

# Impact Estimator for Buildings

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## Quick Start

This Quick Start document will get you acquainted with the Impact Estimator's basic operations and up and running quickly. For a detailed discussion on using the software, see the Help utility, Basic Application Operation.

### *Creating or Opening a New Project*

Immediately below the toolbar you will see the Impact Estimator Tree Control window, which operates as a hierarchical viewer of all inputs into the software. Within the Tree Control window you will see the Impact Estimator Root node highlighted. With your mouse pointer on the highlighted Root node, right click to activate a new vertical menu list (also referred to as the right click menu). Click on "New Project" in the right click menu to open the "Add Project" dialog box. Alternatively, you can click on the "New" button on the far left side of the toolbar to open the "Add Project" dialog box.

### *The "Add Project" Dialog*

Here you are asked to enter some general information about the project to be modeled. You can either navigate through the dialog box using your tab key, or simply use your mouse pointer to toggle various radio buttons or enter text where appropriate. Note that you must enter a project name, project location, building life, and building/occupancy type; all other information, including annual operating energy values, is optional. When you are finished adding project information, click the "OK" button to save the changes and close the "Add Project" dialog. A new Project [P] level node with the title you gave the project will be added to the Tree Control immediately under the Root node.

### *Defining an Assembly or Building Structure*

To define an assembly, right click on the Project [P] level node to activate the right click menu and select "Add Assembly" from the menu. A listing of various assembly groups will appear: Foundations, Walls, Mixed Columns and Beams, Roofs, Floors, and Extra Basic Materials. Select an assembly group to display the assembly group submenu, then select the assembly of interest to you.

An "Add Assembly" dialog will appear for the assembly that you selected. The flashing cursor will automatically be placed in the "Name" box. Each assembly must be given a name; otherwise no data input is possible. After entering an assembly name (e.g., North Wall), tab to each of the data input boxes or, using your mouse, place the cursor in each to describe the assembly's geometry and attributes.

Continue using the “*Add Assembly*” menu as necessary to complete the structural elements for a three-dimensional building space.

### ***Defining Windows and Door Openings***

Users can choose to define window and/or door openings for Wall assemblies. If the “*Add Assembly*” dialog has been closed, in the Tree Control right click the new assembly node to display the assembly object menu and select “*Modify*” to open the “*Modify Assembly*” dialog. Click the “*Opening*” tab to edit the assembly specific opening details. For windows, you can enter the number of window openings, the total window opening area, window frame materials, window glazing type, and whether the windows are fixed or operable. For doors, you can enter the number of door openings and select a door type.

One caveat is that you can only define a single window type and/or door type for each wall assembly object.

### ***Defining Envelope Materials***

For certain assembly types (i.e., Walls, Floors, Roofs, or Foundations), users can choose to “*Define the Envelope*” material. Essentially, the user now specifies the sandwich make-up of the assembly. Each element of the envelope is defined by selecting the envelope category, envelope material and thickness (where applicable). Having made a selection, the user clicks on the “*Add*” button to add the specific element to the envelope definition sandwich.

Please remember that when adding envelope materials, you are adding individual layers to the sandwich. In the case of a partition wall having painted gypsum board on both sides of the wall, for example, you would need to add gypsum wallboard and paint twice.

If the “*Add Assembly*” dialog has been closed, in the Tree Control right click the new assembly node to display the assembly object menu and select “*Modify*” to open the “*Modify Assembly*” dialog. Click the “*Envelope*” tab to edit the assembly specific envelope details.

### ***Generating Project Results***

To view either the absolute inventory results – Energy Consumption, Air Emissions, Water Emissions, Land Emissions, and Weighted Resource Use – or the eight aggregated summary impact measures – Energy Consumption, Acidification Potential, Global Warming Potential, Human Health Respiratory Effects Potential, Ozone Depletion Potential, Smog Potential, Eutrophication Potential, and Weighted Resource Use – as a graph or table, you simply do the following:

- Right click one of the Project [P] level nodes. (Note: you can also start by selecting the “*Reports*” menu item from the main menu.)
- Select “*Reports*” from the “*Project*” menu. The “*Reports*” dialog will open to the “*General*” tab.
- Select a Report Format (“*Graph*” or “*Table*”).
- Select a Format (“*Absolute Values*” or “*Summary Measures*”).

- Select the Report Type ("*By Life Cycle Stages*", "*Assembly Group Embodied Effects*", or "*Operating Vs Embodied*").
- Select "*Summary Measure*" effects or "*Absolute Values*" effects.
- Click on the "*Show Reports*" button to generate the requested report(s).

### **View Bill of Material Quantities**

To view the bill of materials for a project, right click on the [P] project level node, then do the following:

- Right click one of the Project [P] level nodes. (Note: you can also start by selecting the "*Reports*" menu item from the main menu.)
- Select "*Reports*" from the "*Project*" menu. The "*Reports*" dialog will open to the "*General*" tab.
- Click the "*Bill of Materials*" button.

### **Comparing Projects**

The Impact Estimator is equipped with a separate utility for comparing the results of two or more project designs across the eight summary measures. From a reporting perspective, all Impact Estimator results are compiled and accessed at the project level; therefore if you are interested in comparing two or more assemblies, rather than complete designs, you must input each assembly you want to compare as an individual project.

To compare two or more projects, do the following:

- Right click a Project [P] level node. (Note: you can also start by selecting the "*Reports*" menu item from the main menu.)
- Select "*Reports*" from the Root menu. The "*Reports*" dialog will open to the "*General*" tab. Click on the "*Comparison Graphs*" tab.
- Select two or more projects from the list of open projects.
- Select one or more "*Summary Measures*" to compare (Energy Consumption, Acidification Potential, Global Warming Potential, Human Health Respiratory Effects Potential, Ozone Depletion Potential, Smog Potential, Eutrophication Potential, and Weighted Resource Use).
- Select the report results "*Format*" ("*Absolute Value*", "*Per Unit Area*", or "*Project Baseline*"). (If you wish to use one of the selected projects as a baseline, you can select it from the "*Project Baseline*" selection list.)
- Select the report "*Type*" ("*Life Cycle Stage*", "*Assembly Groups*").
- Click the "*Show Reports*" button.

By now you should be familiar with the basic operations of the Impact Estimator. For further details please see the Help utility.