



**Project Location:**

Alton Drive, Colchester

**End User:**

Peter Greatorex

**Disciplines:**

Mechanical Engineering  
Electrical Engineering  
Carbon + Energy Design + Management

**Project Type:**

Remodelling

**Project Value:**

£1.5 million

**Client:**

Mathews Serjeant Architects Ltd

**Contractor:**

Hills Construction Group

**The Brief:**

We were asked to develop low energy consuming and user-friendly residential accommodation to facilitate the end user's son who has a debilitating condition. The project included therapeutic spaces such as a therapy pool and a therapy room.

**The Scope:**

In addition to carrying out a performance design, we identified a strategy for minimising the building's energy consumption in respect of power sources. We undertook an analysis which looked at mini CHP, air source heat pumps, battery storage and P.V. This analysis established that air source heat pumps coupled with P.V. with a future provision for battery

storage was the most cost-effective energy reducing solution.

**The Result:**

Due to the intricacies of the services required, we needed to think outside of the box to create a solution which was fit for purpose. Therefore, some of the technologies considered were unusual for a domestic setting.