

Eco-Building

How CAT can help you achieve environmental excellence in your building project

Why is environmental building important?

Traditional buildings consume vast amounts of energy in the materials with which they are built and in the energy used by their occupants, which results in burning more fossil fuels with consequent damage to the climate. The cement industry alone accounts for 10% of the world's CO₂ emissions. Some building materials cause major ecological damage during their extraction or result in toxic emissions during production, use or disposal.

But the technology and know-how exists to build buildings that minimise these impacts and are more healthy for their occupants, without excessive cost. Just as importantly, because these environmental buildings are built to maximise the use of the sun's natural light and energy they feel great to be in.

Why CAT?

In the 25 years since it was founded, CAT has built many buildings with leading-edge environmental features on its disused slate quarry site. It has some of the world's most energy-efficient and water-efficient buildings, including its new £600,000 environmental information centre, which produces more energy than it consumes and achieves energy standards 20 times better than official definitions of best practice! CAT has championed ultra-low energy construction and super-insulation. Its 20-year old Wates building is still the best-insulated building in the country. Thanks to pioneering CAT work promoting use of local timber this renewable resource is now increasingly being adopted by others. CAT has also established a reputation for trail-blazing new environmentally friendly alternatives to existing building materials, most recently the use of Welsh sheep's wool for insulation.



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How can CAT assist with your project?

Here are some of the ways that CAT can offer advice and information at the various stages of a typical building project:

1. Concept development stage

Early in the project, you will need to make decisions that will have a major influence on whether your building can achieve a high environmental standard, so advice at an early stage can yield big results. CAT can draw up an environmental brief for your architect covering ecological criteria, design features and building materials. This can be separate to or incorporated within the standard brief that you prepare for your architect specifying things like the numbers of offices or bedrooms that you require, etc, etc. The environmental brief can specify different levels, typically: 1) environmental features that really ought to be incorporated because they can easily be added and if planned early will not add to costs 2) features representing environmental best practice, which may add to project costs but which might for example reduce running costs for the finished building 3) suggestions for possible environmentally trail-blazing features, bound to add to project costs, but possibly worth considering if potential project funders want to see innovative elements incorporated or if you want to make an environmental statement. At the practical level, the brief can include listings of suppliers for environmental materials that may be unfamiliar. If you prefer a more informal approach you can bring your site photos and maps to CAT and discuss your ideas and questions for an hour or two with an expert. Or, of course, you can arrange a visit by an expert to your site to assess which environmental features it lends itself to.

2. Design and drawings stage

CAT can advise on designs as they develop, and on how features of the emerging design will tend to enable or prevent incorporation of environmental good practice. At this stage some discussion usually takes place about possible alternative construction materials and the potential for environmental energy services and sewage services to the building. This advice can be through meetings, on site or at CAT, via telephone discussions, or can be in the form of a written report commenting on the draft designs.

For meetings that take place at CAT, you, your builder, or others involved in the project can have the advantage of an explanation from an expert of some of the relevant environmental features of buildings at CAT.

3. Construction stage

It may be that you will want some input on the detailed practicalities of installation of unfamiliar materials or how to get hold of a particular environmental building product. CAT maintains a vast database of suppliers of environmental goods and services. Advice can be over the phone or by email, or if necessary you can arrange a site visit to supervise a critical stage, but if there has been a good flow of advice up to this point then this is unlikely to be necessary.

Feasibility studies

Although you may not have a specific building project in prospect, as a company or local authority you may manage a significant property or land portfolio, necessitating property management, refurbishment and construction. Do you require an organisation-wide assessment of the possibilities for eco-improvement to your buildings? In these circumstances, CAT has provided over-arching assessments of the property portfolio to outline the potential for introducing environmental best practice to the programme of refurbishment or building work.

How much will it cost?

Charges will be by the day or the hour depending on what you require. CAT charges £50/hr (excluding VAT) for quick consultancies. Rates for larger projects are available on request.

Contact

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