

Case Study:
Belmans Court Housing Scheme, Dovercourt



Out of sight, out of mind...



High-efficiency equipment has arrived to ensure a reliable energy source and a greener, cheaper future for the residents of Belmans Court in Dovercourt.

Since its construction in 1989, the Belmans Court sheltered accommodation complex in Dovercourt has been heated by storage heaters. These inefficient and outdated appliances have become almost prohibitively expensive to run in recent years, due to the need to leave them running twelve to fourteen hours a day. Tendring District Council, who operate the site, decided the time had come to seek out a more affordable, more environmentally friendly solution to provide heating to the residents of the site.

The process began with an investigation of potential sources of government funding, and Tendring were able to team up with an installation agent already operating in its area. Oxfordshire-based ICE Energy, who are engaged in a long-term project renewing heating systems and upgrading insulation in properties in Jaywick, collaborated with the council to secure funding for the works planned at Belmans Court.

Having been awarded funding under the government's RHPP scheme, ICE Energy were introduced to Blue Flame by Daikin, the manufacturers whose equipment had been selected

by Tendring for the installation. Blue Flame's reputation and service-partner status with Daikin, and their existing relationship with Tendring, were key indicators to ICE that they could expect a high standard of installation.

LAYING THE FOUNDATIONS

Before work could begin on the installation, it was essential that lines of communication were established with the residents of Belmans Court. As well as letters sent out by Blue Flame to inform residents exactly when they could expect engineers to attend their homes, an on-site meeting was held jointly by representatives from Blue Flame, Tendring, ICE and Daikin, with all residents invited to attend.

It soon became clear that for many residents, heat pumps were a mystery. Debunking the myths surrounding the new technology was a key contributing factor in the long-term success of the project. Engineers continued this effort throughout the installation. "For many residents this is a completely new system so they had many questions," says Jennie Beales, Tendring's liaison officer for the project. "Blue Flame's engineers were really accommodating in explaining the system to [residents] as many times as necessary."

RAISING THE BAR

The installation presented a wide number of challenges to project director James Mealing. From transporting the units onto the roof – all 39 appliances on the main building were lifted in just five hours – to completing the Belmans project and another, smaller installation for Tendring within a three-month timescale, Blue Flame's resources were constantly tested. "At no point could we allow our other contracts to be overly impacted by the work we were carrying out here," James explains. "We assigned labour at the start of the project to complete it within the timescale, without detracting from our other responsibilities and obligations."

Over the ten weeks of the installation project, Blue Flame engineers installed over three kilometres of pipework as well as applying lagging to all concealed pipework, further reducing energy loss. Making their way along the building, the engineers needed to work in two flats at once, with a team in the first-floor flat



The engineers were so polite and helpful, and spoke to us with respect. We thought the work was completed to the highest standard.

JOHN AND WENDY COLES
Residents, Belmans Court

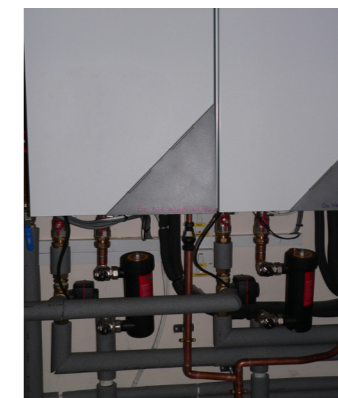
installing the pipe run from the roof down to the ground-floor flat before starting their own installation work. The planning required to ensure access to each flat at the right time, therefore, only compounded the logistical challenge involved.

Each of the Daikin Altherma low-temperature split heat pumps installed on the roof of the main building are mounted on a three-tier platform designed to minimise noise and vibration transfer and aid defrost times in extreme weather conditions. The units stand on 'feet' of Flexilite, a concrete-polystyrene composite, mounted on a layer of Flexilite and a base layer of rubber. A seasonal COP of 3.9 and high design and build standards maintained at Daikin's factory in Ostend, Belgium, combine to produce one of Europe's leading heat pumps.

As well as the heat pump installation, Blue Flame's electricians replaced consumer units in over 35 flats to bring them up to the current BS 7671:2011 electrical standards. Service sockets have been installed on the roof area in order to facilitate both the installation process, and future servicing and maintenance of the heat pumps.

FUTURE PLANS HEATING UP

Storage heaters are well renowned as inefficient sources of heating, but the new system installed at Belmans Court represents a 300% improvement in heating efficiency. Blue Flame's heat loss calculations estimated prior to commencement that residents could expect a reduction of more than 50% in their energy bills, with the move away



LEFT: The plant cupboard for the indoor units servicing communal areas

BELOW LEFT: Radiators installed in Belmans Court's communal residents' lounge

BELOW: One of 35 Daikin outdoor units mounted on a three-stage Flexilite and rubber platform on the roof of the main building



from the Economy-7 electricity rate a particular benefit. To further enhance the green credentials of the project, the 150 storage heaters removed from the site have been recycled.

The impact of the installation has been immediate. Residents have replied very positively to Tendring's satisfaction survey, with every respondent saying they were pleased with the care and attention Blue Flame's engineers showed to their property, and several stating specifically that they were grateful for the time taken by engineers to answer their questions.

Blue Flame's clients were similarly pleased with the service they received. Despite the tight schedule, the June 2014 deadline was met

and 47 heat pump systems were installed in under ten weeks. Such is Tendring's satisfaction that another project is already under consideration for a similar installation at another sheltered housing site.

ICE Energy, meanwhile, are looking forward to teaming up with their new partners again in the future. Allan Brown, ICE's senior project manager, praised Blue Flame's "professionalism and support [and] excellent communications". He thanked staff for their "swift action [and] pro-active project delivery" in meeting such exacting completion and quality targets.

**If you'd like to find out more
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