Heating | Case Study

MITSUBISHI ELECTRIC

Ecodan provides warm efficient energy to homeless charity supporting café

North East

North East Homeless had the challenge to provide cost effective heat to a large building that has been converted into a café, where proceeds go towards a homeless charity, also offering homeless to come for a place to wash, do their laundry, eat, drink and get advice to help their situation. The building does not have a gas supply and presented a challenge when heating options were discussed with the refurbishment team.

The high ceiling and potentially high air change rate meant that the heating system had to provide enough circulating heat and supply in order to ensure this large building was heated quickly and efficiently. Externally there were no real protected area's for any units or equipment to be placed on the ground due to its close proximity to the road and the rear of the building overlooking the River Tyne, therefore, coastal protection was required. This set the tough task for finding an efficient heating system to ensure all residents are kept warm whilst not having to worry about the potentially harsh outdoor conditions.

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The Solution

The installation required a cascade of two 14kW coastal units in order to reach heat demand and protection from the River Tyne. 13 fan assisted i-life radiators were installed to heat up and circulate the air quicker around such a large area. This rapid heat-up allowed the system to turn off overnight keeping running costs to a minimum but still bringing the building up to a comfortable temperature each morning. Externally there was no obvious place to discharge condensate or mount the units at ground level, the units had to be mounted at a high level externally to the building.

The Ecodan Air Source heat pump units operate by harvesting energy from the outside air and converting it into heating and hot water the café and showers inside.

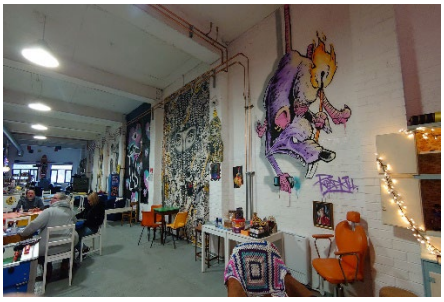
The Ecodan Air Source heat pump requires very little in the way of maintenance with an annual service by a qualified engineer is all that is required. Further to this, Ecodan has a life-span of 15 to 20 years and offers improved energy efficiency with the shelter at a much lower cost than most traditional systems.

The Coastal protection on the Ecodan unit has been designed to enhance the corrosion protection of key components, ensuring that even in aggressive areas, Ecodan will continue to provide low-cost renewable heating. The running cost for the first year was £2,600 for heating which the café is very happy with.

The café now has warm, efficient heating all year round and allowing them to lower their carbon emissions and offer those in need a warm place to relax.

Summary:

- **Two 14kW Coastal Air Source heat pump installed to the cafe**
- **Coastal protection designed to protect against corrosive effects of environment**
- **13 i-Life radiators installed to deliver maximum, efficient warmth to the cafe**



Product Overview: **14kW Coastal** i-LIFE2 Slim **Radiators**

MITSUBISHI ELECTRIC
Changes for the Better

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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, 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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