



# Air source heat pumps: Maryhill Housing Association



## 1 Project overview

### Introduction

In 2021, Maryhill Housing Association completed a project installing 266 air source heat pumps into 11 mini multi-housing blocks in north-west Glasgow.

The existing electric storage heating systems were old, inefficient and unpopular with tenants due to high running costs. Maryhill Housing Association wanted to offer a more efficient heating system that would be easier to use and offer improved thermal comfort for their customers and that aligned with the Scottish Government's net zero targets.

**Project name:** North-west Glasgow replacement heating  
**Landlord:** Maryhill Housing Association

**Project manager:** Maryhill Housing Association

**Main contractor:** Turners Property Services

**Subcontractor:** M&F Group

**Feasibility study:** Engie



**Overall cost:** £2,666,429

**Funding source:** Low-Carbon Infrastructure Transition Programme: £1,227,946  
 Maryhill Housing Association: £1,388,483



**Heat technology:** Air source heat pumps



**Building archetype:** 11 mini multi-storey housing blocks, totalling 333 flats

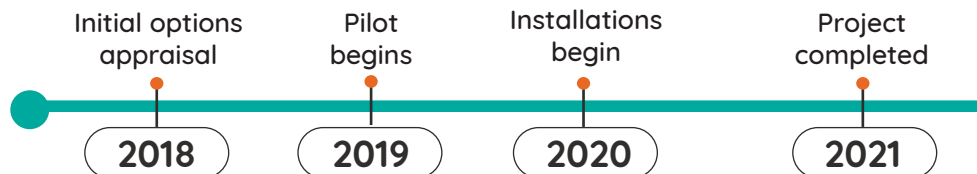
**Year:** 1960s

**Tenure:** Mix of social rented and private housing



**Location:** North-west Glasgow

### Project timeline:



## Measures

In 2018, Engie carried out an options appraisal to compare the following heating systems which were explored but ruled out:

- Joining an existing heat network: properties too far from the heat source
- Ground source heat pumps: installation cost was too high
- Biomass: no suitable fuel storage space
- Communal air source heat pump: client not set-up to operate as an energy provider.

Air source heat pumps were found to be the most affordable and efficient options available for this stock at the time. After installation into one pilot block between 2019 and 2020, they received positive feedback from tenants and installed heat pumps in the remaining blocks.

## 2 Project management

### Contractor



Project management and tenant engagement were delivered internally by Maryhill Housing Association. The installer procured to fit the air source heat pumps was Turners Property Services.

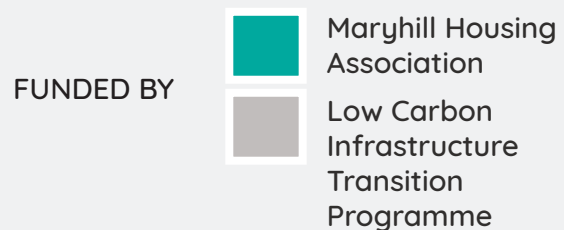
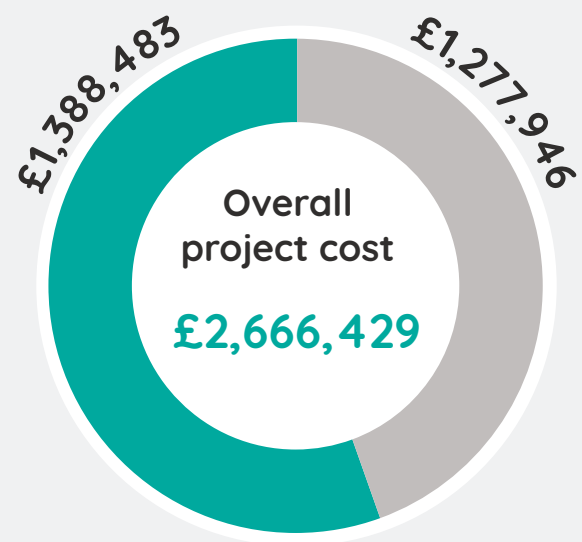
### Tenant engagement



Initially 333 households were offered the installation. Five of these were owner-occupiers who all declined due to the cost of installation. The project managed to achieve 266 installations out of the remaining 328 properties. Installations did not go ahead in 62 properties because they were unable to gain access at the time of installation. There was some difficulty in reaching out to customers with many attempts being made to engage tenants. Maryhill continue to install air source heat pumps in properties as they become vacant and have installed a further 10 so far.

Prior to installation, tenants were made aware of the project through a series of letters advising of the work. Maryhill Housing Association hosted community engagement sessions, demonstrating how to use the systems and highlighting potential benefits. Rising costs were a high concern for tenants and advising of the slower, more constant heat produced by a heat pump was crucial in helping customers operate their systems as efficiently as possible.

## 3 Costs



Overall project costs included additional works beyond the heat pump installations and cost an average of £10,000 per property. Costs included:

- Air source heat pumps: £2,486,488
- Electrical works: £1,189
- Fire walls on escape stairs: £173,207
- Kitchen upgrades: £3,199
- Bathroom upgrades: £2,346

A breakdown of project management and tenant engagement costs were not available. This was included as part of the housing association's day-to-day staff time.

## 4 Project impact



### Evaluation approach

#### Energy Performance Rating

Energy Performance Certificate (EPC) data was collected for the properties pre- and post- installation by Turners Property Services. The aim was to capture the modelled impact of the installation on the energy performance of the building (EPC rating).

#### Tenant satisfaction

Post inspection sign-off was gained from customers, but customer satisfaction data was not acquired. Changeworks supplemented this when completing this case study by designing a post installation survey, which was sent out to all households involved in the project and was incentivised with a prize draw.

#### Energy consumption

Projected savings for tenants on their fuel bills were estimated as part of the feasibility study by Engie. The housing association has not yet gathered actual fuel bill data, but this would serve as an interesting comparison.



### Results

#### Energy Performance Rating

The average energy performance rating increased from band D (68) pre-installation to band C (78) post-installation.

#### Tenant satisfaction

A post-installation survey was sent to all households; only 11 of 266 of households responded to the survey. This is not a representative sample, so conclusions cannot be drawn from these results with confidence.

#### Heating controls

Of the 11 respondents, seven households reported being told how to use their new heating system. However, of these, four said that they were still unclear on how best to use it. Overall, six reported being either 'very confident' (3) or 'somewhat confident' (3) with the system and five were 'not at all confident'.



Tenants were advised of a control application, which would enable them to control their heating remotely using their smartphone. When tenants were asked about the app, four respondents advised they are able to successfully use it to control their heating. An equal number of respondents said they had never heard of the heating control app. All four of those who used the app to control their heating reported confidence using the new heating system, with three reporting they were 'very confident'. The other three respondents could not access the app or were unable to get it to work.

### Additional heating

Since installing the new heating system, three respondents reported using an additional heater more often than before. Two respondents use them less frequently, one stopped using them.

Only one respondent advised they use heaters in addition to the new system most of the time. The rest used them for one to three hours a day.

### Satisfaction

Four respondents were dissatisfied, and three were very dissatisfied with their heating system. Four respondents were satisfied or very satisfied. One respondent said that their home feels warmer, with less condensation and mould.

However, five tenants reported that they were struggling with the cost of operating the system, one tenant said that they are having to seek help with energy vouchers. It is unclear whether this is a result of the heating system alone, or of rising energy costs.

### Comfort

When asked about the changes in temperature of the property, four of the respondents reported an increase in warmth since the new heating system was installed (Figure 1).

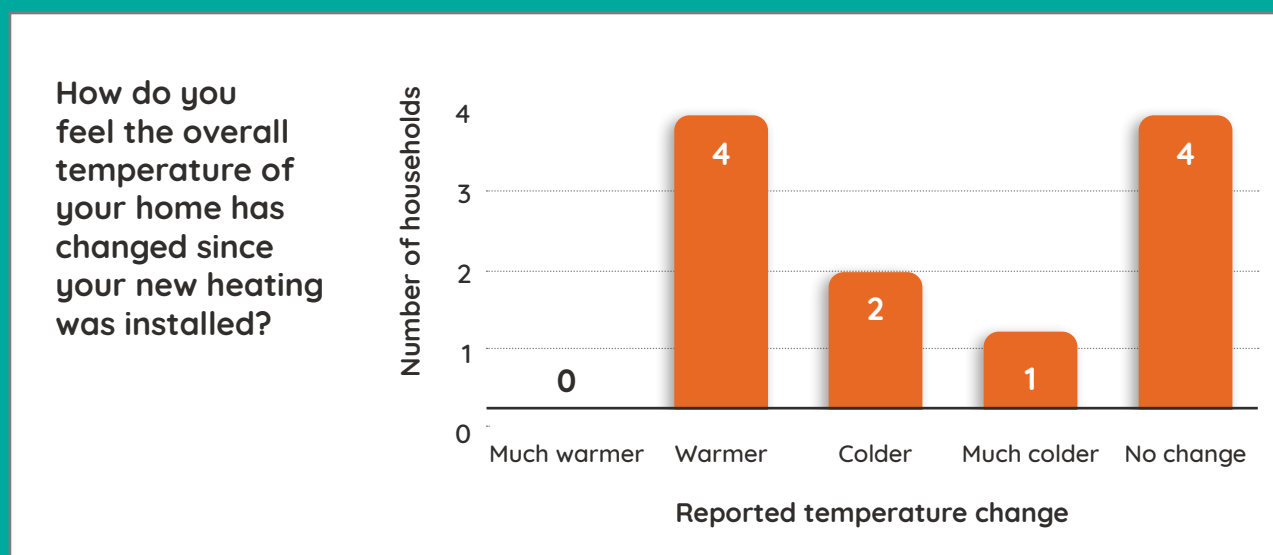


Figure 1: Reported change in temperature post-installation

## 5 Challenges and recommendations

### Tenant engagement



**Challenge:**

Ensuring that the tenants participated in the project and that questions and concerns were addressed.

**Solution:**

Towards the end of the project, the Housing Association held tenant engagement sessions and post-installation inspections. This allowed tenants to voice questions and concerns about their new system. In-house energy advisors were also made available at these sessions to answer questions on how to run the new system efficiently.

**Recommendation:**

Create space for tenants to raise concerns both before and after installations so that these can be addressed.

### Meter changes



**Challenge:**

Historically tenants had been on dual meters. However, post-install these needed to be replaced with a single rate meter. The responsibility to change meters remained with the tenants and getting utility companies to change the meters was difficult.

**Solution:**

As Scottish Power supply the majority of the properties, Maryhill Housing Association has retrospectively worked with them to develop a smart meter install programme. Tenants will still have the right to refuse the installation of the new meter.

**Recommendation:**

Consider meter replacement, tariff recommendations, and how best to support tenants from the outset of the project. The association recommended liaising with tenants' energy suppliers at an early stage. If possible, work with the suppliers to create a programme that runs in tandem with the installation to replace meters and maximise benefits for tenants.

### Infrastructure appearance

**Challenge:**

The heat pump units were installed in the drying areas of the building with the pipework passing through communal areas. The visual impact of this pipework was not considered and for many properties pipework trunking is at eye level.

**Recommendation:**

Keep pipework at a lower level to minimise the visual impact or take the more disruptive route of lifting floorboards to conceal it entirely.

### Decoration implications



**Challenge:**

Tenants were given a decoration allowance to cover costs associated with any damage to the property during the install, paid in cash. There are concerns that some tenants did not use the money for its intended purpose.

**Recommendation:**

The housing association suggest incorporating decoration into the installation process.

## 6 Project contact

Maryhill Housing Association welcomes enquiries about visits from other social landlords. Please email Adam Devine on [adevine@maryhill.org.uk](mailto:adevine@maryhill.org.uk)

This is part of a suite of case studies which can be found on the [ClimateXChange social housing decarbonisation project webpage](#), alongside a summary report which gives an overview of the key learnings and recommendations.