INSTRUCTIONS - Do not attempt to use Model before reading lines 3 - 27.

**This model should not be used for a Start Year more than 10 years in the future because it is not
reasonable to forecast detailed plant performance and cost data beyond that point.**

It is preferable to first read the COG Model's User's Guide, but the following instructions will allow you to use the Model.

Note: Model is designed to work with Excel 2000 and later versions. Some functions may not work with Excel 97.

INSTRUCTIONS FOR EXCEL VERSIONS 2001- 2003
1. If, when opening the model, Excel gives you the option to "**Enable Macros**" select this option.
   If Excel gives you the message that the Macros are disabled, set security level to Medium.
   (Under Tools--> Options-->Security-->Macro Security, set security level to Medium)
   Save, close and then reopen Model. If you do not enable the macros, the Model will not work correctly.
2. Go to **INPUT-OUTPUT** Worksheet and follow instructions for entering data and saving scenarios.
   Standard Technologies can be selected in the "Input Selection" table.
3. Read Levelized Costs in the "Output Results" table on the **INPUT-OUTPUT** Worksheet.

INSTRUCTIONS FOR EXCEL VERSIONS 2007
1. When opening the model, a message will appear just above the COG Model worksheet:
   "Security Warning   Some active content has been disabled" followed by a box with the word "**Options"**
   Click on that box and a window will open, with two options. Select the "**Enable this content**" option,
   click on the Okay box, and the window will close – thus activating the macros.
   Save, close and then reopen Model. If you do not enable the macros, the Model will not work correctly.
2. Go to **INPUT-OUTPUT** Worksheet and follow instructions for entering data and saving scenarios.
   Standard Technologies can be selected in the "Input Selection" table.
3. Read Levelized Costs in the "Output Results" table on the **INPUT-OUTPUT** Worksheet.

**Protected Cells - Certain cells are "protected" to prevent inadvertent
overwriting by a user that might render the model unusable or inconsistent.
The protection password is "CEC".**

MODEL STRUCTURE

The Worksheets are color coded to assist in understanding the model.

Changes	Tracks Model modifications using version numbers.
Instructions	General Instructions & Model Description.
WEP Forecast	Estimates Wholesale Electric Price Forecast
Adders	Provides Adder Costs that can be entered exogenously for the combined cycle & simple cycle units.
Input-Output	User selects Assumptions - Levelized Costs are reported along with some key data values.
Data 1	Plant, Financial, & Tax Data are summarized - User can override data for unique scenarios.
Data 2	Construction, O&M Costs are calculated in base year dollars.
Income Statement	Calculates Annual Costs and Levelizes those Costs – Using Revenue Requirement accounting
Income Cash -Flow	Calculates Annual Costs and Levelizes those Costs – Using Cash-Flow accounting
Plant Type Assumptions	Summary of Data Assumptions summary for each Plant Type.
PTA - Average	Average Plant Type Assumptions
PTA - High	High Plant Type Assumptions
PTA - Low	Low Plant Type Assumptions
Financial Assumptions	Data Assumptions summary of all Financial Data.
General Assumptions	General Assumptions summary such as Inflation Rates & Tax Rates.
Plant Site Air & Water Data	Regional Air Emissions & Water Costs - Used by Data 2 Worksheet.
Overhaul Calcs	Calculates Overhaul & Equipment Replacement Costs - Used by Data 2 Worksheet.
Inflation	Calculates Historical & Forward Inflation Rates based on GDP Price Deflator Series - Used by Income Statement Worksheet.
Fuel Price Forecasts	Fuel Price Forecast - Used by the Income Statement Worksheet.
Heat Rate Table	Shows the regression and provides the Heat Rate factors.
Labor Table	Calculates the Labor Cost components.

The data assumptions are primarily stored in three Worksheets: **Plant Type Assumptions, Financial Assumptions** and **General Assumptions** . When you use the
INPUT-OUTPUT Worksheet to select assumptions, a macro will place the data you selected into the Data 1 and Data 2 Worksheets. The data on the Data 1 and Data
2 Worksheets will appear coded in the color that corresponds to the assumptions worksheet that it came from. These Data Worksheets will perform various calculations
and then make that data available to the **Income Statement** Worksheet, which calculates all the relevent Annual Values, calculates a Present Value for each and finally
calculates the Levelized Values which are sent to the **INPUT-OUTPUT** Worksheet. The INPUT-OUTPUT Worksheet reports Fixed, Variable and Total Levelized Costs.
These values are available both as $/kW-Yr and $/MWh. The INPUT-OUTPUT Worksheet also reports key data values such as Capital Cost, Capacity, Energy, Heat
Rate, Capacity Factors and Availability Factors.

Data is normally updated within the three Assumptions Worksheets. However, scenarios can be run by modifying the colored sections of Data 1 and Data 2
Worksheets - and these scenarios can be saved using the Save New Scenario option in the INPUT-OUTPUT Worksheet.