

Sustainability The Green Template

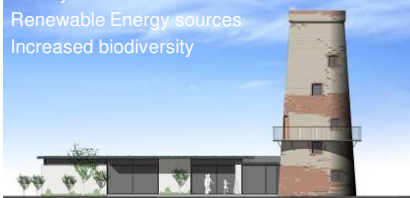
Sustainable Development

'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.



Mill House, Goole

Locally source renewable materials
Renewable Energy sources
Increased biodiversity



Beswick, New East Manchester

BREEAM rating: Very Good
Design for Life

The built environment is responsible for almost 50 per cent of the UK's energy consumption and carbon emissions.

The way buildings are designed and used must evolve from being a major part of the climate change problem to becoming an integral part of the solution..

At EAS we strive to minimise the effects that our buildings impact the environment. We employ a 'Green Template' which lists the environmental considerations for buildings and audits the design decisions of each project at key stages, the priorities include:

Human Systems

Identify the energy savings through the buildings proposed use

Ambient Energies

Identify possible sources of 'free' natural energy available to the site.

Form and Orientation

Identify the optimum built form and orientation to minimise the need for artificial energy inputs

Thermal Capacity and Occupancy Requirements

Identify the optimum relationship between proposed occupancy criteria / thermal capacity of construction materials and heating system

Passive strategies for heating, cooling and ventilation.

Exposed Thermal mass

Renewable Energy solutions / Reduced consumption

Identify suitable renewable energy systems to compliment the ambient energies and supplement the artificial energy sources.

Photovoltaic Panels

Ground Source Heat pumps

Wind turbines

Biomass and CHP

Rainwater harvesting and grey water recycling

Low energy lighting / appliances

Design for Life

Identify and design flexibility into the building layout to ensure the building can be adapted to the future needs of its users.

Materials

Identify materials that are fit for purpose, non toxic, from renewable or reclaimed and sourced locally (where practicable) employ Modern Methods of Construction to minimise on site wastage

Low or Zero Carbon Energy Sources - Typical Costs and Savings

	Dwelling	Typical Installation Cost (£)	Annual Savings		Commerical	Typical Installation Cost (£)	Annual Savings	
			CO ²	£			CO ²	£
Absorption Cooling	x				√		12-15%	
Biomass Heating and CHP	√	5,000 - 14,000	>90%	500	√		21%	
Combined Heat and Power (Micro CHP)	√		11-16%		x			
Ground Source Cooling	x				√		11-15%	
Ground Source Heat Pumps	√	6,000-12,000	>63%	350-1,000	√		14-32%	
Air Source Heat Pumps	√	7,000-10,000		280-900				
Solar Photovoltaics	√	7,500-16,500	>20%	> 300	√		>10%	
Solar Water Heating (Delivering 50% hot water demand annually)	√	3,000-5,000	16-23%	60-100	√		1-3%	
Wind Turbines	√	1,500-11,000	>20%		√	19,000 +	>10%	