# Project Profile

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| **Project Description:** | **Heating Refurbishment, Morningside Church** |
| Location: | Morningside, Edinburgh |
| Client: | Edinburgh Napier University |
| Project Value: | £75K |
| Project Duration: | April 2013 – September 2013 |
| Sector: | Education |

Callidus Design was appointed by Edinburgh Napier University to carry out the design of a new heating system for Morningside Church which has previously been converted into television and drama studios for their School of Art and Creative Industries. Their existing LTHW heating system serving a network of radiators and fan convectors was in a poor condition and had reached the end of its useful life.

In an effort to reduce noise levels, the original fan convectors within the main studio area had already been replaced with radiators as an interim measure, leading to insufficient heating of the space. Students and staff would also regularly complain of excessive noise from the original fan convectors in other rooms which were causing disruption to television and drama productions. The brief from Edinburgh Napier University included the following design criteria:

- Replacement of the existing boiler plant and associated ancillaries to ensure the long term reliability and improved efficiency of the heating system serving the Church building
- Replacement of all existing fan convectors and radiators throughout the Church
- Ensure all plant selections maintained a low noise environment within all TV and drama studios

Due to the very limited timescale provided by the University to carry out the heating refurbishment and to limit physical disruption to the church building, the existing below floor pipework distribution system was to be retained. The existing fan convector and radiator locations were situated in pre-formed alcoves around the perimeter of each room. To minimise disruption to the fabric of the building (wood panelled walls and inaccessible floor construction), any replacement wall mounted emitters were to occupy these same locations. Alternative low noise heating schemes, such as radiant panels or underfloor heating were put forward during the design phase, but discounted by the University for both budget and practicality reasons. As a result, the original heating philosophy of using fan convectors was adopted for the refurbishment.

Particular care was taken to ensure that the new fan convector selections chosen for the project produced the lowest possible noise levels during operation. Within the main studio area which was approximately 11m high, low noise destratification fans were introduced to retain as much heat as possible within the occupied zone and therefore minimise ongoing energy costs for the University.

Calculations carried out during the design phase identified that the natural gas pipework serving the existing boiler plant was inadequately sized for the new boiler plant and therefore a pipework upgrade was implemented as part of the project.

Callidus Design was responsible for the design of the following services required for the refurbishment:

- LTHW boiler replacement including new room emitters (fan convectors)
- Small Power Modifications associated with boilers, fan convectors and associated controls.
- Upgrade to the existing natural gas supply pipework
- Variable speed destratification fans within the main drama studio