

Key Project Details

Installation Date:

November 2018

Property Type:

Modern Sports Pavilion

Product Installed:

IVT Greenline HE Eg

How Water Cylinder:

IVT 504 Sling

Design Scope:

Back-up Boiler



Commercial Ground Source Heat Pump system, with covalent back-up boiler providing heating and hot water to brand new Sports Pavilion.

A MODERN SPORTS PAVILION

The new sports pavilion at Marden Hockey and Cricket Club in Kent is a state of the art sports facility, featuring a clubhouse with function room and a large terrace viewing area which overlooks the many sports pitches contained within the facility. The construction of this pavilion was part of a rejuvenation of a popular sports facility within the community.

The overall heating load for the project was around 25kW, however the community members involved with shaping the project were keen to incorporate an element of renewable heating in order to reduce the ongoing environmental impact of the facility, as well as to benefit from the Government's non-domestic Renewable Heat Incentive. Alto Energy were asked to propose a solution that would deliver a significant proportion of the heating and hot water in the facility, as well as controlling a back-up boiler that would supplement the heat requirements during peak periods.

THE TECHNICAL SOLUTION

We specified a 9kW IVT Bosch Greenline HE ground source heat pump system working in conjunction with our IVT '504 Sling Tank' which is specifically designed for situations with a high demand for hot water. This is important given that this is a sports facility that will have short bursts of very high hot water demand. The heat pump was fed by 4x 50m trenches, each containing 200m of HDPE pipework. This is actually slightly over-specified for what we would typically design for a 9kW ground source heat pump, however this is because we wanted to optimise the energy contribution from the ground given that the total load was 24kW.

The IVT Bosch controller is ready out-of-the-box to work in conjunction with a backup boiler. And more than just being ready, the IVT Bosch equipment has been specifically designed to optimise the renewable contribution from the heat pump. This is because the controls for the IVT Bosch heat pump are designed for a "covalent" setup with the boiler, meaning that even when the boiler is called upon the heat pump continues to contribute as much as it can. In contrast, many heat pumps operate in a "bivalent" manner, meaning that when the boiler is called for, the heat pump switches off, meaning that there is no contribution from the renewable source.

NON-DOMESTIC RENEWABLE HEAT INCENTIVE

The heat pump system at Marden Hockey & Cricket Club is eligible for the non-domestic Renewable Heat Incentive, meaning that the club will receive a grant payment from the Government every year for the next 20 years.