

Sustainable heating integration at The Kilns: A collaborative housing success story

HEATING | CASE STUDY



Northumberland



R32 Ecodan
units installed

The Kilns, a coastal housing development comprising of 45 two, three and four-bedroom properties, is a significant and prestigious scheme by Northumberland Estates in Beadnell. As with any development, there are always challenges to consider and to overcome. One such consideration was how to provide a sustainable heating solution for the new homes in a coastal location that would be resilient to the north-east's weather and sea conditions.

This case study showcases the successful collaboration between Northumberland Estates, Pod architects, the installer, M. Marshall and Sons, and Mitsubishi Electric. With a ban on gas boilers for new properties by the UK government on the horizon, the project exemplifies the shift towards sustainable heating solutions and Mitsubishi Electric's commitment to customer support throughout the project's lifecycle from design to homeowner handover.



Northumberland Estates

Dedicated to sustainable development, Northumberland Estates actively sought an alternative to a traditional gas heating system for the homes they were building. Mark Roberts, Renewable Energy Manager at Northumberland Estates, emphasised the developer's commitment to a sustainable future, saying: "We have lived a sustainable past and we need to develop a sustainable future."

It was the developer's architects, Pod, who recommended the installation of Mitsubishi Electric Ecodan heat pumps. As Northumberland Estates had no prior experience with heat pumps, transitioning to a sustainable heating solution presented an unfamiliar venture for them.

The implementation of new technology brings many questions for a developer. Mitsubishi Electric and Pod jointly answered Northumberland Estates questions and reassured them of the efficacy of Ecodan heat pumps.

Pod Architects - integrating the design

The working relationship between Pod and Mitsubishi Electric was established at a Continuing Professional Development (CPD) workshop on heat pumps. The informative session by Mitsubishi Electric shed light on both upcoming regulations and the Ecodan heating and hot water system. The workshop helped to provide Pod with knowledge and confidence to bring forward proposals for using Ecodan heat pumps for this project.

Mitsubishi Electric's expertise and tailored advice allowed for a seamless integration of appropriately sized heat pumps for each property at the design stage of this development, eliminating the need for future retrofits. The coastal location of the prospective homes presented unique challenges, but Mitsubishi Electric's extensive experience with coastal environments was a critical factor in Northumberland Estates' decision to choose them.

Coastal protection, a feature which guards against the corrosive effects of sea air and coastal weather, was added to every Ecodan heat pump on the site, to ensure their resilience in these conditions. Mitsubishi Electric's commitment to ongoing service and maintenance for the heat pumps after installation provided additional confidence for Northumberland Estates.

M. Marshall and Sons Limited - Installer

Tony Marshall of M. Marshall and Sons Limited, who had never installed heat pumps prior to this development, was selected to install the Ecodan heat pumps. After completing training, Tony highlighted the simplicity of the installation process, which was facilitated by fully marked-up plans provided in advance by Mitsubishi Electric. The commissioning and technical support from Mitsubishi Electric played a key role in ensuring a smooth installation process. Tony said: 'Ecodan's simplicity and the support received during commissioning were key to the successful installation process.'

Chris Humble – Site Manager

Site Manager Chris Humble guided home buyers at The Kilns as they moved to adopting sustainable heating methods. Customer awareness and understanding of heat pumps varied and he emphasised the importance of technical support from Mitsubishi Electric to answer and resolve customers' questions and concerns on a new technology quickly.

Chris said: "My role became vital due to varying customer awareness levels." He emphasised that "the technical support from Mitsubishi Electric was instrumental in solving customer issues quickly, even using WhatsApp video calls."



Hayley Catchpole - Homeowner

Hayley Catchpole, a new resident in the Kilns, was delighted on living with a Mitsubishi Electric Ecodan heat pump. Having previously used a gas heating system, she emphasised the consistent warmth provided by her Ecodan heat pump, even in freezing weather conditions. Hayley also highlighted her positive experience with the MELCloud app for controls and Mitsubishi Electric's remote access to address any issues. Hayley expressed her pride in contributing to sustainability, and the support she received from Mitsubishi Electric further enhanced her satisfaction of living in a home where heating and hot water came by her heat pump.

Hayley said: "The constant warmth, even in snowy weather, made living with Ecodan a pleasant experience."

Conclusion

The Kilns project positively showcases the successful collaboration between Northumberland Estates, Pod architects, M. Marshall and Sons Limited, and Mitsubishi Electric, to provide a home heating and hot system that is resilient to a coastal environment. In addition to this, it exemplifies the commitment to sustainability and excellence in the transition to renewable heating solutions.

From the initial planning stages to the homeowner handover, Mitsubishi Electric's dedication to customer support and technical expertise played a pivotal role in overcoming challenges and ensuring the seamless integration of Ecodan heat pumps into the development. The Kilns project showcases the successful integration of Ecodan technology and the collaborative efforts of stakeholders to achieve the required housing and sustainable outcomes.





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Option 1 - Homeowner

Option 2 - Air Conditioning, Ventilation, Commercial Heating & Modular Chiller Support

Option 3 - Ecodan Installer or Service Provider

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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R290 (GWP:3), R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).



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