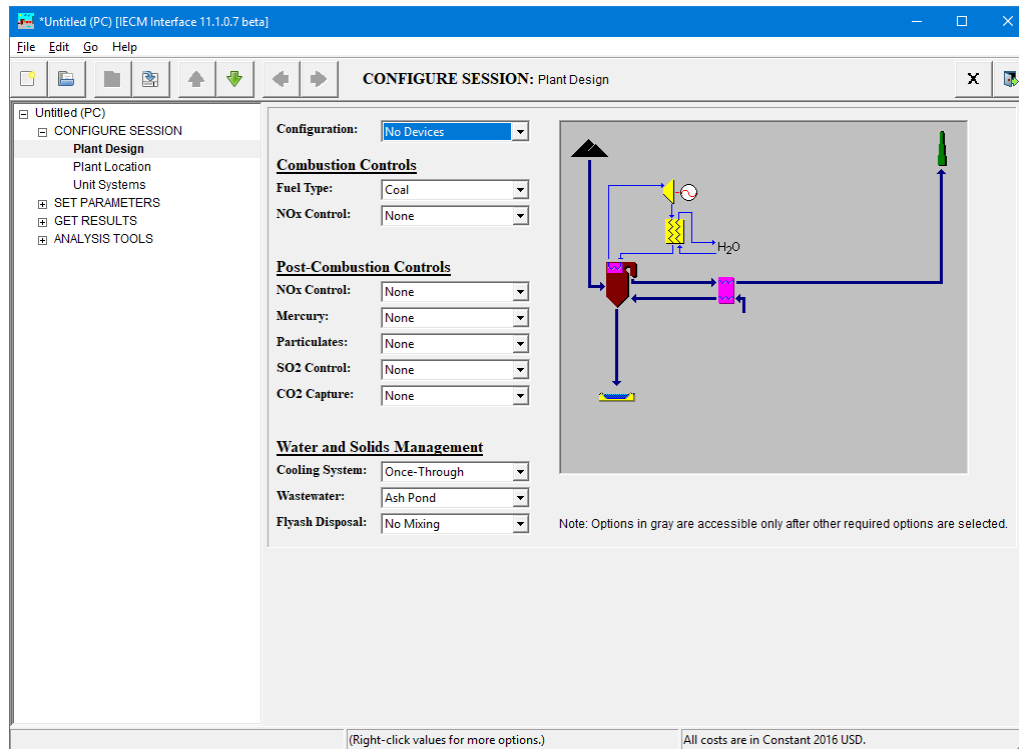NOTE: This is an excerpt from the User Manual which may be helpful in understanding the difference between the old interface shown in the videos and the current interface. The full User Manual comes with the IECM and is also available on the Download page on our website.

## **4.1.4.** The Session Window

Once you have opened or created a session (see "4.1.3. Creating and Opening Sessions" on page 22), a session window displays for the session you are working with:



*Illustration 33: An IECM Session Window*

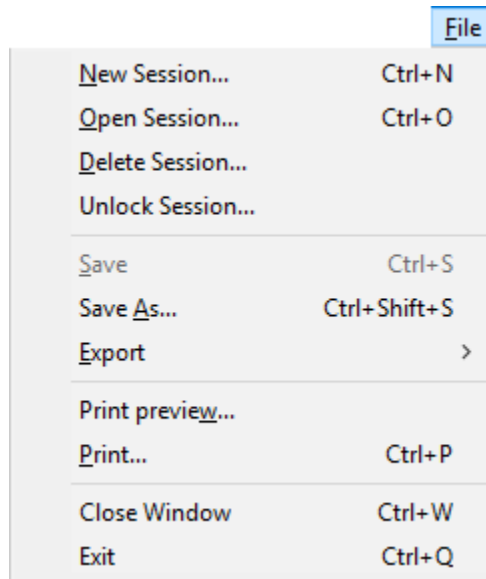The session window contains all the screens used by the session.

If additional windows are open in the IECM, they may be behind the new session window. If you want to switch to another window that is partially visible, you may click on it to bring it to the front. If the window is completely hidden, you will need to use **Alt-Tab** or the taskbar to switch to it. (See "2.7.1. Switching Applications or Windows" on page 7.)

### *4.1.4.1. The Session Window Menu Bar*

Like the main window, the session window has a menu bar. It consists of four pull-down menus: "File" "Edit", "Go" and "Help". These pull-down menus issue commands to the IECM software.

#### **4.1.4.1.1.** The File Menu

The "File" menu is the left-most pull-down menu on the menu bar:
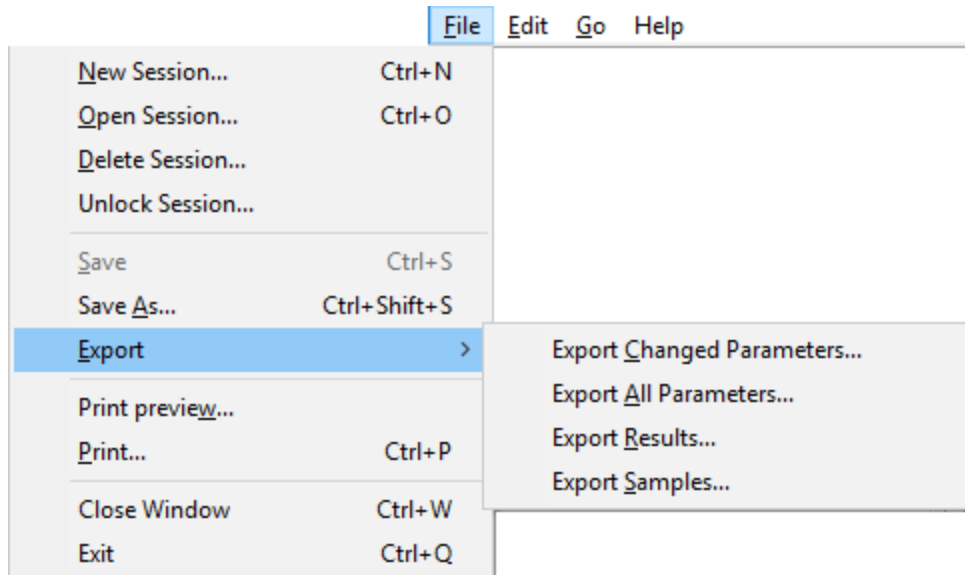
*Illustration 34: The Session Window File Menu*

Some of the commands are the same as those available in the "File" menu on the main window. See "4.1.2.1.1. The File Menu" on page 20, for a description of these commands.

The "File" menu on a session window contains the following additional commands:

- **Save**: Saves the current session in place. (See "4.1.5.2. Save" on page 41.)

- **Save As...**: Saves the current session with a different name and/or in a different database. (See "4.1.5.3. Save As" on page 41.)

- **Export**: Exports data from the current session.

- **Print preview...**: Shows what would be printed with the Print command.

- **Print...**: Prints the current screen.

- **Close Window**: Closes the current session. You will be prompted to save the session if changes have been made since your last save. (See "4.1.6. Closing Sessions" on page 42.)

#### 4.1.4.1.1.1. The Export Menu

The Export menu is accessed from the Export command on the File menu:
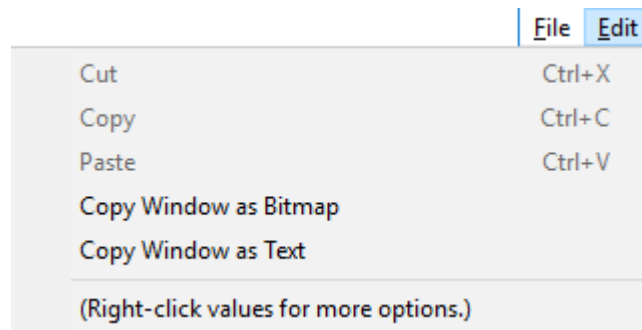
*Illustration 35: The Export Sub-Menu*

You may choose the following commands from this menu:

- **Export <u>C</u>hanged Parameters**: Exports all parameters that have been changed from their default values.

- **Export <u>A</u>ll Parameters**: Exports all parameters.

- **Export <u>R</u>esults**: Exports all results.

- **Export <u>S</u>amples**: Exports all samples.

We recommend viewing the output from these commands in a spreadsheet.

### 4.1.4.1.2. The Edit Menu

The "Edit" menu is the second pull-down menu on the menu bar:



*Illustration 36: The Session Window Edit Menu*

The "Edit" menu contains commands for working with the clipboard. (See "2.6. Using the Clipboard" on page 6.) You may choose the following commands from this menu:
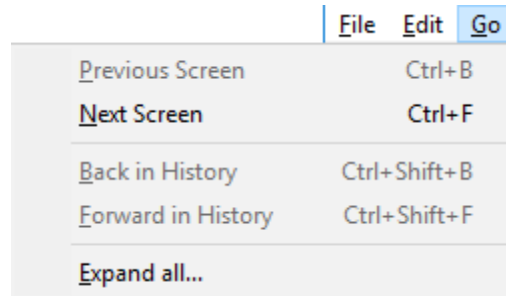
- **Cut**: Copies the current selection to the clipboard and deletes it.

- **Copy**: Copies the current selection and does not delete it.

- **Paste**: If there is a current selection, it is replaced by the contents of the clipboard; otherwise, the contents of the clipboard is inserted at the current cursor position.

- **Copy Window as Bitmap**: A bitmap image representing the current window is copied to the clipboard.

- **Copy Window as Text**: A text representation of the current window is copied to the clipboard.

### 4.1.4.1.3. The Go Menu
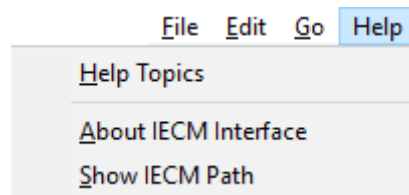
The "Go" menu is the third pull-down menu on the Menu bar:



*Illustration 37: The Session Window Go Menu*

You may choose the following commands from this menu:

- **Previous Screen**: Goes to the previous screen in the navigation panel. (See "4.1.4.4. The Navigation Panel" on page 33.)

- **Next Screen**: Goes to the next screen in the navigation panel. (See "4.1.4.4. The Navigation Panel" on page 33.)

- **Back in History**: Goes to the previous screen in the history. This is not currently implemented.

- **Forward in History**: Goes to the next screen in the history. This is not currently implemented.

- **Expand All...**: Expands the entire navigation panel. (See "4.1.4.4. The Navigation Panel" on page 33.)

### 4.1.4.1.4. The Help Menu

The Help menu is the fourth pull-down menu on the Menu bar:



*Illustration 38: The Session Window Help Menu*

This is the same as the "Help" menu on the main window. (See "4.1.2.1.2. The Help Menu" on page 21.)
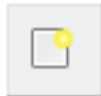
### *4.1.4.2.* *The Session Window Toolbar*

Like the main window, the session window has a toolbar. (See "4.1.2.2. The Main Window Toolbar" on page 21.) However, the session window's toolbar has much more content:

*Illustration 39: The Session Window's Toolbar*

The following items appear on the toolbar, from left to right:

### **4.1.4.2.1.** The "New Session" Button

*Illustration 40: The "New Session" Button*

The first button on the left creates a new session. It corresponds to the "New Session" command in the "File" Menu. (See "4.1.2.1.1. The File Menu" on page 20, and "4.1.3.1. Creating a New Session from Model Defaults" on page 22.)

### **4.1.4.2.2.** The "Open Session" Button

*Illustration 41: The "Open Session" Button*

The second button from the left opens a previously-saved session. It corresponds to the "Open Session" command in the "File" Menu. (See "4.1.2.1.1. The File Menu" on page 20, and "4.1.3.2. Opening an Existing Session" on page 23.)

### **4.1.4.2.3.** The "Save Session" Button

*Illustration 42: The "Save Session" Button*

The third button from the left saves the current session. It corresponds to the "Save" command in the "File" Menu. (See "4.1.2.1.1. The File Menu" on page 20, and "4.1.5.2. Save" on page 41.)

### **4.1.4.2.4.** The "Save Session As" Button

*Illustration 43: The "Save Session As..." Button*

The fourth button from the left saves a copy of the current session. It corresponds to the "Save As..." command in the "File" Menu. (See "4.1.2.1.1. The File Menu" on page 20, and "4.1.5.3. Save As" on page 41.)

**4.1.4.2.5.** The "Go to Previous Screen" Button



*Illustration 44: The "Go to Previous Screen" Button*

The fifth button from the left moves to the previous screen in the navigation panel. It corresponds to the "Previous Screen" command in the "Go" Menu. (See "4.1.4.4. The Navigation Panel" on page 33.)

**4.1.4.2.6.** The "Go to Next Screen" Button



*Illustration 45: The "Go to Next Screen" Button*

The sixth button from the left moves to the next screen in the navigation panel. It corresponds to the "Next Screen" command in the "Go" Menu. (See "4.1.4.4. The Navigation Panel" on page 33.)

**4.1.4.2.7.** The "Go to Previous Screen in History" Button



*Illustration 46: The "Go to Previous Screen in History" Button*

The seventh button from the left is currently not implemented. It corresponds to the "Back in History" command in the "Go" Menu. (See "4.1.4.1.3. The Go Menu" on page 30.)

**4.1.4.2.8.** The "Go to Next Screen in History" Button



*Illustration 47: The "Go to Next Screen in History" Button*

The eighth button from the left is currently not implemented. It corresponds to the "Forward in History" command in the "Go" Menu. (See "4.1.4.1.3. The Go Menu" on page 30)

**4.1.4.2.9.** The Location of the Current Screen



*Illustration 48: The Location of the Current Screen*

The text in the middle of the toolbar between sets of buttons shows the location of the current screen in the navigation panel. (See "4.1.4.4. The Navigation Panel" on page 33.) Different levels

are separated by a colon. In this case, we're in the "CONFIGURE SESSION" section, on the "Plant Design" screen.
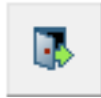
### 4.1.4.2.10. The "Close Window" Button



*Illustration 49: The "Close Window" Button*

The second button from the right closes the current session window, prompting the user to save any unsaved changes. It corresponds to the "Close Window" command in the "File" Menu. (See "4.1.4.1.1. The File Menu" on page 27, and "4.1.6. Closing Sessions" on page 42.)
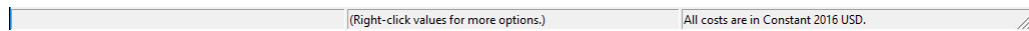
### 4.1.4.2.11. The "Exit" Button



*Illustration 50: The "Exit" Button*

The button all the way on the right closes all session windows, prompting the user to save any unsaved changes, and exits the IECM. It corresponds to the "Exit" command in the "File" Menu. (See "4.1.2.1.1. The File Menu" on page 20, and "4.1.9. Exiting the IECM Interface" on page 44.)

### *4.1.4.3. The Status Bar*

The session window has a status bar along the bottom edge:
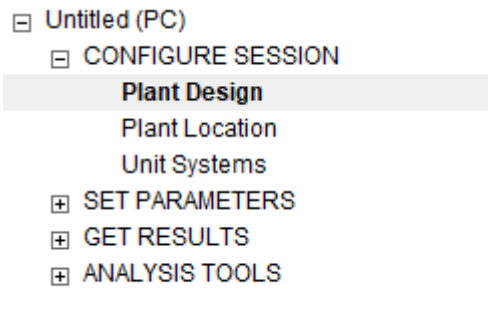


*Illustration 51: The Session Window Status Bar*

The status bar is divided into three parts. The left side shows descriptions of menu commands. If you pull down one of the menus in the menu bar and hold the mouse pointer over a command, a brief description of that command appears in the status bar.

The center shows this reminder: "(Right-click values for more options.)"

The right side contains a note indicating whether constant or current dollars are used, along with the cost year. This applies to all costs displayed in the IECM. These parameters may be set on the overall plant financing input screen, described in "5.2.2.1.5. Financing & Cost Year" on page 119.

### *4.1.4.4. The Navigation Panel*

Movement within the interface is accomplished primarily through the use of the navigation panel, which sits on the left side of the session window:

*Illustration 52: The Navigation Panel*

**4.1.4.4.1.** How to Use the Navigation Panel

To use the navigation panel, locate the item you wish to view and click on it.

Items which contain other items have a small box containing either a "+" or a "–" to the left of the title. The "+" indicates that there is content which is not shown; the "–" indicates that there is content which may be hidden. Click the box to expand or hide the content, or use the "Expand All" command in the "Go" menu to show all the content. (See "4.1.4.1.3. The Go Menu" on page 30.) Note that you cannot hide the screen currently being displayed.

For example, in the illustration above (Illustration 51: The Session Window Status Bar on page 33), the "CONFIGURE SESSION" section has been expanded to show its content: "Plant Design", "Plant Location", and "Unit Systems". The other sections have not been expanded, and their content is not currently visible.

Items which contain other items do not have screens associated with them. Clicking on one of these items will take you to the first screen contained within that item.

For example, clicking on "SET PARAMETERS" in the illustration above (Illustration 51: The Session Window Status Bar on page 33) produces the following result:

```
☐ Untitled (PC)
    ☐ CONFIGURE SESSION
        Plant Design
        Plant Location
        Unit Systems
    ☐ SET PARAMETERS
        ☐ Overall Plant
            Diagram
            Performance
            Region-Specific Cost Factors
            Regulations & Taxes
            Financing
            Fuel & Land Cost
            Capital Cost
            O&M Cost
        ☐ Fuel
        ☐ Base Plant
        ☐ NOx Control
        ☐ TSP Control
        ☐ SO2 Control
        ☐ Water Systems
        ☐ By-Prod. Mgmt
        ☐ Water Life Cycle Assessment
    ☐ GET RESULTS
    ☐ ANALYSIS TOOLS
```

*Illustration 53: Clicking "SET PARAMETERS" in the Navigation Panel*

When "SET PARAMETERS" was clicked, the IECM expanded it and went to the first sub-item, "Overall Plant". "Overall Plant" contains other items, so the IECM expanded it and went to its first sub-item, "Diagram". "Diagram" does not contain any other items; it is a screen, so the IECM displays it. The current location on the toolbar (see "4.1.4.2.9. The Location of the Current Screen" on page 32) changes to reflect this:

**SET PARAMETERS:** Overall Plant: Diagram

*Illustration 54: Location after Clicking "SET PARAMETERS"*

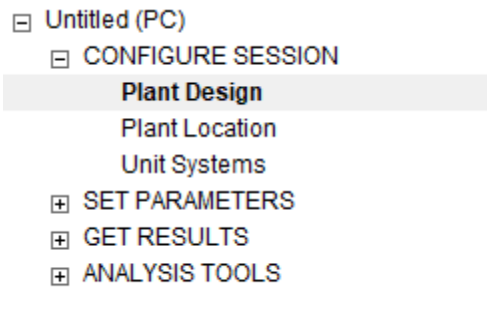#### 4.1.4.4.2. Organization of the Navigation Panel

This section describes how the contents of the navigation panel are organized.

Older versions of the interface, which you may encounter in older documentation and videos, used tabs. Although the new navigation panel looks different, the structure is essentially the same, and we use the same terms to describe it.. The relationship between the old tabs and the new navigation panel will be briefly described here and in the following section (see "4.1.4.2.9. The Location of the Current Screen" on page 32) to aid in understanding these older resources.

##### 4.1.4.4.2.1. Program Areas

Each session contains 4 program areas: "CONFIGURE SESSION", "SET PARAMETERS", "GET RESULTS" and "ANALYSIS TOOLS":

```
□ Untitled (PC)
    □ CONFIGURE SESSION
        Plant Design
        Plant Location
        Unit Systems
    ⊞ SET PARAMETERS
    ⊞ GET RESULTS
    ⊞ ANALYSIS TOOLS
```

*Illustration 55: Program Areas*

In the old tab-style interface, the program areas are in the row of large tabs at the top of the session window.

### 4.1.4.4.2.2. Technologies

Inside each program area, the screens are grouped by technology. In the old tab-style interface, technologies are in the row of smaller tabs beneath the program areas.

"CONFIGURE SESSION" has no technologies, as none of its screens are technology-specific.

"ANALYSIS TOOLS" contains 2 technologies: "Sensitivity Analysis" and "Uncertainty".

The list of technologies in "SET PARAMETERS" and "GET RESULTS" is different for each plant type. Technologies that do not contain any screens in the current configuration will not be shown.

#### 4.1.4.4.2.2.1. Technologies in a Pulverized Coal (PC) Plant

The "SET PARAMETERS" and "GET RESULTS" program areas in a PC plant may contain the following technologies:

- Overall Plant
- Fuel
- Base Plant
- NOx Control
- Mercury
- TSP Control
- SO2 Control
- CO2 Capture, Transport & Storage
- Water Systems
- By-Prod. Mgmt
- Stack
- Water Life Cycle Assessment

#### 4.1.4.4.2.2.2. Technologies in a Natural Gas Combined Cycle (NGCC) Plant

The "SET PARAMETERS" and "GET RESULTS" program areas in an NGCC plant may contain the following technologies:

- Overall Plant
- Fuel
- Power Block
- NOx Control
- CO2 Capture, Transport & Storage
- Water Systems
- By-Prod. Mgmt
- Stack
- Water Life Cycle Assessment

### 4.1.4.4.2.2.3. Technologies in an Integrated Gasification Combined Cycle (IGCC) Plant

The "SET PARAMETERS" and "GET RESULTS" program areas in an IGCC plant may contain the following technologies:

- Overall Plant
- Fuel
- Air Separation Unit
- Gasifier Area
- Sulfur Removal
- CO2 Capture Transport & Storage
- Power Block
- Water Systems
- By-Prod. Mgmt
- Stack

### 4.1.4.4.2.2.4. An Example: Technologies in a Typical New PC Plant

As an example, this illustration shows the technologies available under "SET PARAMETERS" in a PC plant with the "Typical New Plant" configuration:

```
☐ SET PARAMETERS
    ⊞ Overall Plant
    ⊞ Fuel
    ⊞ Base Plant
    ⊞ NOx Control
    ⊞ TSP Control
    ⊞ SO2 Control
    ⊞ Water Systems
    ⊞ By-Prod. Mgmt
    ⊞ Water Life Cycle Assessment
```

*Illustration 56: "SET PARAMETERS" in a Typical New PC Plant*

You may notice that "CO2 Capture, Transport & Storage" is missing. That is because this configuration does not include $CO_2$ capture.

These are the technologies available under "GET RESULTS" for the same configuration:

```
☐ GET RESULTS
    ⊞ Overall Plant
    ⊞ Fuel
    ⊞ Base Plant
    ⊞ NOx Control
    ⊞ TSP Control
    ⊞ SO2 Control
    ⊞ Water Systems
    ⊞ By-Prod. Mgmt
    ⊞ Stack
    ⊞ Water Life Cycle Assessment
```

*Illustration 57: "GET RESULTS" in a Typical New PC Plant*

This list is slightly different from the "SET PARAMETERS" list. In particular, "Stack" only appears in "GET RESULTS". The "Stack" module does not have any parameters, only results, so it is hidden in "SET PARAMETERS".

### 4.1.4.4.2.3. Process Types

Your plant may have more than one process that falls into the same "technology" category. In this case, the screens in the affected technologies will be grouped by process type. This corresponds to the "Process Type" menu which is located in the lower left part of the screen, just above the bottom row of tabs, in the old tab-style interface.

For example, in the Typical New PC plant we've been looking at, the "NOx Control" technology has two different process types: "In-Furnace Controls" and "Hot-Side SCR". These are the "NOx Control" screens available in the "SET PARAMETERS" program area:

```
☐ NOx Control
    ☐ 1. In-Furnace Controls
        In-Furnace Controls Diagram
        Config
        Performance
        Capital Cost
        O&M Cost
    ☐ 2. Hot-Side SCR
        Hot-Side SCR Diagram
        Config
        Performance
        Performance (continued)
        Capital Cost
        O&M Cost
        Retrofit or Adjustment Factors
```

*Illustration 58: NOx Control with Process Types*

If we go to the "CONFIGURE SESSION: Plant Design" screen and remove the in-furnace controls, the list changes:

```
⊟ NOx Control
        Hot-Side SCR Diagram
        Config
        Performance
        Performance (continued)
        Capital Cost
        O&M Cost
        Retrofit or Adjustment Factors
```
*Illustration 59: NOx Control without Process Types*

Since there is now only one process type, "Hot-Side SCR", it is not shown, and the Hot-Side SCR screens are shown directly under the "NOx Control" technology.
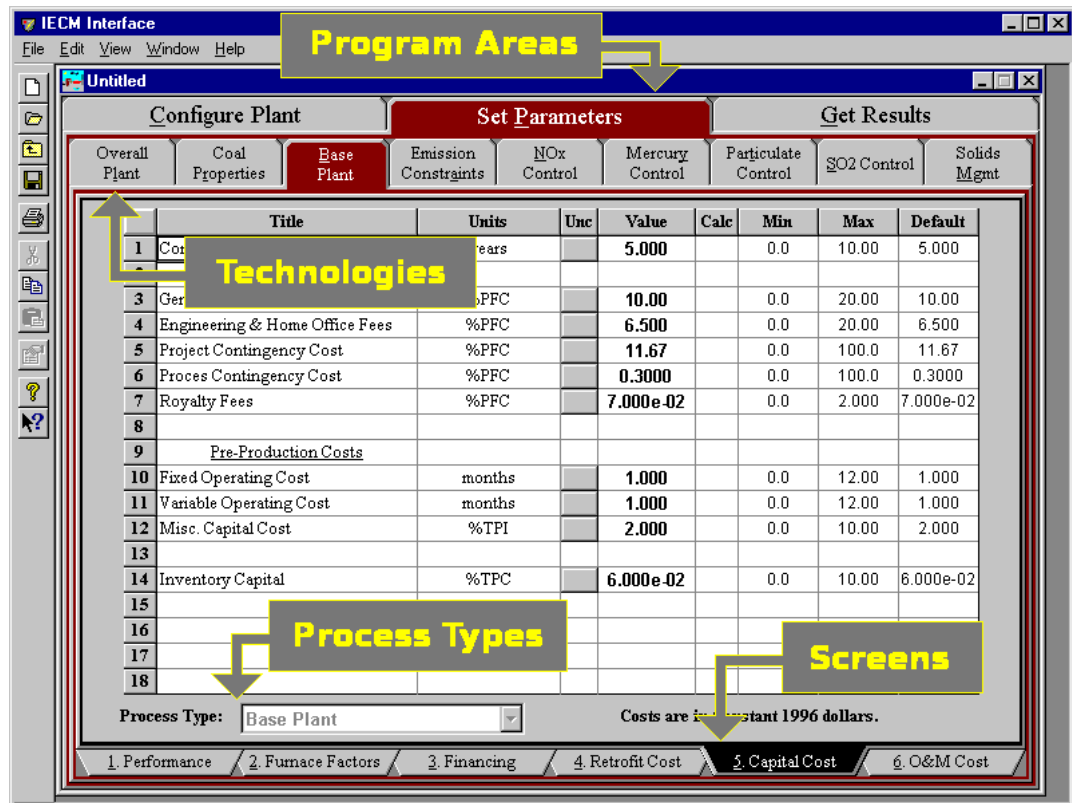
#### 4.1.4.4.2.4. Screens

Screens are the final level of organization in the navigation panel. They correspond to the tabs at the bottom of the window (Input and Result tabs) in the old tab-style interface.

Each screen is a collection of related settings, parameters, diagrams, etc. which you may use to set up the model or view your results. Click on the screen you want in the navigation panel to display its contents.

### 4.1.4.4.3. Organization in the Old Tab-Style Interface

Older versions of the IECM used a tab-style interface instead of the navigation panel. You may encounter this in older documentation or videos. The interface is organized the same way, except it uses tabs:

*Illustration 60: Guide to Navigation in the Old Tab-Style Interface*

Program areas (see "4.1.4.4.2.1. Program Areas" on page 35) are in the large row of tabs at the top. Technologies (see "4.1.4.4.2.2. Technologies" on page 36) are in the medium-sized row of tabs just under the program areas. Process types (see "4.1.4.4.2.3. Process Types" on page 38) are in the menu on the lower left, just above the bottom row of tabs. Screens (see "4.1.4.4.2.4. Screens" on page 39) are in the small row of tabs at the bottom.

Some configuration information, e.g. uncertainty, is in dialogs activated from the "View" menu in older versions, which do not have an "ANALYSIS TOOLS" process area.