

# ecotect



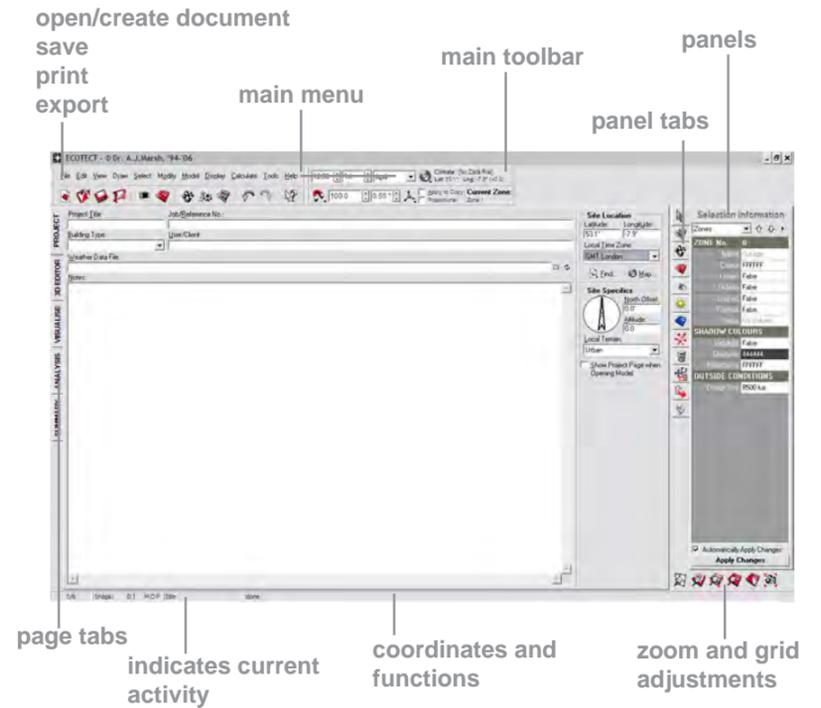
ECOTECT is an industry leading building analysis program that finally allows designers to work easily in 3D and apply all the tools necessary for an energy efficient and sustainable future.

What really sets ECOTECT apart is the visual nature of calculation feedback and its support for very early stage conceptual design as well as final design validation. Designers can start generating vital performance-related design information before the building form has even been developed.

ECOTECT is very different to other more traditional CAD and simulation programmes. It is first and foremost a building analysis tool - which means that its interface has to accommodate the needs of simulation and analysis functions.

## Fundamental

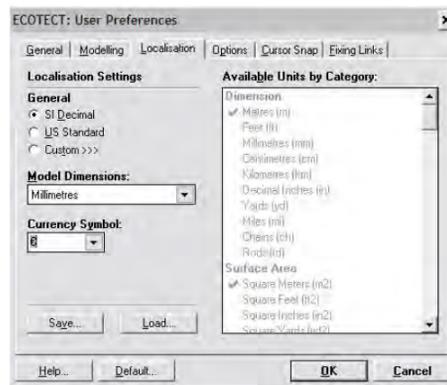
## Main menu



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## Pre-setting

Go to File/User Preferences when starting a new file and this dialogue window appears. Therein the basic adjustments for using the program are made.



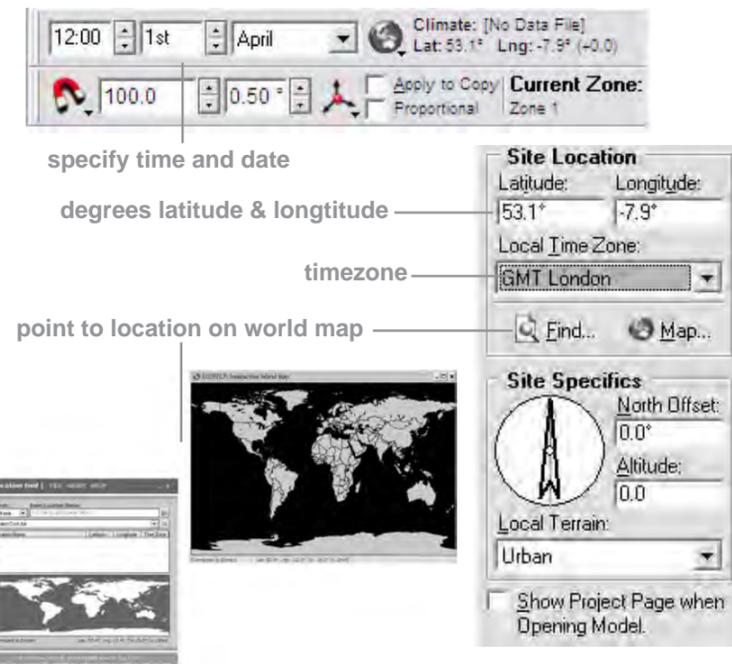
**Modelling:** Change display colours, graph and canvas fonts aselection radius. The sample grid size and default zone height can also be adjusted.

**Localisation:** Select units for all quantities used in ECOTECT, including local currency.

**Cursor Snap:** As in most other CAD programs, you can have several snap points activated or none at all.

## Site Location

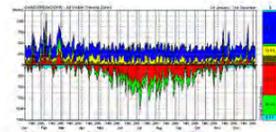
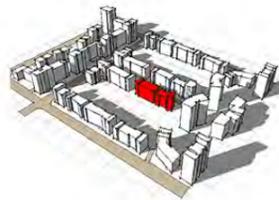
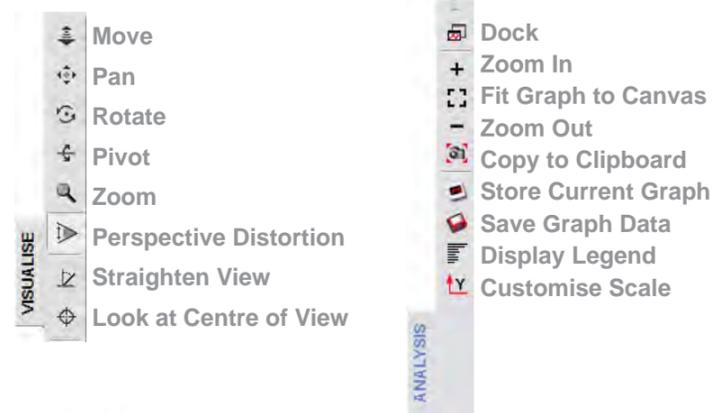
Geographical location is an essential part of environmental analysis with regards to hours of sunlight and angle of solar exposure. The project page has a site location tab to pick the location of your project.



## 3D Editor Toolbars



## Visualise & Analysis Toolbars



## Analysis Page

The Analysis page provides calculation functions for a wide range of different analysis to be carried out on the model. These fall into the following categories, each represented by a separate tab section beneath the graph:

**Thermal Analysis:** This dialog box can be invoked by selecting the Thermal Performance... item in the Calculate menu. The Thermal Analysis tab contains controls for calculating and displaying thermal performance information.

**Solar Exposure:** The Solar Exposure tab contains controls for calculating and displaying information about the solar radiation incident on one or more closed planar surfaces within the model.

**Material Costs:** The Material Costs tab contains controls for calculating and displaying total fabric costs and environmental impacts based on the geometry of the model and the materials used.

**Resource Consumption:** The Resource Consumption tab contains controls for calculating both the consumption and production of basic resources within the building model.

**Reverberation Times:** The Reverberation Times tab contains controls for calculating and displaying statistical reverberation time information for individual zones.

**Acoustic Response:** This tab in the Element Library dialog displays the sound absorption coefficients for the currently selected material.



analysis panel tabs

analysis panels

## Elements

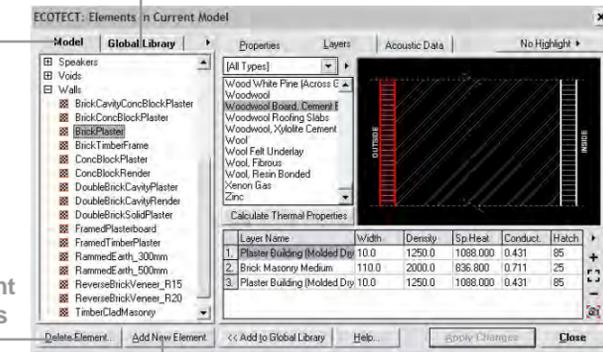
The Element Properties Dialog can be invoked by selecting the Material Library... item in the Model menu.

The Element Properties dialog box controls the materials in both the current model and in the global user library. It allows you to record and adjust physical, thermal and acoustic properties

the global library is a separate file containing any number of materials that you can add to your current model

shows materials in current model

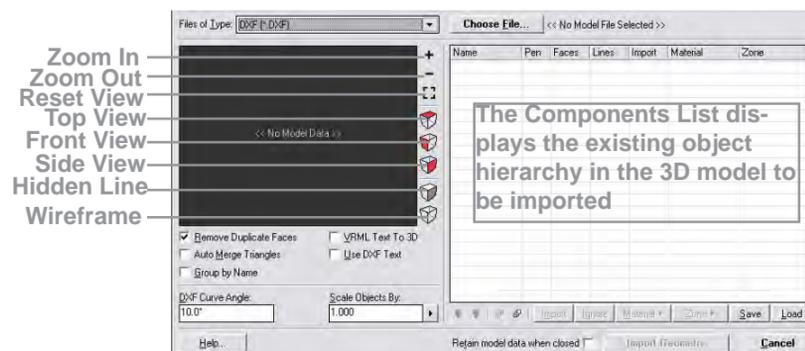
Delete Element button deletes the selected material from the current model list



the Add New Element button adds the material defined in the tabbed controls to the right as a new material in the model list

## Importing 3D Geometry

ECOTECT is capable of importing a wide variety of 3D geometry file formats, including 3DS, DXF, Lightscape and VRML.



### writing formats

1. Go to the File>Import>3D CAD Geometry... menu. A dialog box will appear, where you can select the type of 3D file format to import
2. From the Files of Type: drop-down list, select the 3D Studio (\*.3DS, \*.ASC, \*.PRJ) option. Then click the Choose File button, and navigate to and select the CAD file.
3. A preview of the selected file will be displayed in the dialog box. Click and drag the left mouse button in the preview window to orbit around the model
4. Confirm that the scale of the is correct in relation to the original 3D geometry.

## Images and Animation

### Saving an image

1. Click on the Copy View to Clipboard icon
2. Select either Copy as Bitmap or Save to Disk...
3. Paste the copied bitmap in another program, or choose the location to save the image.

Go to File/Export.... to open the Save ECOTECT Model window, then select Windows Bitmap as the file type.



### Setting up an animation

1. Go to the Tools » Create Animation menu item. The Create New Animation dialog box will appear
2. Determine what parts of the screen to capture (canvas only/application window), and the image size in pixels
3. Under the Capture Frames: section, select the preferred method
4. Under the Output Format: section, select the Save as AVI Movie option and a suitable playback rate
5. Under the Filename: and Directory: sections, click the button to specify a name for the animation file, and a folder location where the file will be saved.

## Data format + Help

### in

some data formats that Ecotect reads;

CAD: DXF, 3DS  
images: BMP  
text: HTML, the summary page functions as a web browser

### Help

the program has several guides, instructions and learning references on the Summary page and under Help on the main menu to assist in any task relating to use of the software.

### out

some data formats that Ecotect creates;

ECO: the program's default format  
export formats (File/Export)

JPG: most common image format  
BMP: bitmap image file format  
AVI: multimedia file format, for saving video sequences presentations

