

## Parklands Grove, Ollerton

### Case study new build

#### Property type:

Affordable housing new build development

#### Requirement:

A low carbon heating solution for seven two bedroom homes

#### Technology used:

6 x aroTHERM plus 5kW  
1 x aroTHERM 5kW  
7 x uniSTOR 150 litre cylinder

**Client:** Nottingham Community Housing Association (NCHA)

### The Challenge

The Future Homes Standard comes into force in 2025 and will ensure new build properties produce 75-80% less carbon emissions compared to current homes. However, within the social housing sector, housing associations are thinking ahead and looking to build the homes of the future, today.

With a focus on sustainability, Nottingham Community Housing Association (NCHA) has recently built the Parklands Grove development, comprising of seven, two-bedroom properties, with significantly reduced carbon emissions, located in Ollerton.

Early in the conceptual stages of the project, NCHA were determined to use this unique opportunity to help them inform and achieve their vision of delivering low carbon, sustainable and affordable social housing. Vaillant were chosen for the reliability of their products, and excellent reputation when it comes to heating expertise and aftersales support.

Ian Soar, Site Manager at NCHA said: "Some important factors for this project, were sustainability and reliability. The contractor who installed the heating system recommended Vaillant as they have a great reputation for product reliability and excellent customer service; before, during and after installation."

From the outset, Vaillant's expert team was on-hand to assess the feasibility of the proposed design and supported the NCHA team in finding the right solution for the project.

### Project background

- New build site with seven two bedroom homes
- Goal of delivering sustainable homes that complies with Future Homes Standard

### The energy concept

- aroTHERM plus uses a natural refrigerant that has a global warming potential of just 3
- Quiet operation with sound power as low as 54dB
- High performance uniSTOR cylinder with a smooth bore coil to ensure optimum heat transfer in a compact design

For Parklands Grove, Vaillant carried out the heat loss calculations on the properties to determine the heat demand for each room and ascertain the correct size of the radiators to be installed. Completing a full survey of the site, it was concluded that an air-to-water heat pump would be the best solution for the development.

## The Solution

Vaillant's aroTHERM plus heat pump was specified to meet the heating and hot water requirements of the new houses in Parklands Grove. Using the natural refrigerant R290, the heat pump has a global warming potential of just 3 and an ErP rating of A+++, making it the perfect solution for the new, sustainable homes. Additionally, with the heat pumps being solar PV compatible, the solar panels installed on the roof were able to supply the energy required to power the units, reducing reliance on the grid and its inflating energy prices.

As the seven homes on the Parklands Grove development are all two-bedroom properties, space was at a premium, and the heating system needed to offer a compact design to maximise space.

Vaillant identified that a slimline pre-plumbed uniSTOR hot water heat pump cylinder, that connected to the aroTHERM plus heat pump, would be the perfect solution to provide hot water for Parklands Grove. At 150 litres capacity and a 435mm diameter, the slimline pre-plumbed uniSTOR is ideal for space-prohibitive installations.




Vaillant supported the installation of the heat pump system on-site alongside NCHA's own engineers and provided in-depth user training to all NCHA Housing Officers, to ensure they could confidently explain the heat pump system and controls to tenants.

With heat pumps still being regarded as an emerging technology, it became clear that tenants would need more information about the system than they would for a boiler. This led to the creation of NCHA's Heat Pump User Guide, supported by Vaillant's expertise, and was supplied to tenants when they moved into the property.

## The outcome

Since completing this project, NCHA are using this scheme to pilot, analyse and review alternative energy installations to inform our future developments. They will use this data to inform how they can reduce energy costs to make their properties more sustainable, future proofing them for the next generation.



 Heating  Hot water  Renewables

Vaillant Group UK Ltd  
Nottingham Road, Belper, Derbyshire DE56 1JT  
Company registration number: 294316

Telephone: 0345 602 2922  
[www.vaillant.co.uk/renewables](http://www.vaillant.co.uk/renewables)  
[info@vaillant.co.uk](mailto:info@vaillant.co.uk)