

St Richard's Hospice

Low carbon M&E project designed to minimise energy consumption through Passivhaus building design principals.



This carbon neutral development commissioned by St Richard's Hospice involved the construction of a new annex building, to provide additional support and care facilities for the local community.

Construction of the new building comprised of offices, consulting rooms and interview rooms. Designed to minimise energy consumption through Passivhaus building design principals and the integration of a range of low and zero carbon technologies, including low energy lighting and heating systems, combined with natural passive stack ventilation.

Passivhaus building design

The construction minimises energy consumption using the principals of Passivhaus building design, which comprises excellent thermal performance (U-Value), exceptional airtightness, combined with well controlled natural ventilation.

In addition, the building was enhanced further through the integration of a range of low carbon technologies, including low energy lighting with automatic controls, automated natural passive stack ventilation and minimal heat demand through high thermal insulation/minimisation of infiltration.

This, combined with new high efficiency central boilerplant serving the entire hospice with an advanced building control system managing the performance of the services, has resulted in an overall reduction in natural gas consumption to the complex, effectively providing a carbon neutral thermal development.

Integrating low carbon technologies

Zenergi was appointed as a result of our expertise and experience in undertaking technical feasibilities and developing formal business cases for low carbon technologies, then integrating these technologies into our wider low carbon mechanical and electrical (M&E) design solutions within specialist and often sensitive healthcare environments.

The provision of a comfortable environment and tranquil facilities is key in supporting staff, patients and their families when visiting the hospice. The project was delivered in association with KKE Chartered Architects, Worcester.

£1m

project value

£350,000

M&E value

500m²

Floor area

Project main features

- Building designed to 'Passivhaus' principals to minimise infiltration losses
- Integrated passive stack natural ventilation
- Optimum carbon neutral heat provision strategy
- Advanced building control system to optimise natural ventilation
- High frequency energy efficiency lighting design with automatic dimming control