

Chesnut & Aspen Mews, Burton on Trent

As a result of the successful deployment of Kensa ground source heat pumps into 133 bungalows owned by Trent & Dove Housing, the housing association subsequently commissioned a second phase of installations for two blocks of three-storey flats.



Lord Bourne of DECC; representatives from Trent & Dove Housing; suppliers Kensa Heat Pumps; and contractors J Tomlinson gather outside phase two of the ground source heat pump works in Burton Upon Trent.

Throughout 2015, Trent & Dove Housing has worked in partnership with Kensa Heat Pumps to install ground source heat pumps in nearly 200 rural off-grid properties across East Staffordshire to help safeguard tenants against fuel poverty.

In a highly successful initial project, which featured Kensa ground source heat pumps being installed in 133 bungalows, tenants achieved savings of between £350 and £750 on their annual heating bills. As a result, Trent & Dove were keen to embark on a second phase of heating system upgrades to ensure more of their tenants benefitted from this reliable renewable technology.

Key Facts

- 60 properties in two blocks of three-storey flats
- Micro district ground source heating system
- 40 communal boreholes, average depth of 140m
- 12 individual ground arrays
- Kensa Shoebox 6kW Twin per flat
- Replacing old inefficient night store heaters
- New hot water cylinder and wet radiator system
- New thermostat and time controls
- Heat meters and electricity meters
- Funded by the ECO grant
- Eligible for Non-Domestic Renewable Heat Incentive (RHI)

Case Study

Trent & Dove, Phase Two

Page(s)



Steve Grocock, Director of Property Services at Trent & Dove Housing said:

“ We have been working hard to help our tenants reduce their fuel bills by installing sustainable energy solutions. The tenants involved in the first phase of the ground source heat pump scheme with Kensa are already seeing energy bills reduced by as much as 50%, and, anecdotally, are reporting significant improvements to their health and well-being as well. ”

As a result, Trent & Dove knew that ground source heat pumps could address the common complaints they received about night storage heating in their multi-occupancy dwellings at Chestnut Mews and Aspen Mews in Burton on Trent. The issues with storage heaters were well documented with the most popular complaints being high running costs and poor controls. Many tenants were also on key meters meaning that they were paying a further premium on the cost of the electricity, forcing many to only be able to afford to heat a single room.



The ground source heat pumps were installed into 60 properties in two blocks of three storey flats in Burton.

Chestnut Mews and Aspen Mews are made up of two blocks of three story flats, totalling 60 units. Using Kensa's innovative micro district ground source heat network solution, linking the ground source heat pumps in each flat to a common ground array, Trent & Dove were able to offer their tenants controllable, affordable warmth, whilst at the same time accessing significant upfront grant funding via the ECO and 20 years of income via the Non-Domestic Renewable Heat Incentive (RHI).

The 60 flats were connected to 40 boreholes across 12 ground arrays, forming clusters of micro district systems. With each flat receiving its own small and compact Kensa 6kW Shoebox Twin heat pump fitted inside the home, tenants retain individual control, and importantly, individual billing. And as the circulating pumps to the boreholes are individual to each unit, there are no centralised running costs to

Case Study

Trent & Dove, Phase Two

Page(s)



The layout of the two blocks is ideal for the micro district ground source heat network solution as there is plenty of flat, open land around all sides of the apartments. This meant the boreholes could be located near to the buildings they are serving, minimising trenching and disruption, but also allowing the boreholes to be spread out across the site, spreading the areas from which the energy is drawn from the ground.

Kensa worked with experienced drilling contractors Geodrill to drill the 40 boreholes for the communal borehole array. Two drill rigs were used to decrease overall project timescales and lessen the impact on residents. The boreholes were connected to a series of un-intrusive subterranean manifolds and then up to the foot of the flats ready for connection to the heat pumps. The external pipework in both Aspen Mews and Chesnut Mews was clad in a metal shrouding coloured blue to blend in with the building's balconies and gutters.



Experienced contractor and Kensa Partner J Tomlinson carrying out borehole drilling for the micro district ground source heat network solution for Chestnut Mews and Aspen Mews.

Kensa conducted a thorough programme of tenant liaison, including face to face visits from representatives of both Kensa and Trent & Dove Housing prior to any works being undertaken, in order for all stakeholders to be fully informed about the installation process. As the flats were three storey and the ground arrays communal, it was necessary to install the units into all three storeys on the same day. This created a significant scheduling challenge, but by working together, Kensa and Trent & Dove were able to arrange for all three flats on each floor to be accessed at the same time.

The installation was carried out by operatives from J Tomlinson who worked with Kensa on the award winning phase one project. Working to a tight schedule, the plumbers removed the old night storage heaters and fitted new double panel radiators and insulated hot water cylinders. The Kensa 6kW Shoebox Twin heat pumps were installed neatly in the cylinder cupboard along with a heat meter to measure the actual heat produced; a measure that was necessary to ensure the project was eligible for the RHI.

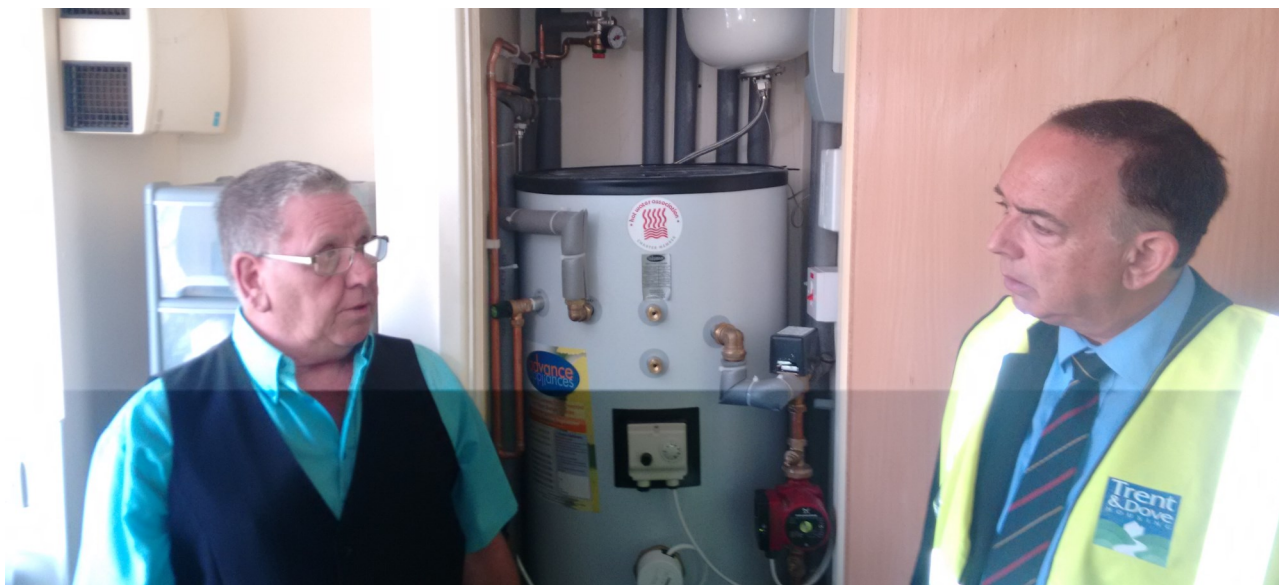
Case Study

Trent & Dove, Phase Two

Page(s)



The installations in Aspen & Chesnut Mews were completed three days ahead of schedule. The final heat pump commissioning was witnessed by Lord Bourne of the Department of Energy & Climate Change (DECC) who visited tenants homes to see for himself the benefits of renewable heating solutions for social housing.



DECC minister Lord Bourne meets Trent & Dove Housing tenant Mr Bullock to hear about the benefits of the new ground source heat pump system from Kensa Heat Pumps.

Lord Bourne expressed his admiration for the scheme and the innovative way it accesses streams of government funding, saying:

“ Social housing tenants in East Staffordshire are saving hundreds of pounds on their energy bills thanks to Trent & Dove’s innovative project, in partnership with Kensa. It’s great to see Trent & Dove putting the consumer at the heart of their plans, leading the way for others to follow. ”

Tenants are also delighted with their reliable, easy to use and affordable Kensa ground source heat pump systems. Mr Bullock, a Trent & Dove Housing tenant, has lived in his flat for the past 9 years and he is already feeling the difference: “My flat has never felt so warm,” he said.

Trent & Dove expects that tenants will save between 30% and 50% on their energy bills following the installation of their new Kensa 6kW Shoebox Twin ground source heat pump.



Find out more

Get connected with the key milestones in the project via a ‘live blog’ on Kensa’s website at www.kensaheatpumps.com/category/blog



Watch our video documenting the first phase of the Trent & Dove GSHP project, at www.kensaheatpumps.com/video/case-study-trent-dove-housing