

Case Study

Centre of Culture Aberdyfi, West Wales

Caspian's bring comfort and cost savings to community centre



The Client

Neuadd Dyfi, Aberdyfi celebrated its 60th anniversary in 2017 and today continues to be an integral part of the community hosting weddings, banquets, cultural events, keep fit classes and lot of other events for the local people. Desmond George, Chairman of the Charity Trustees of the Neuadd Dyfi, wanted to improve the facilities at the Centre to provide a much better environment for the many people who regularly use it.

The Challenge

One of the issues that the Trustees faced at Neuadd Dyfi was the provision of heating. The large space relied on Radiant Heaters that were mounted high up on the walls. There were several of these heaters that provided 48kW of heat, and they were at least 30 years old. As Mr. George commented "these wall heaters were really not very efficient - it was always far too cold or much too hot in the hall and never a happy medium!" These radiant heaters were also very expensive to use and whilst they heated the space, they also often burned the heads those people using the hall.

The Solution

Mr George contacted the Welsh Government to see what funding would be available to support a complete upgrade for the heating system at the Centre. Funding assistance was provided by the Rural Community Development Fund (RCDF), which is funded through the Welsh Government Rural Communities which in turn is funded by the European Agricultural Fund for Rural Development and the Welsh Government. Assistance was also received from Aberdyfi Advertising and Improvements Committee, and assistance from the Welsh Government's Resource Efficient Wales Scheme.

Once the required £157,000 (of which 80% was provided by the RCDF) total funding was secured Chris Joyce and Wayne Ward, from BSSEC, who are commercial energy efficiency experts, carried out a site survey to assess the suitability for a Ground Source Heat Pump. After heat loss calculations were carried out by Eco Friendly Installations of Aberdyfi Gareth Davies of CTC was asked to provide a product that would fulfil the buildings heat requirements, 35kW of heat was required to meet the buildings needs and our unit the Eco Part XL i435 generates 35kW per hour so was perfect for the project. Mr. Davies grew up in the village of Aberdyfi and indeed used to frequent the Centre as a youngster. 5 x 125m boreholes were drilled to connect the Ground Source Heat Pump.

The next part of the system was to install Smith's Caspian Fan Convector Heat Emitters. These were chosen because they can run very efficiently in conjunction with renewable heat sources such as the Ground Source Heat Pump used here. The flow temperature of the Ground Source Heat Pump at Neuadd Dyfi is 45°C. They were also selected for their lack of noise when running. The Caspian Fan Convector's are installed in concealed units so as to minimise any reduction in useable floor space in the hall.

The key thing was the positioning of the fan convectors to cover the three areas but be discreet. The Caspian fan convectors were placed in 3 locations:

- 2 at the back of the stage on the wall
- 2 under the stage warm air coming out the front through six grills
- 2 at the back of the hall drawing air from the middle of the ceiling ridge directing it back at a lower level through the ducts

"We will now have a much more welcoming atmosphere in the Neuadd, with warm air wafting around the building with everything hidden and no ugly heaters in sight. Plus it will be very cost effective to run and make a contribution to reducing our carbon footprint".

Desmond George | Chairman of the Charity Trustees of the Neuadd Dyfi



The Products

Caspian fan convectors have been specially developed for a wide range of applications in larger spaces and commercial environments. With the ability to rapidly heat large areas at low cost, Caspian commercial fan convectors are both practical and energy efficient. They can be also installed in an adjacent room, or storage cupboard, with the warm air outlets positioned at the rear of the appliance and ducted into the adjacent room such as a sports hall or even a narrow corridor, permitting an obstruction free wall space. They can also be supplied in any colour to meet the demands of the installation location. Fully compatible with renewable energy technology, such as ground and air source heat pumps, Caspian can also enhance your environmental credentials.

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