. Building structure is much about making the process clearer and easier for installers as it is ensuring the consumer receives a high quality implementation, and aftercare such as servicing and maintenance.

The working group has further scope to foster upskilling and growth in the manufacturing sector for NI. This may involve introducing manufacturers to the skills and funding to transition away from traditional heating technologies to heat pumps.

Consumer Awareness

Heat pumps are a passive heating technology and consumers may not be fully aware of the nature of their heating systems post-installation e.g. low temperature radiators and the lack of a 'boost' functionality. A source of impartial advice and a perception/behaviour change programme are an area of development for a working group in preparing the public for the adoption of heat pumps. The working group should give thought as to how the sector will manage consumer understanding which may overlap with consideration of installer training as installers may be best placed to inform consumers on the nuances of heat pump heating.

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Appendix 1 - Survey Questions

Survey Questions



The Energy Group within the Department for the Economy (DfE) in Northern Ireland has commissioned KPMG to undertake research on the heat pump sector in Northern Ireland. In the Department’s Energy Strategy Options Consultation it was highlighted that *“heat pumps will play a role in the decarbonisation of heat, and we do not see any viable pathway to reach net zero carbon which does not use this technology”*. Energy Group is seeking to gather detailed information on the heat pump sector in Northern Ireland to inform future policy.

The aim of this research is to understand the existing heat pump sector in Northern Ireland, current capacity, and inform recommendations to the Department on potential actions that would support and promote sustained, long term growth of the heat pump sector. This survey is intended to be a key element of this research and will be the primary source of first-hand information on the heat pump sector in Northern Ireland.

Your input is therefore invaluable in helping the Department to develop evidenced based policy and identifying appropriate support mechanisms for the heat pump sector going forward.

Please note the following:

- This survey is delivered by KPMG on behalf of DfE. For further information on how your data will be processed, please refer to - Privacy | Department for the Economy - [DfE Privacy Notice | Department for the Economy \(economy-ni.gov.uk\)](#)
- By participating in this survey you are consenting to KPMG processing your personal data on behalf of DfE. KPMG will not use your data for any other purpose.
- All results will be aggregated and all information is anonymised as no company details i.e. name, address are being collected as part of the survey response.

All information provided will be used solely for this purpose, and all responses are confidential.

The survey is expected to take no more that 15-20 minutes to complete.

Survey Questions - About You

Question 1

- a. Please tell us if you are: (Tick all that apply)
- Manufacturer of any type of heat pump
 - Supplier / wholesaler / distributor of any type of heat pump
 - Installer of commercial (non-domestic) heat pumps
 - Installer of domestic heat pumps
 - Other (please specify)
- b. Please tell where you are based.
- NI
 - ROI
 - GB
 - Other (please specify).
- c. Are you accredited with any sector body for installing heat pumps? (Tick all that apply)
- Microgeneration Certification Scheme (GB)
 - Renewable Energy Installer Register (RoI)
 - Renewable Energy Consumer Code (RECC)
 - Other (please specify)
 - Not applicable.

Question 1 (cont'd)

- d. How many heat pump installers do you currently employ? (Please tell us in terms of whole time equivalents)
- e. What qualifications do your heat pump installers typically have? (Please tick all that apply)
- Plumbing qualifications
 - Heating and Ventilation qualifications
 - Heat pump qualifications
 - Electrical qualifications
 - Other (please specify)
- f. If any of your installers have an accredited heat pump qualification, please tell us the name(s) of this qualification.

Survey Questions – Installers: Your Processes

Question 2

What processes do you have in place to determine if a domestic building is suitable for a heat pump installation? (Tick all that apply)

- Basic building consideration (i.e. identifying the age, type of house, size, current heating system)
- Technical assessment (i.e. a technical assessment of heat loss and identified fabric upgrades)
- Heat pump feasibility study (i.e. full assessment covering advice, building consideration, technical heat loss, heat pump specification, costs and estimated running costs and payback)
- Other (please specify)
- None

Question 3

Do you typically require any pre-requisites before a heat pump is installed? (Tick all that apply)

- Loft insulation
- Cavity wall insulation
- Internal dry lining
- External wall insulation
- Floor insulation
- Double or triple glazing
- Heating control upgrades
- Draught proofing
- Low temperature radiators / underfloor heating
- Other (please specify)
- None

Survey Questions – Installers: Your Processes

Question 4

- a. What other energy efficiency measures do you provide directly? (Tick all that apply)
- Loft insulation
 - Cavity wall insulation
 - Internal dry lining
 - External wall insulation
 - Floor insulation
 - Double or triple glazing
 - Heating control upgrades
 - Draught proofing
 - Low temperature radiators / underfloor heating
 - Other (please specify)
 - None
- b. Do you signpost customers to other appropriate companies?
- Yes
 - No
- c. What types of organisations do you typically signpost customers to?

Question 5

Please tell us about the support you provide to customers in advance of, during, and after a heat pump installation. (Tick all that apply)

- Brochures and information
- Technical assessment pre installation e.g. heat loss calculation
- Technical advice pre installation
- Technical advice post installation
- Training in use of a heat pump
- Warranty
- Service Manual
- Aftercare (e.g. trouble shooting, servicing, maintenance)
- Other (please specify)

Survey Questions – Installers: About Domestic Heat Pumps

Question 6

We are interested in finding out about the number and type of domestic heat pump installations in Northern Ireland in the last three years (i.e. in the period January 2019 – November 2021).

We would highlight that the information you provide will be used solely for this research assignment and all responses are confidential. We are not collecting company details (e.g. name, address etc) as part of the survey response so all results are anonymised.

- a. Have you installed heat pumps in Northern Ireland in the last three years (i.e. in the period January 2019 – November 2021)?
 - Yes
 - No
- b. Please tell us about the number of heat pumps installed in the period January 2019 – November 2021 (by make, model number and size).
- c. What percentage of heat pumps installed are for a new build?
- d. What percentage of heat pumps installed are the sole heat source?
- e. What percentage of heat pumps have been installed alongside a new boiler?

Question 6 (cont'd)

- f. What percentage of heat pumps have been installed where an existing boiler has been retained?
- g. What typically would be the other heat source?
 - Oil
 - Gas
 - LPG
 - Biomass
 - Not applicable
- h. What are the typical call out costs per service / maintenance visit?
- h. Are there any restrictions or drawbacks to customers using another provider for subsequent servicing or maintenance e.g. invalidating warranties?
 - Yes
 - No
- j. From where do you source your heat pumps? (Tick all that apply)
 - Manufacturer in NI
 - Manufacturer in GB
 - Manufacturer RoI
 - Manufacturer – rest of the world
 - Supplier / Distributor / Wholesaler in NI
 - Supplier / Distributor / Wholesaler in GB
 - Supplier / Distributor / Wholesaler in RoI
 - Supplier / Distributor / Wholesaler – rest of the world

Survey Questions – Installers: About non-domestic heat pumps

Question 7

We are interested in finding out about the number and type of non-domestic heat pump installations in Northern Ireland in the last three years (i.e. in the period January 2019 – November 2021).

We would highlight that the information you provide will be used solely for this research assignment and all responses are confidential. We are not collecting company details (e.g. name, address etc) as part of the survey response so all results are anonymised.

- a. Have you installed non-domestic heat pumps in Northern Ireland in the last three years (i.e. in the period January 2019 – November 2021)?
- Yes
 - No
- b. Please tell us about the number of heat pumps installed in the period January 2019 - November 2021 (by make, model number and size).

Question 7 (cont'd)

- c. What percentage of non-domestic heat pumps installed are for a new build?
- d. From where do you source your heat pumps? (Tick all that apply)
- Manufacturer in NI
 - Manufacturer in GB
 - Manufacturer RoI
 - Manufacturer – rest of the world
 - Supplier / Distributer / Wholesaler in NI
 - Supplier / Distributer / Wholesaler in GB
 - Supplier / Distributer / Wholesaler in RoI
 - Supplier / Distributer / Wholesaler – rest of the world

Survey Questions - Manufacturers

Question 8

- a. How do you supply your products to installers in Northern Ireland? (Tick all that apply)
- Directly
 - Via a preferred supplier / wholesaler / distributor
 - Via multiple suppliers / wholesalers / distributors
 - Other (please specify)
- b. Please tell us the number of domestic heat pumps you have supplied directly to installers in Northern Ireland in the last three years (i.e. in the period January 2019 – November 2021).
- c. Please tell us the number of non-domestic heat pumps you have supplied directly to installers in Northern Ireland in the last three years (i.e. in the period January 2019 – November 2021).

Question 8 (cont'd)

- d. Please tell us the number of domestic heat pumps you have supplied directly to suppliers / wholesalers / distributors in Northern Ireland in the last three years (i.e. in the period January 2019 - November 2021).
- e. Please tell us the number of non-domestic heat pumps you have supplied directly to suppliers / wholesalers / distributors in Northern Ireland in the last three years (i.e. in the period January 2019 - November 2021).
- f. What support do you offer to installers of domestic heat pumps in Northern Ireland? (Tick all that apply)
- Brochures and information
 - Sales advice
 - Training in the installation of our heat pumps
 - Warranty
 - Service Manual
 - Aftercare (e.g. trouble shooting, parts supply, etc)
 - Other (please specify)
 - Not applicable

Survey Questions – Suppliers, Wholesalers, Distributors

Question 9

- a. Please tell us the number of heat pumps supplied to the Northern Ireland market by make and model in the last three years (i.e. in the period January 2019 – November 2021).
- b. From where do you source your heat pumps? (Tick all that apply)
- Manufacturer in NI
 - Manufacturer in GB
 - Manufacturer RoI
 - Manufacturer – rest of the world
 - Other (please state)

Question 9 (cont'd)

- c. What support do you offer to installers of heat pumps in Northern Ireland? (Tick all that apply)
- Brochures and information
 - Sales advice
 - Training in the installation of a heat pump
 - Warranty
 - Service Manual
 - Aftercare (e.g. trouble shooting, parts supply, etc)
 - Other (please specify)
 - Not applicable

Survey Questions – Future Business Plans

Question 10

- a. Do you have any plans to grow your heat pump business in Northern Ireland in any of the following markets in the next 5 years? (Tick all that apply).
- Supplier / wholesaler/ distributor market
 - Installation market
 - Commercial (non-domestic) market
 - Domestic market
 - Type of heat pumps e.g. air source, ground heat pump etc.
 - Range of models / manufacturers
 - Retrofit market
 - New build market
 - Other (please specify)
 - Not applicable
- b. Can you provide any indication of growth projections you have for growing your heat pump business in Northern Ireland in the next 5 years? (Please express this in percentage terms e.g. 20% in the next five years etc).

Question 10 (cont'd)

- c. Please tell us what you consider are the top 3 challenges in growing your heat pump business in the next 5 years?
- Energy prices
 - Financial barriers for customers
 - Grid connection issues
 - Meeting customer demands
 - Planning requirements
 - Skilled workforce
 - Supply issues
 - Other (please specify)
- d. Is there a specific reason you have no plans to grow your heat pump business in Northern Ireland in the next 5 years? (E.g. limited customer demand, increased competition etc).

Survey Questions – Barriers and support measures

Question 11

a. Please tell us what you consider are the top 3 main barriers to increase domestic and non-domestic heat pump deployment in Northern Ireland?

- Accompanying fabric upgrades required (roof/wall insulation etc) – organising, coordinating, paying for these
- Lack of access to low cost finance
- Lack of accredited installers
- Availability of heat pumps
- Consumer knowledge / awareness of heat pumps
- Costs / lack of affordability
- Customer scepticism on heat pump technology, its benefits and cost effectiveness
- Energy prices
- Grid connection issues
- Identifying installers
- Lack of 'one stop shop' for advice
- Lack of skilled staff
- Planning requirements
- Other (please specify)

b. Do you have any suggestions as to how any of these barriers could be overcome?

Question 12

What do you think are the top 3 measures needed to support the development of the domestic heat pump sector in Northern Ireland?

- Access to impartial advice
- Financial assistance towards the costs of heat pumps and the costs of pre-requisite energy efficiency improvements
- Financial support to train staff
- Improved consumer protection (e.g. warranties etc)
- Interest free/low interest loans
- Maintaining a register of accredited installers
- Marketing and communications campaign to increase customers' knowledge of heat pumps
- 'One stop shop' model for advice and support
- Provision of accredited training in heat pumps
- Other (please specify)

Survey Questions – Dedicated Body and Any Other Comments

Question 13

- a. Do you consider there should be a dedicated body for the heat pump sector in Northern Ireland to represent local issues and promote sector growth?
- Yes
 - No
- b. Please feel free to elaborate on your response.

Question 14

Please tell us if there is anything else you want to say about the development of the heat pump sector in Northern Ireland?



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