SP Energy Networks community support

Short guide to Heat Pump installation

A high level guide to installing air source and ground source heat pump systems for community energy groups.

SP Energy Networks

About this guide

About SP Energy Networks

SP Energy Networks (SPEN) is a Distribution Network Operator (DNO). SP Energy Networks keeps electricity flowing to homes and businesses through our network of overhead lines and underground cables. In Scotland, SPEN manages the electricity distribution network in central and southern regions, including major cities such as Glasgow and Edinburgh, as well as rural areas like the Scottish Borders and Dumfries & Galloway. In England and Wales, SP Energy Networks operates under the SP Manweb license, covering North Wales, Merseyside, Cheshire, North Shropshire and Liverpool. In 2025, Electricity Northwest (ENWL) became one of the four regulated electricity network businesses owned by SP Energy Networks in the UK. SP Electricity Northwest, as it's now known, operates the electricity distribution network across the Northwest of England. Its coverage includes Greater Manchester, Lancashire and Cumbria, as well as parts of Cheshire and Derbyshire.

About Reheat

Reheat are a team of in-house consultants, designers, project managers and engineers delivering renewable heat and power solutions for clients with large and complex energy requirements. We work across the UK and internationally in a wide variety of industries and sectors, including manufacturing, hospitality, historic buildings and estates, local authorities, social housing, education and communities.

Acknowledgements

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Purpose of this guide

Navigating the process of delivering a heat pump project can seem challenging, whether you're planning either an air-source or ground-source system.

This guide is designed to simplify the journey for community energy groups, outlining the key steps from finding a suitable site to connecting to your heating system.

It covers topics including:

- Site and heat use identification
- Securing site
- Conducting feasibility studies
- Investigating planning
- Permissions
- Grid connections
- Raising finance
- Construction and installation
- Operation and maintenance
- Planning for end of life

The focus is on actionable advice and resources to support community-led projects in today's changing energy landscape.

Who is this guide for?

This guide is aimed at community energy groups across the UK who are interested in developing heat pump projects. Whether you're exploring opportunities or already progressing with project development, this guide provides a useful foundation for informed planning and effective delivery.

Key practical steps involved in installing a heat pump (air-source and ground-source) are detailed throughout. While presented in a logical sequence, every project is different, and steps may occur in a different order or run in parallel. Whatever the case, each step is critical to project success. We also assume that your group has already established a vision for the project, including that a heat pump is the best option for your goal, and how you will engage the local community throughout.

What is a heat pump?

A heat pump is a device that transfers heat from one place to another using electricity, typically moving heat from outside air or the ground into a building for heating, or reversing the process for cooling. It's highly efficient because it moves heat rather than generating it.

Why a heat pump?

Heat pumps have become a well-established option for generating clean heat. They can be highly efficient and sustainable alternatives to traditional fossil fuel heating systems. Heat pumps can provide both heating and cooling, reduce energy bills, and run on renewable electricity for near-zero emission heating. With long lifespans, multiple technology types, low maintenance, and government incentives, heat pumps are a future-proof solution for sustainable heating.

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Acronyms used in text

As you navigate through different sections of this guide, we have compiled a comprehensive list of all acronyms used throughout. Many of these terms are explained in greater detail in our glossary section.

Acronym	Stands for
ASHP	Air Source Heat Pump
CAPEX	Capital Expenditure
CARES	Community and Renewable Energy Scheme
COP	Coefficient of Performance
COSS	Community Ownership Support Service
DNO	Distribution Network Operator
GSHP	Ground Source Heat Pump
HSA	Heat Supply Agreement
MCS	Microgeneration Certification Scheme
MOU	Memorandum of Understanding
OPEX	Operational Expenditure
PDR	Permitted Development Rights
ROI	Return On Investment
SSSI	Site of Special Scientific Interest
WHS	World Heritage Site

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The checklist

Before you start

- Establish a clear project vision with community input and confirm a heat pump is the right choice

Step 1: Identify site and appropriate use of heat

- Identify suitable site (location, noise, access)
- Make contact with potential property owner/heat user. If interested, build a relationship
- Complete basic pre-feasibility check (e.g., costs vs. income)

Step 2: Set up a legal entity

- Choose an appropriate legal structure for your community organisation and the partnership with your heat user

Step 3: Secure the site(s)

- Agree terms with the land or building owner
- Negotiate terms with property/land owner
- Sign legal agreement (lease or purchase) for long-term access

Step 4: Feasibility study

- Select a qualified contractor/consultant
- Complete a comprehensive study confirming type as well as technical and financial viability

Step 5: Planning permission

- Check Permitted Development Rights (PDR) eligibility
- Obtain planning permission or PDR confirmation

Step 6: Grid connection

- Engage with the Distribution Network Operator (DNO) and submit a connection application
- Receive and accept connection offer

Step 7: Raising finance

- Identify funding mix (equity, debt, grants)
- Secure all necessary funding agreements

Step 8: Build management and installation

- Select certified contractors using competitive tenders
- Complete installation with all certifications and warranties

Step 9: Operations and maintenance

- Set up monitoring and metering systems
- Establish payment processes and maintenance contracts

Step 10: End-of-life planning

- Plan decommissioning costs and timeline
- Check lease and planning permission durations

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Risk and challenges

There are a number of risks and challenges related to undertaking any community project.

These are worth highlighting at an early stage, to ensure appropriate mitigation measures or planning can be carried out to minimise any impact they may have on the projects outcomes. They include:

1. **Financial Risks**
   - Budget Overruns: Costs may exceed initial estimates due to unforeseen expenses.
   - Funding Shortfalls: Grants or donations may not materialise as expected.
2. **Stakeholder & Community Engagement Challenges**
   - Low Participation: Community members may not engage as anticipated.
   - Conflicting Interests: Different groups may have competing priorities.
   - Resistance to Change: Some stakeholders may oppose new ideas.
3. **Governance & Management Risks**
   - Poor Planning: Lack of clear objectives, timelines, or accountability.
   - Leadership Gaps: Inexperienced or inconsistent leadership.
   - Decision-Making Delays: Slow approvals can stall progress.
4. **Operational & Logistical Challenges**
   - Resource Constraints: Limited access to skilled personnel or materials.
   - Coordination Complexity: Multiple partners and volunteers can complicate workflows.
   - Regulatory Compliance: Navigating permits, legal requirements, or safety standards.
5. **Social & Cultural Risks**
   - Equity Issues: Risk of excluding marginalised groups.
   - Community Trust: Failure to build or maintain trust can derail the project.
6. **Environmental & External Factors**
   - Weather or extreme events: Can disrupt timelines.
   - Political Instability: Changes in local governance or policy.

Mitigating risks in community projects requires a proactive and inclusive approach. Financial risks can be managed by developing a budget that includes contingency funds, while also diversifying funding sources through grants, donations, and sponsorships. Financial audits can be used to help maintain transparency and control.

To address stakeholder engagement challenges, early and continuous consultation is essential. Clear communication channels should be established, and conflict resolution strategies put in place to balance competing interests. Governance risks can be reduced by defining roles and responsibilities, setting measurable objectives, and tracking progress and ensure accountability.

Operational challenges often stem from resource constraints when projects are relying on volunteers, and coordination issues. These can be mitigated by creating a resource plan and scheduling regular coordination meetings. Social risks require sensitivity and inclusivity; engaging local leaders, and designing strategies that include marginalised groups are key steps.

External factors such as environmental or political changes call for flexible timelines and emergency response plans, alongside monitoring developments that could affect the project.

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Steps to Installing a Heat Pump

Step 1: Find your site and heat user

Finding a local heat user is critical to making a community heat pump viable. Unlike electricity, heat cannot be exported to the grid and must be used within close proximity to where it is generated. Most direct sales to local users are via a Heat Supply Agreement (HSA) or similar, which sets the price per unit of heat, the length of the deal, the payment terms and the responsibilities of those listed in the contract.

Steps to finding your site and energy user

Identify potential sites:

- Investigate community buildings with an existing wet heating system that a heat pump could connect to (hot water flowing through pipes and radiators)
- Talk to key local people (e.g. parish council, development officers or the local authority) who might know of, or own, high-potential sites like a village hall or community centre.

When assessing suitability, consider the following (see Table 2):

a. **Outdoor space & land availability -** A heat pump needs a clear area beside the building to site the external unit. For a ground source system, space to host the boreholes will be required. The number of boreholes is dependent on the amount of heat required. Avoid sites with limited access (e.g. terraced buildings).

b. **Access -** Safe and easy access is needed to install and maintain the heat pumps. Most sites are straightforward, but larger/more remote sites may need special permissions or temporary access routes. For a ground source heat pump, land access for a drill rig will be required to drill boreholes and install pipework.

c. **Proximity and piping -** The heat pump unit should be as close as possible to the building, as longer or complex pipework between the heat pump and the buildings heating system increases costs and potential losses. The ground array can be in adjacent land, but distance between it and the heat pump should be minimised to avoid unnecessary pipe costs.

d. **Grid connection (see also Step 6: Grid connection) -** Most heat pump projects will need to connect to the electricity grid. It's a good idea to speak to your local network operator early, as they can explain the application process and give an estimate of connection costs. At SP Energy Networks, we've created a step-by-step connections guide for community energy groups.

e. **Planning considerations (see also Step 5: Planning permissions) Step 5: Planning permissions)**

- Consider a few questions, such as:
- Do you need planning permission?
- Is the building listed, in a conservation area or a protected site (e.g. National Landscape)
- Would the system be visible or raise local concerns?
- Is there historical/archaeological significance to the site (for borehole drilling)

Are there planned or competing future uses for the site? Check your local authority's website to begin answering these questions. Spotting issues early doesn't mean your project won't work, but will help you know who to speak with. Early discussions with planning officers and the local community can also flag potential concerns.

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Steps to Installing a Heat Pump

Step 2: Set up a legal entity

Your project will need a formal legal entity to apply for funding, open a bank account, sign contracts (e.g. for a site) and manage finances. Even if your group already exists, check whether it's suitable for this project. For example, the type of legal entity you choose can affect funding options, so review finance routes early.

It's strongly recommended that you seek legal advice from a solicitor experienced in this type of project before finalising any arrangements.

For guidance on choosing and registering an appropriate structure, see:

- **Across the UK:** Community Energy England's guide
- **Scotland:** Community Ownership Support Service (COSS) and Local Energy Scotland's guidance
- **Wales:** Welsh Government's module on Establishing a Community Group.

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Steps to Installing a Heat Pump

Step 3: Secure the site

Once the pre-feasibility checks are done and your legal entity is in place, the next step is to secure access to the site(s). This is a crucial step to ensure your project can proceed, but the approach can vary depending on your risk appetite and legal advice.

At this stage, you might consider options ranging from a simple MOU to a full legal agreement with the property and land owner (who should also be your end user). An MOU is a high-level agreement with the site owner that they are happy to commit to the project in principle, helping to protect your project without committing you to formal obligations before feasibility is fully assessed. Having this in place may also strengthen your funding applications. A complete legal agreement could provide stronger security if you are confident in the site's viability, but it may also carry financial or legal risks.

Regardless of the approach, it's important to get appropriate legal advice before making any commitments.

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Steps to Installing a Heat Pump

Step 4: Feasibility Study

A feasibility study checks whether a site is suitable for your chosen technology. For a heat pump, this could include technical factors, such as heat pump type (air or ground source), system capacity, coefficient of performance (COP), geological survey, noise levels and integration with existing heating systems. It also includes a financial analysis to estimate savings and return on investment. This will support subsequent funding applications, planning permission applications and agreements with contractors.

Technology Choice

A heat pump transfers heat from one source to another at a higher temperature. There are a number of different types of heat pumps each with their own advantages, disadvantages and costs. Table 1 below compares both air and ground source heat pumps.

The feasibility study can be done speculatively by the installer/supplier, a paid consultant or by the community energy group. When hiring someone, use established frameworks where possible, as these list vetted suppliers and may offer better value. If you're unsure where to find frameworks, begin by asking the contacts below for guidance and recommendations.

For example, Local Energy Scotland has a supplier list of contractors to help communities, including legal, technical and installation companies.

Secure initial funding for feasibility

Consider contacting the following for funding options:

- **England:** Local Net Zero Hubs
- **Scotland:** CARES (Community and Renewable Energy Scheme)
- **Wales:** The Welsh Government's Energy Service
- DNOs often have small funds that can help support feasibility studies (e.g. see SP Energy Networks' community funding)
- Local authorities/combined authorities may have their own community energy funds or can signpost to regional opportunities.

Table 1. Comparison of ASHP vs GSHP

Feature	Air Source Heat Pump (ASHP)	Ground Source Heat Pump (GSHP)
Heat Source	Outside Air	Ground array
Efficiency (COP)	~2.5 3.5	~3.5 4.5
Installation Complexity	Relatively straight forward	Requires drilling for boreholes
Space Requirement	Outdoor unit and hot water cylinder likely	Indoor unit, hot water cylinder and extensive ground array necessary
CAPEX	Low upfront cost	High install costs
OPEX	Medium	Lower
Maintenance	Moderate	Low once installed
Lifespan	~15 years	~20+ years
Appropriate Application	Buildings with limited outdoor space	Buildings with large amounts of outdoor space

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Steps to Installing a Heat Pump

Step 5: Planning permissions

Planning permission, which is typically granted by your local authority, ensures land is used and developed appropriately, though not all renewable projects require it. Some smaller installations may be covered by PDRs, which allow certain types of development to go ahead without formal planning permission.

Checking early whether your project qualifies for PDR can save time and costs (see Table 2). Note that conditions apply, and some sites may be excluded (e.g. listed buildings, conservation areas or National Landscapes (previously known as Areas of Outstanding Natural Beauty)). Even if your project qualifies under PDR, you may still need to notify your local planning authority or obtain prior approval.

Community engagement is also key. Involving locals from the start can help identify concerns, shape the project to local needs and build support, strengthening your planning application.

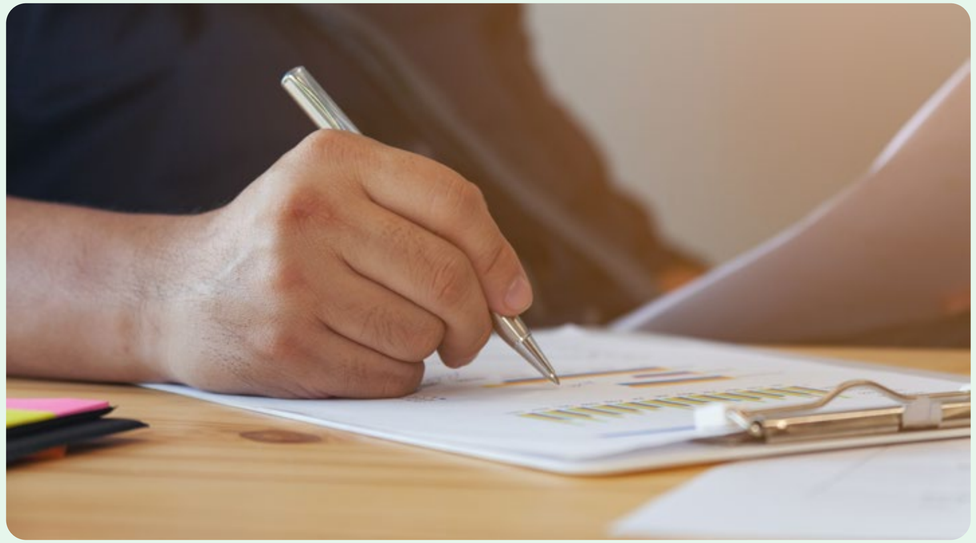

Table 2. Permitted development (at time of publication)*

Technology / Installation	Permitted development regulations in England and Wales	Permitted development regulations in Scotland
Air-source heat pump (domestic)	Permitted under Class G England and Wales guidance: max of 1 unit (detached homes: 2 units); max external volume 1.5 m³ (dwellings), 0.6 m³ (flats); must comply with MCS standards & noise limits; siting restrictions (boundaries, highway-facing, etc.)	Permitted under Scottish Order (Class 6H): one ASHP per dwelling/curtilage; must be MCS compliant; cannot be in Conservation Areas/WHS/ listed curtilage without consent
Air-source heat pump (non-domestic building)	Non-domestic ASHPs typically require planning permission in England and Wales.	Non-domestic ASHP: Permitted Development rights not extended; generally requires planning permission.
Ground-source heat pump (domestic)	Permitted in England & Wales under Class C; may need Environment Agency permit for open-loop systems.	Permitted Development in Scotland under Class 6D/6E: domestic GSHP or water-source within curtilage; exclusions for listed/conservation areas.
Ground-source heat pump (non-domestic building)	Permitted under Class L in England: site area ≤ 0.5 ha, one unit, thermal output ≤ 45 kW; listed/WHS constraints. Wales similar.	Permitted under Scotland's Non-Domestic micro-generation: Class 6I allows GSHP/water-source pipework in curtilage; area limit 0.5 ha; thermal capacity ≤ 45 kW; exclusions for listed/WHS sites.

* Restrictions may apply to listed buildings, conservation areas, World Heritage sites, etc

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Steps to Installing a Heat Pump

Step 6: Grid Connection

When considering a heat pump, it is important to notify your Distribution Network Operator (DNO) / SPEN prior to connecting your heat pump to the electricity grid. This ensures the electricity supply can support the heat pump without causing any impact on the wider grid. The process depends on the size of your heat pump installation and the site's electrical setup.

It's a good idea to talk to your DNO early. Informal conversations can help you understand local network limits and guide the best way to make your application.

In some cases, the electricity connection may need to be upgraded or adjustments made to the local grid such as upgrading a transformer.

Connecting a heat pump project to the grid involves several stages. The exact timing depends on your project size, location and the capacity of the local network. See Table 3 for a summary of what to expect if SP Energy Networks (SPEN) is your DNO.

A connection guidance document to assist community groups has been developed by SP Energy Networks, and is available here.

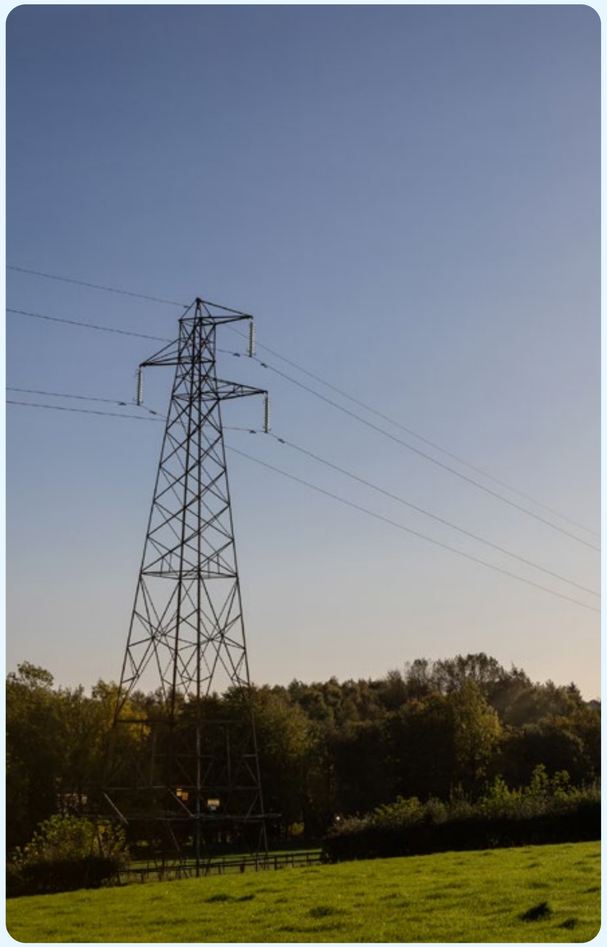

Table 3. Key activities for SPEN's connections process

	Connections process stage	Key Activities
1	Start planning your project	• Confirm proposed heat pump size and electrical demand • Review existing supply capacity • Gather basic site information (MPAN, photos, plans)
2	Pre-application	• Contact SPEN for early advice • Discuss local network capacity and likely constraints • Use SPEN's online capacity tools and maps • Confirm the type of connection application required
3	Formal application	• Submit the full connection application with technical details • SPEN completes the engineering assessment • Connection design and costs are prepared
4	Receiving your connection offer	• SPEN issues the formal offer (scope, costs, timelines) • Review and accept the offer • Land rights/wayleaves arranged if needed
5	Construction and commissioning	• SPEN schedules and completes required network works • Site prepared by contractor • Final connection, energisation and commissioning completed

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Steps to Installing a Heat Pump

Step 7: Raising Finance

Community energy projects typically require funding up front. There are three main sources of finance available to community energy groups: equity, debt and grants.

Need guidance? Community Energy England has guidance on obtaining funding. Always seek professional financial and legal advice before committing to any funding arrangements.

1. Equity

This includes money the community already has or can raise directly:

- Existing community funds: cash reserves from previous activities or fundraising
- Community share offers: crowdfunding from local supporters who become members and may receive modest returns
- Asset-backed equity: taking out a loan against community-owned assets to fund the community's equity contribution to the project.

2. Debt (loans)

Money borrowed from banks or specialist lenders, usually secured against the heat pump project and its future income:

- Project finance: non-recourse loans secured against the heat pump assets and revenue stream
- Commercial bank loans: traditional lending from banks experienced in renewable energy
- Specialist social lenders: organisations focused on community and social enterprises.

  Note: *Getting loans can be challenging for smaller projects, as financial institutions often prefer larger investments. It's recommended that you speak to support organisations (e.g. CARES, Local Net Zero Hubs) in your area for advice before commencing this process.*

3. Grants

Public or charitable funding to support community energy projects:

- Government grants: national, devolved and local authority funding schemes
- Foundation grants: charitable trusts and lottery funding
- Utility company funds: energy companies offering community energy grants.

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Steps to Installing a Heat Pump

Step 8: Build management and installation

Contractors & suppliers

Selecting experienced contractors and suppliers is key to a smooth installation. Consider using vetted lists, such as Local Energy Scotland's list of contractors and suppliers, EST's Renewables Installer Finder or MCS' Find a Contractor. Check for references, certifications and track records, especially for community-scale projects. Your funder may also have requirements, such as that the installation must be carried out by an MCS-certified installer using MCS-certified products.

Get competitive quotes and consider more than the price of the heat pump, such as warranty terms, annual maintenance costs and other parts of a heat pump project. Some suppliers may include installation in their heat pump price. If not, get separate quotes for installation services, but note that using a different installer could affect warranties.
Key parts of a heat pump project you may need to get quotes for include:

- **Heat Pump unit:** air or ground source heat pump unit that converts ambient heat into higher grade
- **Heat distribution equipment:** connecting the heat pump with existing radiators or underfloor heating system in the building. Could require a buffer tank or hot water cylinder depending on the system set up
- **Electrical work:** connections to the mains supply to operate the heat pump which may require system upgrades. Also included here is the potential for controls or smart thermostats.
- **Ground works (GSHP only):** would require borehole drilling and pipework and manifold installation. Some reinstatement of land may also be required depending on disruption.
- **External unit:** will require a mounting base or frame such as a concrete hard standing. Noise compliance may require additional acoustic barriers depending on location.
- **Ancillary components** may be required depending on existing heating system and project specifics such as anti-freeze protection, expansion vessels, pumps and valves.
- **Commissioning and testing** may be required if the system is funded through grants to comply with MCS requirements.
- **Meters:** such as generation meters and export meters are needed to measure heat production and usage.

Construction

Once permits and planning requirements are in place, construction can begin, including installing the heat pump, connecting to the existing heating distribution system and where necessary, drilling boreholes.

As the project developer, your community group is responsible for managing the schedule, protecting the environment, ensuring worker safety and considering the impact on the general public (e.g. timing of construction and noise). Understand your legal obligations and follow best practice guidance. Hiring professional, certified installers helps ensure compliance with regulations and safety standards.

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Steps to Installing a Heat Pump

Step 9: Operations and maintenance

Monitoring

A clear plan is needed for managing the heat pump throughout its life. This includes making sure the system is properly maintained, all running costs and responsibilities are covered and any grant or subsidy related compliance is carried out. Appoint someone to oversee the system, ensure users are trained, and prevent misuse. Regular performance checks are important to identify changes or low output which can be a sign of problems that reduce efficiency and/or income.

Financial Management

Any debt that is due for repayment should be paid back at this point. Development loans if applicable are set up to be repaid at Financial Close. The debt provided by the funders should include provision for this repayment.

The income from the project will need to be managed carefully. Any provider of loan finance may expect there to be cash held to cover fixed costs such as interest and loan repayments and O&M contracts. Only after these costs have been met can the project distribute any remaining income.

Maintenance

ASHPs are generally low maintenance with minimal effort required from the end user. They typically require an occasional pressure gauge check, an annual visual check to ensure the heat pump is free of debris and a service by a professional every 2-3 years. Ensuring refrigerant levels are adequate is important also, as a leak of a substance which has a high greenhouse gas equivalent would hinder the ability for the heat pump to work as a low carbon system and promote operational issues.

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Steps to Installing a Heat Pump

Step 10: End of life planning

Heat pumps typically last 15 - 20 years, though some may be able to operate for longer. Plan from the start for end-of-life costs and decisions - e.g. whether to replace with newer technology or decommission.

The heat pump may contain refrigerant gases which are covered by F Gas regulations. This will regulate how the heat pump can be disposed of.

If decommissioning, there may be some scrap value in the equipment.

Glossary Key terms explained

Acoustic barriers: modular, weatherproof barriers specifically designed for ASHPs, often reducing noise by several decibels.

Air source heat pump: An air source heat pump extracts heat from the outside air and transfers it indoors to provide efficient heating and hot water.

Ambient: a low-temperature water circuit that circulates heat around pipework, typically at ambient (mild) temperatures rather than high heating temperatures.

Anti-Freeze Protection: prevents the water in pipes and components from freezing in cold weather, which could cause serious damage

Boreholes: deep vertical holes drilled into the ground to install pipe loops for a ground source heat pump. These pipes circulate a water-antifreeze mixture that absorbs heat from the earth, which stays at a relatively stable temperature year-round

Buffer tank: a small water storage tank installed in the heating circuit to stabilise the system.

Coefficient of Performance: measure of efficiency. It shows how much heat energy the heat pump delivers compared to the electrical energy it consumes.

Community share offers: A method for community energy groups to raise money by inviting investment from people, usually within the local area, with possible returns.

Connections: The point where an energy project links to the electricity network to supply homes and businesses.

Conservation area: A designated area of special architectural or historic interest where planning controls are stricter to preserve the character.

Crowdfunding: Raising funds from a large number of people, typically online, to support a project.

Decommissioning: Safely dismantling and removing equipment at the end of its operational life.

Distribution Network Operator (DNO): The company responsible for maintaining and operating the local electricity network in a specific area.

End user: The person/organisation who uses the electricity generated by a project.

Energy supplier: a company that sells electricity, gas or other forms of energy directly to consumers (residential, commercial or industrial customers).

Expansion vessels: a pressurised container that helps maintain stable water pressure in the heating system.

Export: Electricity from an energy project that is sent back to the electricity grid to be used elsewhere, such as in homes and businesses.

Feasibility study: A detailed analysis to determine whether a proposed Community Energy project is technically possible and financially viable.

Financial close: The point when all funding arrangements are finalised and legally committed.

Geological Survey: an investigation of the physical characteristics of the Earth in a specific area. It typically involves studying soil, rock types, groundwater, and geological structures to understand the site's stability, composition, and suitability for construction or energy projects

Grid: The interconnected network of power lines, substations and equipment that delivers electricity from energy projects to homes, businesses and other consumers.

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Glossary Key terms explained

Ground Array: The network of pipes buried in the ground that collects heat for a ground source heat pump. These pipes circulate a fluid (usually water mixed with antifreeze) that absorbs heat from the soil and carries it back to the heat pump.

Ground source heat pump systems: A ground source heat pump extracts heat from the ground through buried pipes and transfers it indoors for efficient heating and hot water.

Hot Water Cylinder: a specially designed storage tank that works with a heat pump to provide domestic hot water

kW (kilowatt): measures how much electricity something uses or produces at any moment, like a speedometer shows how fast you are driving. A kettle uses about 3 kW when running.

kWh (kilowatt-hour): measures energy use over time, similar to how kilograms measure weight. A kWh (kilowatt-hour) is what you see on your home electricity bill. If you run a 3kW kettle for 20 minutes, it would use 1kWh.

kWp (kilowatt peak): A measure of maximum electricity output a system can achieve under ideal conditions.

Listed building: A building officially protected because of its historical/architectural importance.

MCS (Microgeneration Certification Scheme): A quality assurance scheme for small-scale renewable energy installations and installers in the UK.

Memorandum of Understanding (MOU): A non-binding written agreement outlining the intentions of parties involved in a project.

Metering arrangements: Systems for measuring and recording electricity or heat created and used.

National Landscapes: Designated areas of countryside in England, Wales and Northern Ireland that have been identified as having significant landscape value and are protected from inappropriate development. Formerly known as Areas of Outstanding Natural Beauty.

Network planning team: Specialists responsible for planning and improving the electricity grid.

Non-recourse loans: Financing where the lender can only claim against the specific project assets if repayment fails, not other borrower assets.

PDR (Permitted Development Rights): Planning regulations allowing certain types of development without needing planning permission.

Planning permission: Official approval from local authorities required before building, altering or changing land use.

Refrigerant Gases: Heat pump refrigerant gases are special fluids that absorb and release heat as they circulate through the system. They enable the heat pump to transfer heat from one place to another using a refrigeration cycle.

Return on Investment: The financial gain/loss from an investment, usually expressed as a percentage.

SSSI (Site of Special Scientific Interest): Areas in the UK protected by law due to their wildlife/geological/landscape importance.

Warranty terms: The conditions and duration of manufacturer or installer guarantees covering equipment and workmanship.

World Heritage sites: Places recognised by UNESCO as having outstanding value to humanity, with special protection from development.

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Additional Resources

Other guides on Heat Pumps:

CARES Toolkit – Module on Heat Pumps

Part of the CARES toolkit, this guide is designed to cover all sizes of project, although ground source heat pumps which serve multiple buildings, provide heating and cooling or have a similar degree of complexity may require more detailed evaluation than smaller, heating only projects.

localenergy.scot/wp-content/uploads/2021/08/cares-toolkit-heat-pumps-module-v4.pdf

Sustainable Energy Authority of Irelands Heat Pump Technology Guide

Community energy resource toolkit for communities interested in developing renewable heat generation projects in Ireland.

seai.ie/sites/default/files/publications/Heat-Pump-Technology-Guide.pdf

Energy Savings Trust guide to Heat Pumps

Step-by-step guide to heat pump installation on homes

energysavingtrust.org.uk/advice/in-depth-guide-to-heat-pumps/

Community Energy London's Guide to Heat Pumps

Guidance for heat pump projects in London. While specific to London, this resource could be helpful for community energy groups across the UK, providing tips, advice and additional resources.

communityenergy.london/wp-content/uploads/2023/01/ASHP-Guidance-V2-.pdf

Community Energy England Heat Pump Module

A guide and reference document for Community Groups in the development of a heat pump project in England.

communityenergyengland.org/guidance/how-to-guides/low-carbon-heat/#Heat-pumps

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