EnPI Tool Instruction Guide

Instruction guide for enabling macros, setting formula preferences, and a step-by-step explanation of EnPI Tool use.

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Preparation

Purpose

The purpose of the preparation activities is to ensure that all of the appropriate data has been compiled prior to using the EnPI Tool. These steps also help to ensure that all relevant information is considered when developing a model.

Process

1. Identify all energy sources
2. Determine what generation efficiency factors are appropriate for each energy source.
3. Collect 48 months of previous consumption data for all energy sources (electricity, gas, fuel, propane, etc). Energy consumption data can be monthly or weekly data.

   Note: Twelve months of data are required to develop an appropriate regression model describing baseline energy consumption. At least 24 months of data will be required to begin calculating savings based on the baseline year model.

   Note: If calculations are being completed to determine savings for the Superior Energy Performance certification, then 48 months of data will be needed for the Energy Performance Pathway and up to 132 months of data will be needed for the Mature Energy Pathway.
4. Determine if utility data comes from a utility billing meter or appropriately calibrated source.
5. Brainstorm with the team what independent variables (Xs) in your facility might impact energy usage.
6. Collect 48 months of historical monthly (or weekly) data values for each of these variables (Xs). Variable data needs to be collected at the same frequency as the energy consumption data. So, if monthly energy consumption data was collected, monthly variable data needs to also be collected. Some examples of data that could be collected are shown below.
   a. Production mix data
   b. Production level data
   c. Weather data
   d. Input quantity data
   e. Input characteristic data
7. Ensure that variable data comes from an appropriately calibrated source. Any external data, such as weather data, should come from a reliable source (primary NOAA weather stations).
8. Consider the potential complicating factors when collecting utility and relevant variable data.

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Step 1: Energy Utilities

Purpose

The purpose of the energy utilities step is to determine the units of the energy data collected in the preparation step and the generation efficiency for each energy source. This information will be used automatically by the EnPI Tool in later tabs to convert all energy sources to primary MMBtu.

Process

1. Check to make sure Excel has the correct security settings, macros are enabled, and automatic formula calculation is selected. Instructions for these measures are located in Annex A.

2. Electricity and Natural Gas are listed as the utilities in the Step 1 – Energy Utilities tab. If there is a third energy source, change the third row in the table to indicate the type of the third utility.

   Note: Only three energy sources are permitted in the EnPI Tool.

3. On the Step 1- Energy Utilities tab, select the units of the energy data collected in the preparation activities. Also, enter the generation efficiency values for each energy source.

Utilities	Units of Data Entered	MMBtu Conversion Factor	Generation / T&D Efficiency
Electricity	kWh	0.003412	33.3%
Natural Gas	Therms	0.1	100.0%
[None]	MMBtu	1	100.0%

Figure 1: Step 1- Energy Utilities

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Step 2: Data Entry

Purpose

The Step 2- Data Entry tab is the only place in the EnPI Tool where energy and variable data can be entered.

Process

1. In the Step 2-Data Entry tab, either type or copy and paste the dates associated with the utility and variable data collected in the preparation step under the "Date" heading.

   Note: There are 1,000 data rows available in the Step 2-Data Entry tab. This should be sufficient for monthly or weekly data.

2. Either type or copy and paste the utility data in Step 2-Data Entry in the corresponding columns under the Utilities heading.

   Note: If the copied data contains formulas, then utilize the paste special paste values feature.

3. Either type or copy and paste the variable data into the columns under the heading Independent Variables.

   Note: If the copied data contains formulas, then utilize the paste special paste values feature.

4. Add headings and units to the variable data columns as necessary.

   Note: A completed Data Entry Sheet might look similar to Figure 2.

1000 Data Points Max

		Utilities				
	Date	Electricity (kWh)	Natural Gas (Therms)	[None] (MMBtu)	Production	Average Temp.
1	10/01/06	10,595,129	437,838		26,652	68
2	11/01/06	10,341,009	436,772		26,862	57
3	12/01/06	9,968,550	407,834		23,759	50
4	01/01/07	10,583,198	459,829		29,014	42
5	02/01/07	9,555,293	405,132		24,284	49
6	03/01/07	10,246,441	435,298		25,675	64
7	04/01/07	6,059,974	304,251		17,539	62
8	05/01/07	6,467,945	316,928		15,863	74
9	06/01/07	8,272,225	387,390		19,136	81
10	07/01/07	10,095,902	444,087		23,764	84
11	08/01/07	10,255,307	454,201		25,369	88
12	09/01/07	9,716,935	445,334		25,240	82
13	10/01/07	10,164,383	436,692		25,852	69
14	11/01/07	10,239,630	426,833		26,056	59
15	12/01/07	9,128,923	379,051		23,046	51
16	01/01/08	11,009,987	436,320		28,144	43
17	02/01/08	9,317,140	384,864		23,556	50
18	03/01/08	9,814,981	419,472		24,905	65
19	04/01/08	6,902,805	315,004		17,013	64
20	05/01/08	6,302,963	308,018		15,387	76
21	06/01/08	7,474,297	357,468		18,562	83
22	07/01/08	9,130,992	418,523		23,051	85
23	08/01/08	9,705,331	443,551		24,608	90
24	09/01/08	9,659,295	434,680		24,483	83
25	10/01/08	10,208,491	409,081		26,119	69
26	11/01/08	10,284,101	399,666		26,325	58
27	12/01/08	9,168,025	354,951		23,283	51
28	01/01/09	11,058,181	408,200		28,434	43
29	02/01/09	9,357,152	360,358		23,799	50
30	03/01/09	9,857,400	392,935		25,162	65
31	04/01/09	6,931,148	295,476		17,188	63
32	05/01/09	6,328,407	289,211		15,546	75
33	06/01/09	7,505,402	335,473		18,753	82
34	07/01/09	9,170,104	392,460		23,289	85
35	08/01/09	9,747,220	415,885		24,862	89
36	09/01/09	9,700,961	407,485		24,736	82
37	10/01/09	10,446,088	385,888		26,918	67
38	11/01/09	10,523,588	377,101		27,130	57
39	12/01/09	9,379,615	334,933		23,996	50
40	01/01/10	11,317,017	385,317		29,304	42

Step 1 - Energy Utilities | Step2 - Data Entry | Step 3 - Data Review | Step 3 - Da

Figure 2: Example Data in Data Entry Sheet

Step 3: Data Review

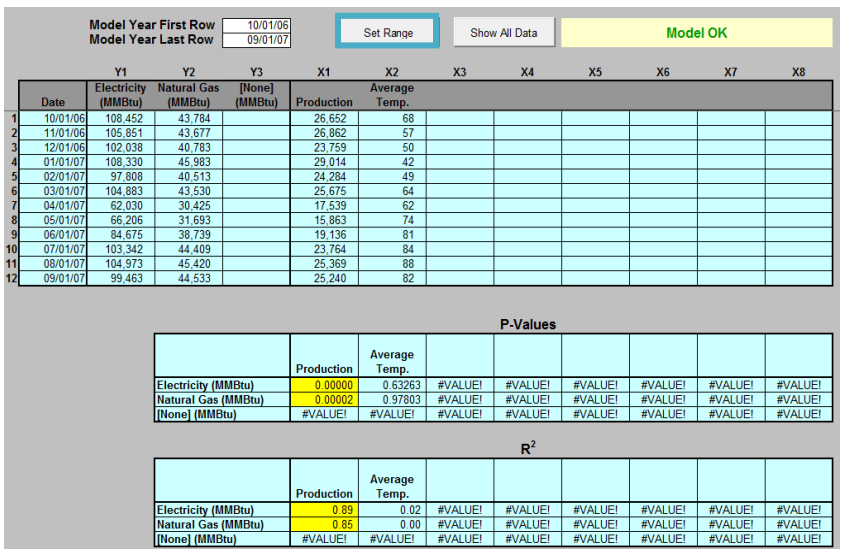
Purpose

The Step 3- Data Review tab shows the energy data converted into primary MMBtu. This data review step is an initial look at which variables are statistically significant.

Process

1. Click on Step 3- Data Review tab and select the first and last months of the model year. Then click "Set Range" as seen in Figure 3.

   Note: If the forecast method is being used, choose the twelve months of baseline data to be modeled. If the backcast method is being used, choose the last twelve months of data collected or the reporting period. If the chaining method is being utilized, select the middle year of data to be modeled.



Model Year First Row 10/01/06
Model Year Last Row 09/01/07

Set Range | Show All Data | Model OK

	Date	Y1 Electricity (MMBtu)	Y2 Natural Gas (MMBtu)	Y3 [None] (MMBtu)	X1 Production	X2 Average Temp.	X3	X4	X5	X6	X7	X8
1	10/01/06	108,452	43,784		26,652	68						
2	11/01/06	105,851	43,677		26,862	57						
3	12/01/06	102,038	40,783		23,759	50						
4	01/01/07	108,330	45,983		29,014	42						
5	02/01/07	97,808	40,513		24,284	49						
6	03/01/07	104,883	43,530		25,675	64						
7	04/01/07	62,030	30,425		17,539	62						
8	05/01/07	66,206	31,693		15,863	74						
9	06/01/07	84,675	38,739		19,136	81						
10	07/01/07	103,342	44,409		23,764	84						
11	08/01/07	104,973	45,420		25,369	88						
12	09/01/07	99,463	44,533		25,240	82						

P-Values

	Production	Average Temp.						
Electricity (MMBtu)	0.00000	0.63263	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Natural Gas (MMBtu)	0.00002	0.97803	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
[None] (MMBtu)	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

R^2

	Production	Average Temp.						
Electricity (MMBtu)	0.89	0.02	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Natural Gas (MMBtu)	0.85	0.00	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
[None] (MMBtu)	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Figure 3: Data Review for Model Year

Note: When the data to be modeled has been selected, the other remaining data will be hidden. To view the hidden data, hit the "Show All Data" button.

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2. Click to Step 3-Data Review (Graphs), and there will be graphical representations of the data and the relationships that are being evaluated (Figure 4).

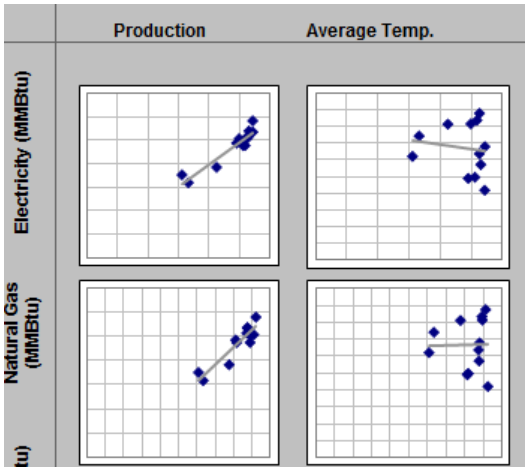

Figure 4: Scatter Plots of Model Year Data

Interpretation

The p-value for each X and Y pair is shown at the bottom of the Step 3-Data Review tab. The p-value is the probability that the X and Y pair are not correlated. So, if the p-value is less than 0.10, there is less than a 10% chance that the X and Y pair are not correlated. Therefore, the likelihood that these variables are correlated is very high.

1. Review the p-values at the bottom of the Step 3-Data Review tab. Determine, based on the p-values, which variables tend to correlate to utility usage. (A p-value of less than or equal to 0.10 for a variable pair is typically considered a statistically significant relationship.)

2. For the pairs that seem to be significant, review the scatter plots located on the Step 3-Data Review (Graphs) tab to determine if the relationships can be visually verified.

3. Determine, based on process knowledge, whether the significant data pairs make sense.

4. Determine based on the p-values which variables should be included in the linear regression (Step 4:Y1-Y3 Regression).

   Note: If multiple X variables are dependent upon each other only one of the variables should be included in the linear regression.

   Note: Sometimes variables that have an impact on the energy consumption will not show up as significant at this point due to the magnitude of the impact of the variable. If the magnitude of the impact is small compared to another factor, it is possible that the variable could still be considered significant in the regression equation in the next step. For example, in the case where production greatly impacts energy consumption, weather will often show as insignificant in the analysis completed on the Step 3-Data Review tab. However, oftentimes when weather is included in the regression with

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production on the Step 4-Regression tab, the variable is significant based on the p-value analysis completed for the model.

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Step 4: Y1-Y3 Regression

Purpose

The purpose of the regression step is to develop a model, for each energy source, that accurately describes the relationship between the X variables and energy consumption, Y variables.

Process

1. Step 4- Y1 Regression shows the relationship between X variables and electricity consumption. First select the period that is being modeled by adjusting the boxes that are labeled "Model Year First Row" and "Model Year Last Row" as seen below in Figure 5.

   Note: If the forecast method is being used, choose the twelve months of baseline data for the regression. If the backcast method is being used, choose the last twelve months of data collected or the reporting period. If the chaining method is being utilized, select the middle year of data to be modeled.

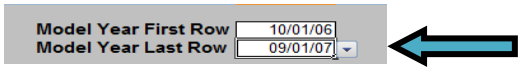

Figure 5: Selecting Evaluation Timeframe

2. On the top right of the screen, there are a list of variables that can be included in the model. Select the variables to be included in the model based on the analysis completed on the Step 3-Data Review tab. Ensure appropriate variables are designated "Yes". If there is an unwanted variable in the list, click on the drop down box next to that variable, and change it to "No".

   Note: If multiple X variables are dependent upon each other only one of the variables should be included in the linear regression.

   Note: Sometimes variables that have an impact on the energy consumption will not show up as significant at this point due to the magnitude of the impact of the variable. If the magnitude of the impact is small compared to another factor, it is possible that the variable could still be considered significant in the regression equation in the next step. For example, in the case where production greatly impacts energy consumption, weather will often show as insignificant in the analysis completed on the Step 3-Data Review tab. However, oftentimes when weather is included in the regression with production on the Step 4-Regression tab, the variable is significant based on the p-value analysis completed for the model.

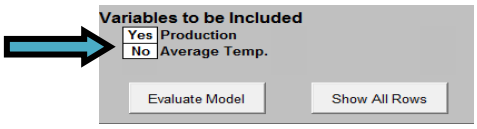

Figure 6: Changing Evaluation Variables

3. When all the settings are correct for the model, click the "Evaluate Model" button.

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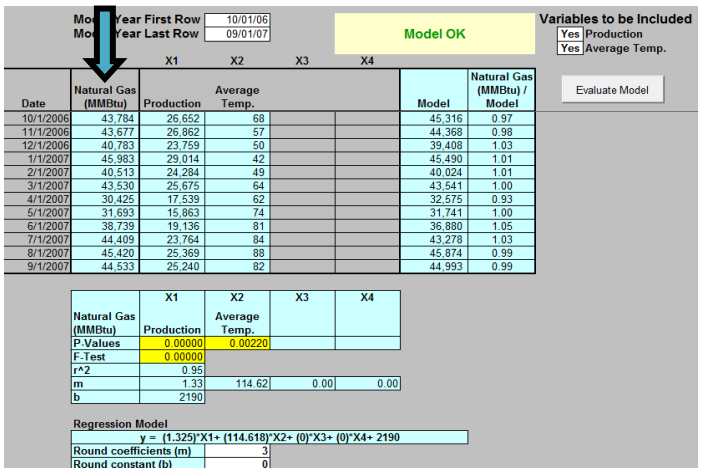
4. Y2 and Y3 Regressions work the same as the Y1 regressions, they just evaluate different energy sources against chosen variables as seen in Figure 7.



Mo Year First Row 10/01/06
Mo Year Last Row 09/01/07

Model OK

Variables to be Included
Yes Production
Yes Average Temp.

Evaluate Model

Date	Natural Gas (MMBtu)	X1 Production	X2 Average Temp.	X3	X4	Model	Natural Gas (MMBtu) / Model
10/1/2006	43,784	26,652	68			45,316	0.97
11/1/2006	43,677	26,862	57			44,368	0.98
12/1/2006	40,783	23,759	50			39,408	1.03
1/1/2007	45,983	29,014	42			45,490	1.01
2/1/2007	40,513	24,284	49			40,024	1.01
3/1/2007	43,530	25,675	64			43,541	1.00
4/1/2007	30,425	17,539	62			32,575	0.93
5/1/2007	31,693	15,863	74			31,741	1.00
6/1/2007	38,739	19,136	81			36,880	1.05
7/1/2007	44,409	23,764	84			43,278	1.03
8/1/2007	45,420	25,369	88			45,874	0.99
9/1/2007	44,533	25,240	82			44,993	0.99

Natural Gas (MMBtu)	X1 Production	X2 Average Temp.	X3	X4
P-Values	0.00000	0.00220		
F-Test	0.00000			
r^2	0.95			
m	1.33	114.62	0.00	0.00
b	2190			

Regression Model
y = (1.325)*X1+ (114.618)*X2+ (0)*X3+ (0)*X4+ 2190

Round coefficients (m)	3
Round constant (b)	0

Figure 7: Y2 Regression for Example Data

Interpretation

The p-value for each X in the regression model is shown at the bottom of the data entry table in the Step 4-Regression tab. (This p-value is not the same as the p-value for each X and Y pair individually.) It is ideal to have each independent variable in the regression equation to have a p-value of less than 0.10 (can be located at the bottom of the Step 4-Regression tabs.

1. Review the p-values at the bottom of the data entry chart. Ensure the p-value for each variable is less than 0.10. Variables that have high p-values should be removed from the regression equation. This can be done by selecting "No" next to the variable name at the top right of the screen. Then hit the "Evaluate Model" button again.

2. The F-test is a test of model significance. The F-test p-value for the model is located at the bottom of the Step 4-Regression tab. Ensure the p-value for the model is less than 0.10.

3. Review the R^2 value for the regression equation. (The R^2 value quantifies the amount of variation in the dependent variable, Y, which is explained by the regression equation. Ideally, you would like for the R^2 value to be high, indicating that you have a model that explains a large portion of the variation in energy consumption.)

4. If the R^2 value for the model is low, review the factors to determine if a factor that can impact energy usage has been overlooked.

5. Determine, based on process knowledge, whether the regression makes sense.

> Note: There may be some cases where energy consumption for a particular energy source is not based on any factor (weather, production, or other). An example of this may be when there are several large pieces of equipment left running all of the time, and there is no decrease in energy consumption when there is a decrease in production.

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When this is the case, the following process must be used to continue use of the EnPI Tool. On the Step 2-Data Entry tab, include another independent variable called "Dummy Variable". Make sure there are all zeros in this column. Then, for this particular energy source, select "Dummy Variable" as the only variable to be included in the regression on the Step 4-Regression tab. This is the equivalent of having a model that just includes a constant that is equal to the average monthly energy consumption value, for this energy source, for the modeled period.

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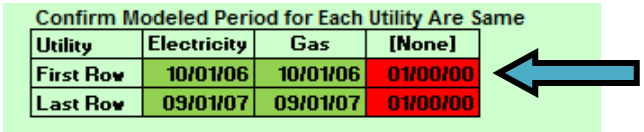
Step 5: EnPI

Purpose

The purpose of Step 5- EnPI is to determine if the model can be appropriately evaluated for the designated timeframe.

Process

1. Confirm that the modeled periods are the same for each of the utilities. This can be done using the table labeled "Confirm Modeled Period for Each Utility Are Same" at the top middle of the worksheet.

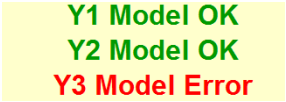


Confirm Modeled Period for Each Utility Are Same

Utility	Electricity	Gas	[None]
First Row	10/01/06	10/01/06	01/00/00
Last Row	09/01/07	09/01/07	01/00/00

Figure 8: Confirm that Model Years are Equivalent

2. Confirm that there are no issues with the previously defined models using the information provided at the top left of the Step 5 worksheet as seen below in Figure 9.

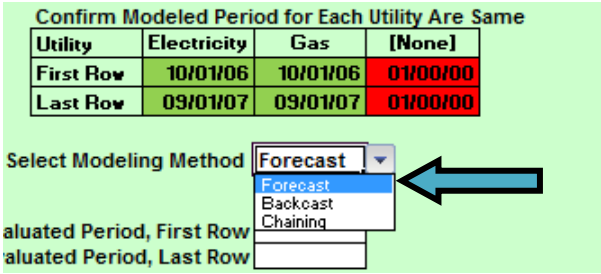


Y1 Model OK
Y2 Model OK
Y3 Model Error

Figure 9: Model Check

Forecast Method

3. If the forecast method will be utilized, select "Forecast" from the "Select Modeling Method" drop down menu.



Confirm Modeled Period for Each Utility Are Same

Utility	Electricity	Gas	[None]
First Row	10/01/06	10/01/06	01/00/00
Last Row	09/01/07	09/01/07	01/00/00

Select Modeling Method Forecast
Forecast
Backcast
Chaining
aluated Period, First Row
aluated Period, Last Row

Figure 10: Set Evaluation to Forecast

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4. Then select the year that will be evaluated using the baseline model. Use the most recent twelve months of data or the reporting period for the forecast method.

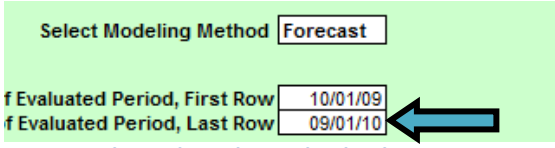

Figure 11: Set the Evaluated Period to be the Most Current 12 Months of Data Collected

5. Once the method has been chosen and the dates have been populated, the EnPI Tool will produce a Performance Improvement percentage.

6. The Data Validation Check at the bottom of the Step 5 worksheet verifies the model is being appropriately applied. The top section includes characteristics of the modeled year data. The second section shows the valid data range, and the third section gives the average value for each variable of the year chosen to be evaluated. If the average of the evaluated year falls within the valid data range, then the model is still valid.

Data Validation Check

	Production
Min	15,863.33
Model Year Avg - 3 x STDEV	11,581.90
Max	29,014.02
Avg + 3 x STDEV	35,611.09
Valid Data Range Low	11,581.90
Valid Data Range High	35,611.09
Average (10/01/09 - 09/01/10)	23,832.46

Figure 12: Forecasting Validation Check

7. The model validity can also be verified at the top left of the Step 5 worksheet.

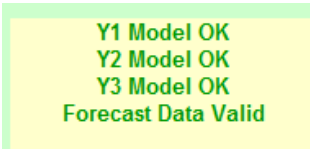

Figure 13: Check Model Validity

8. If the model is not valid using the forecasting method, then the performance improvement listed at the top middle of the worksheet is also not valid. Backcasting must be used.

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Backcast Method

9. Refer to Step 3: Data Review and Step 4: Y1-Y3 Regression instructions in this manual to develop statistically significant models of the most current twelve months or the reporting period.

10. Click to Step 5- EnPI and change the modeling method to backcast. Set the "Year Zero of Evaluated Period, First Row" to the first month of the baseline year. Also, change the "Year Zero of Evaluated Period, Last Row" to the last month of data from the baseline year.

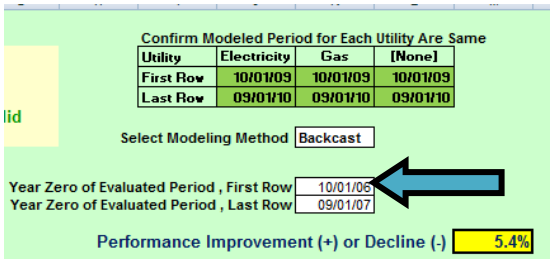
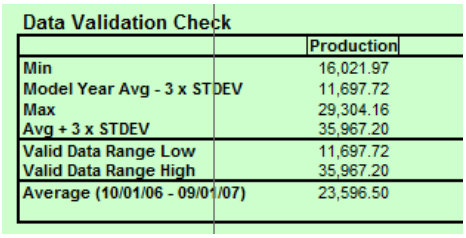


Figure 14: Change the Modeling Method as well as the Evaluated Period

11. Once the method has been chosen and the dates have been populated, the EnPI Tool will produce a Performance Improvement percentage.

12. The Data Validation Check at the bottom of the Step 5 worksheet verifies the model is being appropriately applied. The top section includes characteristics of the modeled year data. The second section shows the valid data range, and the third section gives the average value for each variable of the year chosen to be evaluated. If the average of the evaluated year falls within the valid data range, then the model is still valid.



Data Validation Check

	Production
Min	16,021.97
Model Year Avg - 3 x STDEV	11,697.72
Max	29,304.16
Avg + 3 x STDEV	35,967.20
Valid Data Range Low	11,697.72
Valid Data Range High	35,967.20
Average (10/01/06 - 09/01/07)	23,596.50

Figure 15: Validation Check for Backcasting

13. The model validity can also be verified at the top left of the Step 5 worksheet.

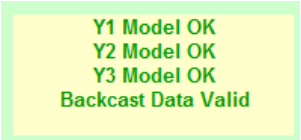


Figure 16: Backcasting Model Validity Check

14. If the model is not valid using the backcasting method, then the performance improvement listed at the top middle of the worksheet is also not valid. If the forecasting and backcasting methods are not valid, a chaining technique must be utilized.

Chaining Method

15. Refer to Step 3: Data Review and Step 4: Y1-Y3 Regression instructions in this manual to develop statistically significant models of a middle twelve months that has characteristics that are similar to the baseline and current years.

16. Select "Chaining" as the modeling method. Then set "Year Zero" to be the twelve months of baseline data, and the "Last Year" to be the most recent twelve months or the reporting period.

Confirm Modeled Period for Each Utility Are Same

Utility	Electricity	Gas	[None]
First Row	10/01/08	10/01/08	10/01/08
Last Row	09/01/09	09/01/09	09/01/09

Select Modeling Method: Chaining

	Year Zero	Last Year
First Row	10/01/06	10/01/09
Last Row	09/01/07	09/01/10

Figure 17: Select "Year Zero" and "Last Year" and Set Method to Chaining

17. Once the method has been chosen and the dates have been populated, the EnPI Tool will produce a Performance Improvement percentage.

18. The Data Validation Check at the bottom of the Step 5 worksheet verifies the model is being appropriately applied. The top section includes characteristics of the modeled year data (in the case of chaining, the middle year). The second section shows the valid data range, and the third section gives the average values for each variable of the years chosen to be evaluated (for chaining, this is the baseline and performance periods). If the averages of each of the evaluated years falls within the valid data range, then the model is still valid.

Data Validation Check

	Production
Min	15,546.07
Model Year Avg - 3 x STDEV	11,350.26
Max	28,433.74
Avg + 3 x STDEV	34,898.87
Valid Data Range Low	11,350.26
Valid Data Range High	34,898.87
Average (10/01/06 - 09/01/07)	23,596.50
Average (10/01/09 - 09/01/10)	23,832.46

Figure 18: Validation Check for Chaining Method

19. The model validity can also be verified at the top left of the Step 5 worksheet.

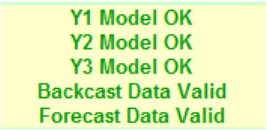


Figure 19: Validity Check of Chaining Method

20. If the model is not valid using the chaining, then the performance improvement listed at the top middle of the worksheet is also not valid. If the chaining is not valid, then determine if chaining can be utilized on a different twelve months of data (middle year) that more closely resembles the baseline and reporting period years.

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Annex A: Excel Settings

Excel Settings: Microsoft Excel 2010

Purpose

The purpose of reviewing Excel settings is to assist users in determining if the Excel version being used is appropriately configured for effective use of the EnPI Tool.

Process

Set Security

1. To ensure the appropriate security settings are selected, go to the toolbar and click "File".

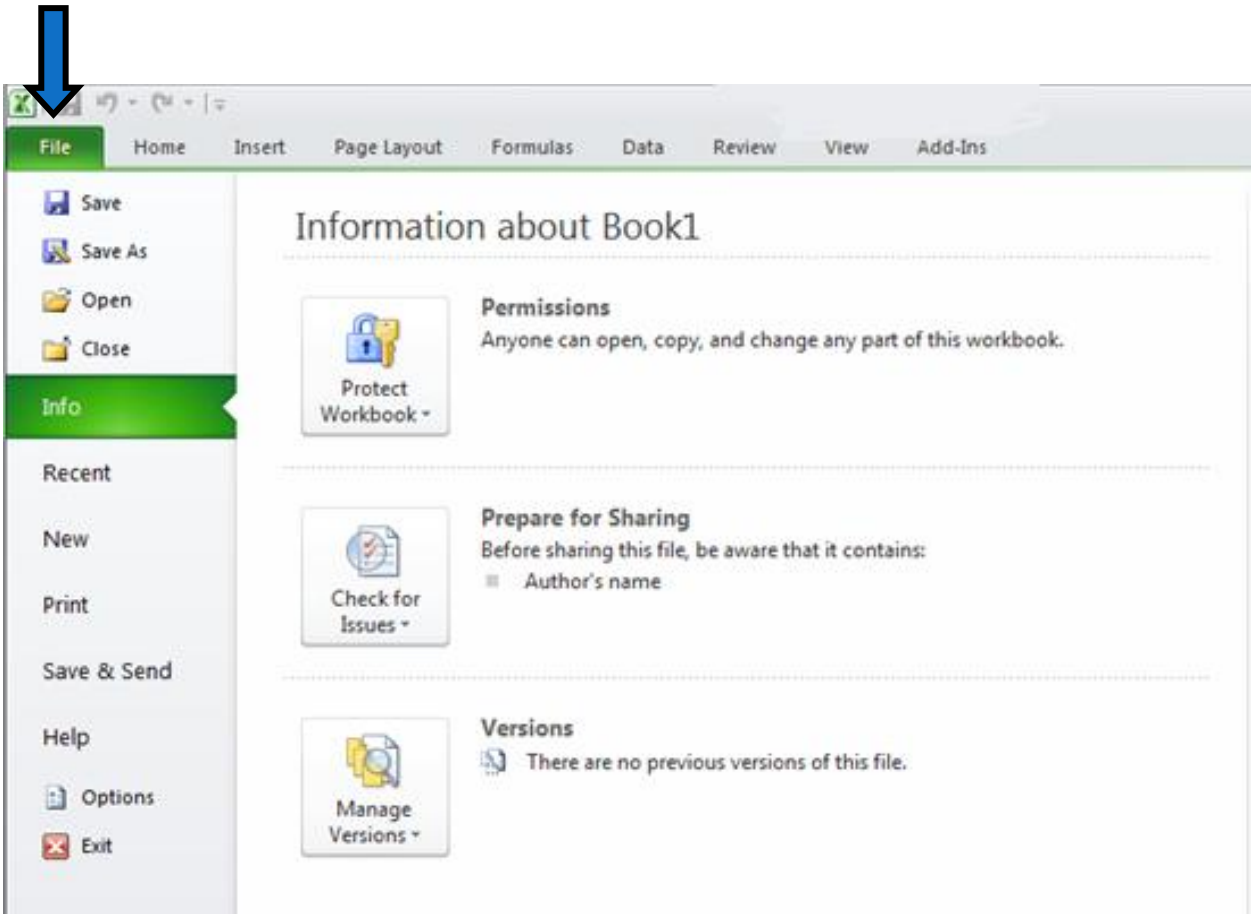

Figure 20: Go to File Tab to Change Options

2. Once you have the File tab open, click on “Options”.

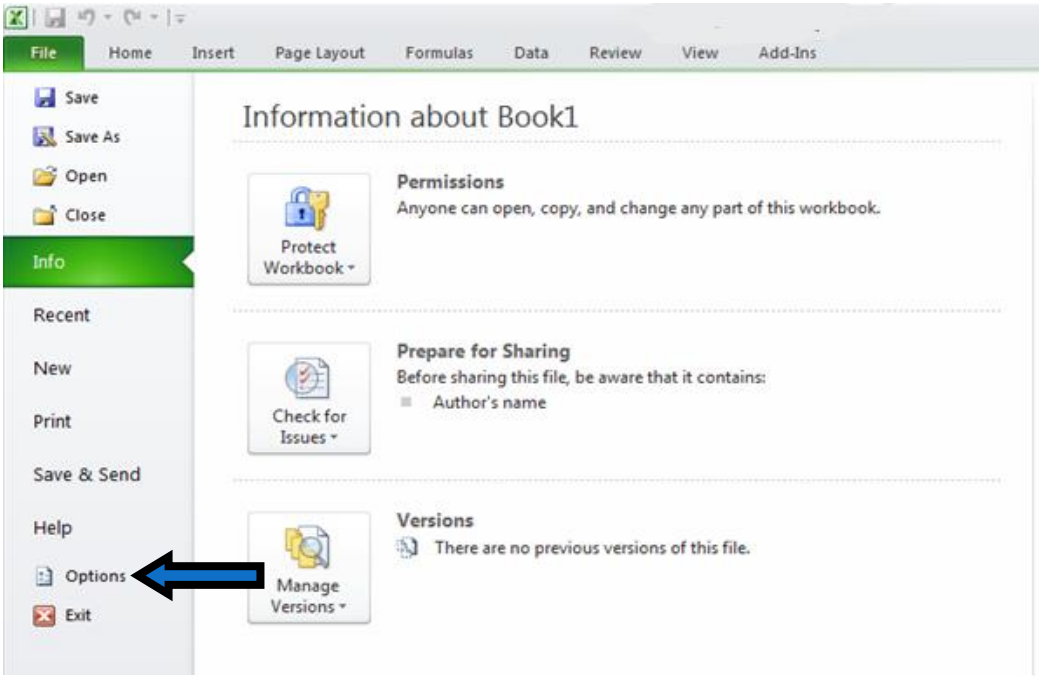

Figure 21: Click on Options Button

3. Then click on “Trust Center” on the sidebar as seen in Figure 22. When this screen appears, there will be a button labeled “Trust Center Settings…” all the way to the far right in the middle of the screen. Click on this button.

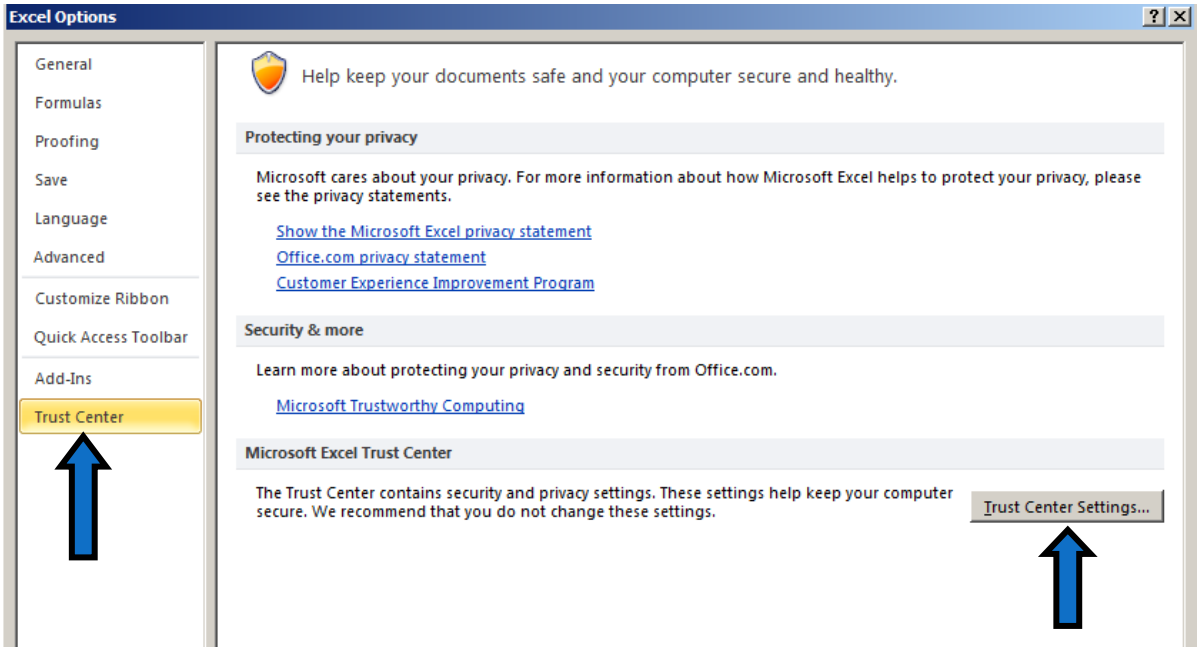

Figure 22: Open Trust Center

4. You will be given two options. Click the radio button that says “Show the Message Bar in all applications when active content, such as ActiveX Control and macros, has been blocked.” Then hit the OK button at the bottom of the screen.

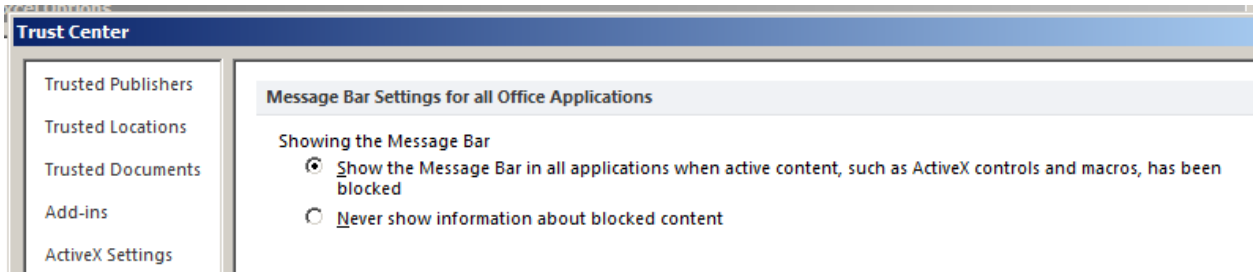

Figure 23: Review Trust Center Settings

Enable Macros

Now that you’ve set the settings correctly, you should not have to go through Set Security Steps 1-4 again. When you open any documents containing macros, you will see a warning message as seen in Figure 24.

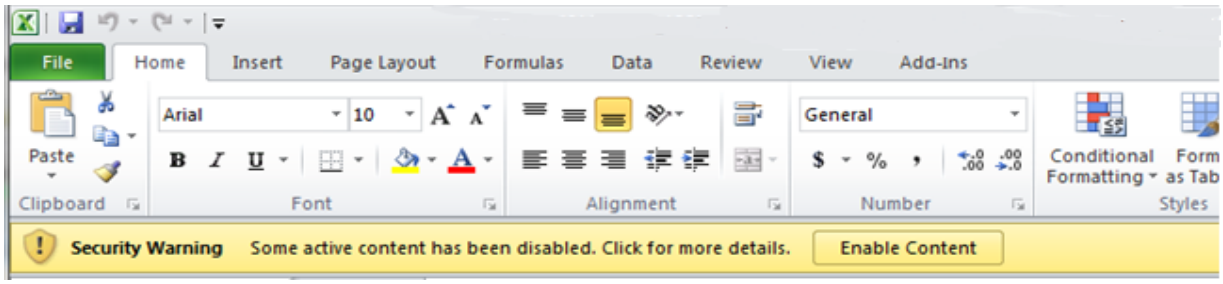

Figure 24: Enable Content to Use Trusted Macros

If the document you are opening is a trusted file, then to enable macros, click the button that is labeled enable this content, and then click “OK”. If the document you have opened is not one that you trust, then do not enable the content.

Ensure EnPI Tool Automatic Calculations Are Turned On

1. Open the EnPI Tool. To ensure the settings to automatically evaluate formulas are appropriately selected, click on the tab labeled "Formulas". Then on the far right-hand side, click on "Calculation Options".

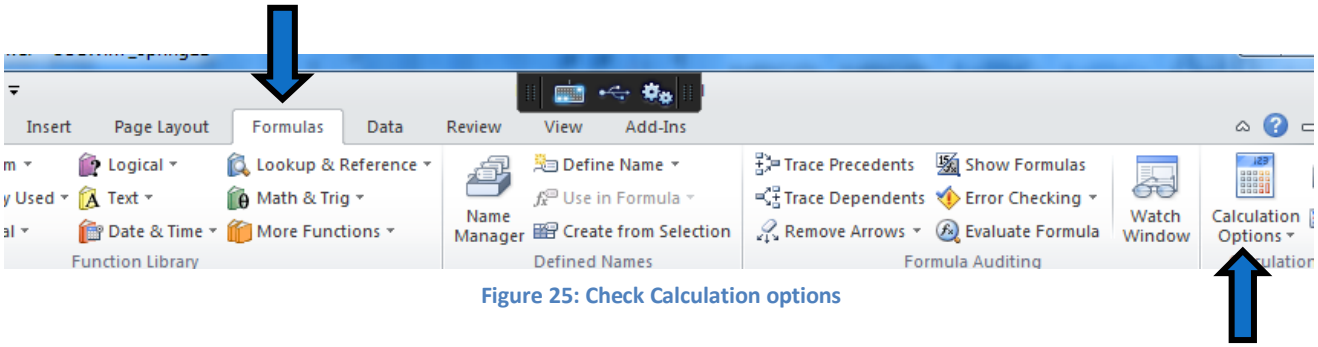

Figure 25: Check Calculation options

2. When the drop-down menu appears, make sure "Automatic" is selected.

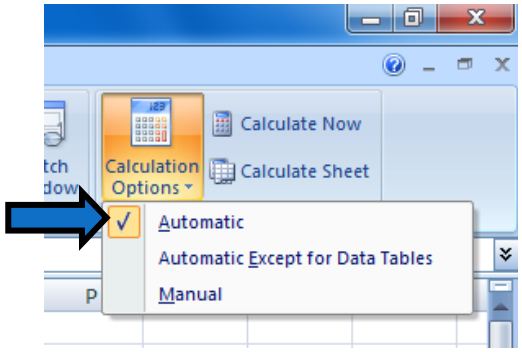

Figure 26: Change Calculation Settings to Automatic

Excel Settings: Microsoft Excel 2007

Purpose

The purpose of reviewing Excel settings is to assist users in determining if the Excel version being used is appropriately configured for effective use of the EnPI Tool.

Process

Set Security

1. To ensure the appropriate security settings are selected, you need the developer tab. If you see the developer tab on your worksheet skip to Step 4 in this section.

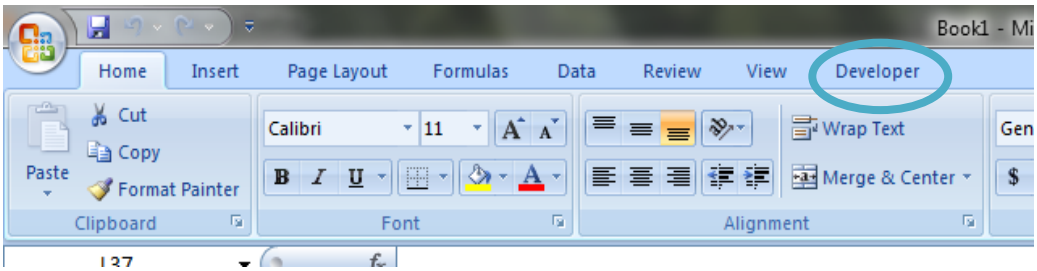

Figure 27: Examine Available Tabs

2. If you don't see the developer tab, first click on the Microsoft Excel button. Then click "Excel Options."

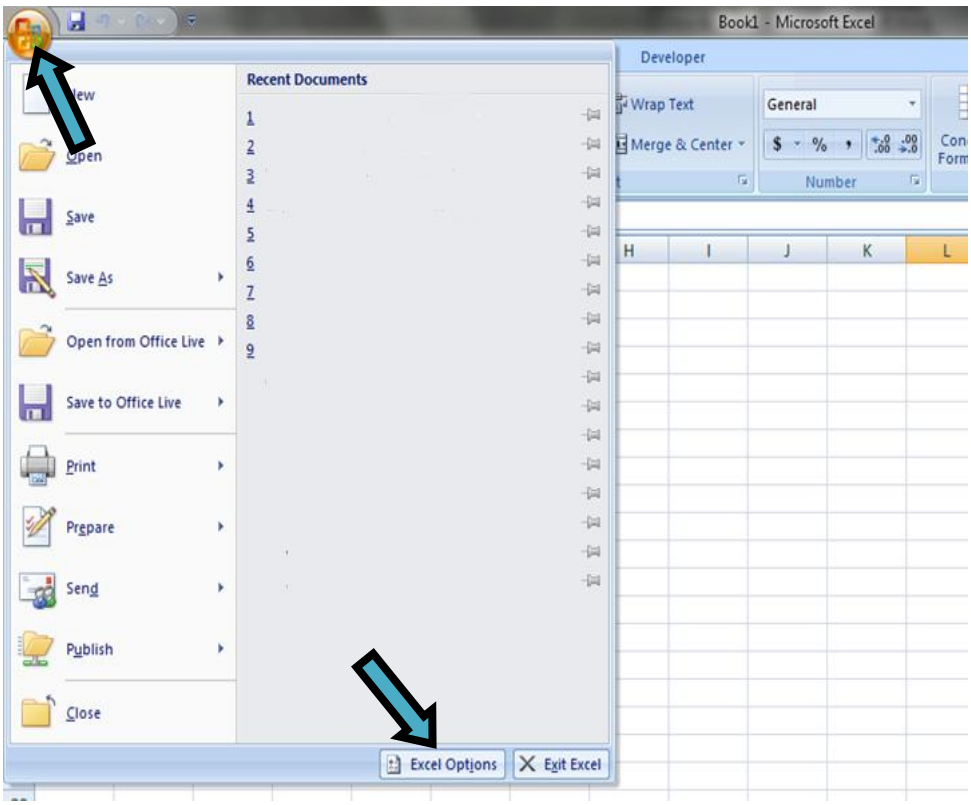

Figure 28: Locate Excel Options Button

3. An options box will pop up, check the box next to “Show Developer Tab in Ribbon”. Then click “OK”.

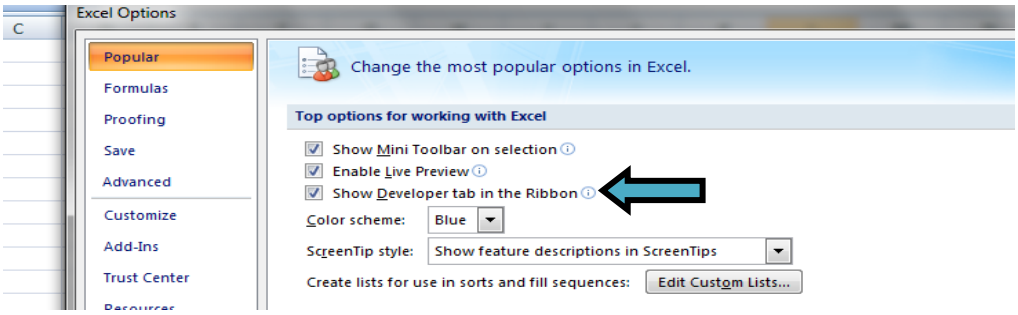

Figure 29: Set the Developer Tab so it Appears on the Toolbar

4. Click on the developer tab, and then click on “Macro Security”.

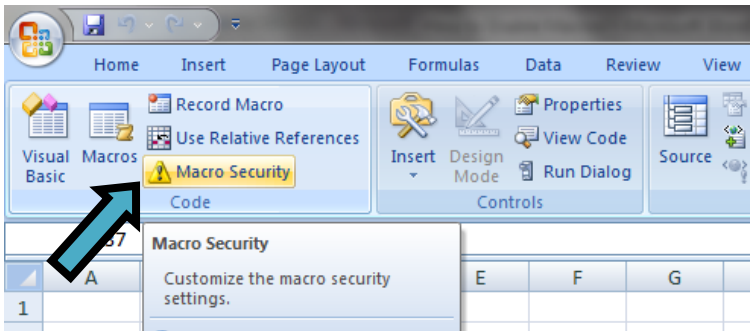

Figure 30: Click on Macro Security

5. Set the Macro Settings so that it will disable all macros with notification, as seen below in Figure 31. Once the settings for Microsoft Excel have been changed on your computer, you should not have to complete Set Security Steps 1-5 again.

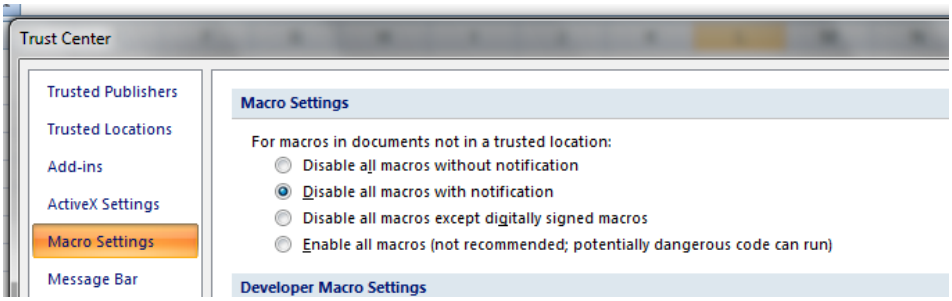

Figure 31: Set Security Settings

Enable Macros

Now when you open a document that includes macros, you will see a warning message as seen below.

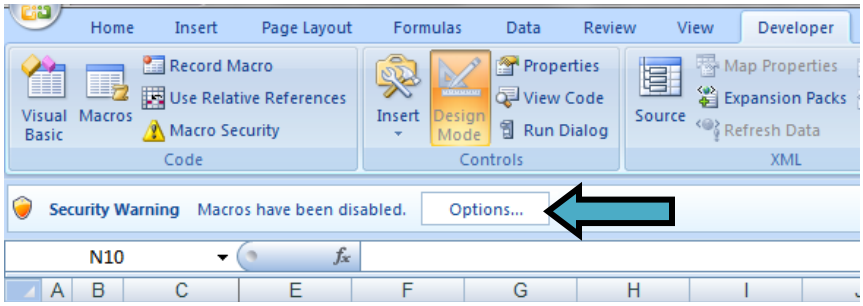

Figure 32: Security Warning about Macros

Once you click options, you will get a security pop-up. If the document you are opening is a trusted file, then to enable macros, click the radio button that is labeled enable this content then click "OK". If the document you have opened is not one that you trust, then do not enable the content.

Figure 33: Allowing Macros

Ensure EnPI Tool Automatic Calculations Are Turned On

1. Open the EnPI Tool. To ensure the settings to automatically evaluate formulas are appropriately selected, click on the tab labeled "Formulas". Then on the far right-hand side, click on "Calculation Options".

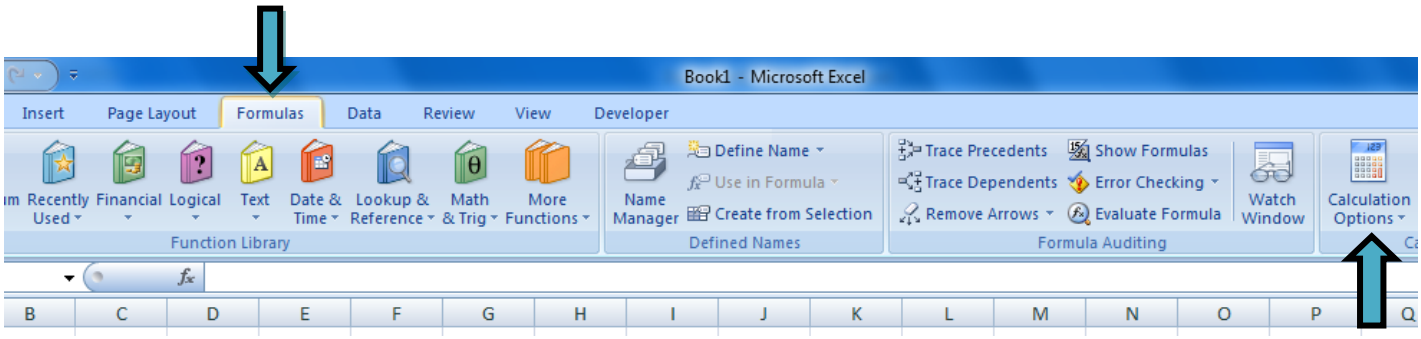

Figure 34: Locate Calculation Options

2. When the drop-down menu appears, make sure "Automatic" is selected.

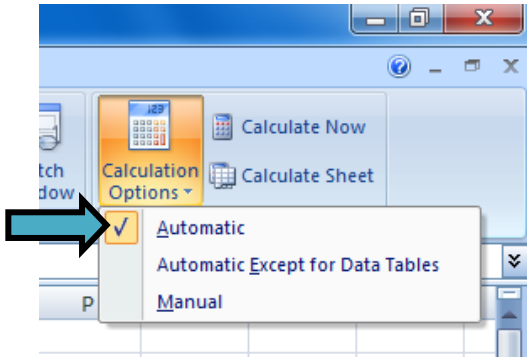

Figure 35: Set Calculations to Automatic

Excel Settings: Microsoft Excel 1997-2003

Purpose

The purpose of reviewing Excel settings is to assist users in determining if the Excel version being used is appropriately configured for effective use of the EnPI Tool.

Process

Set Security

1. To ensure the appropriate security settings are selected, click on the tools tab at the top of the page.

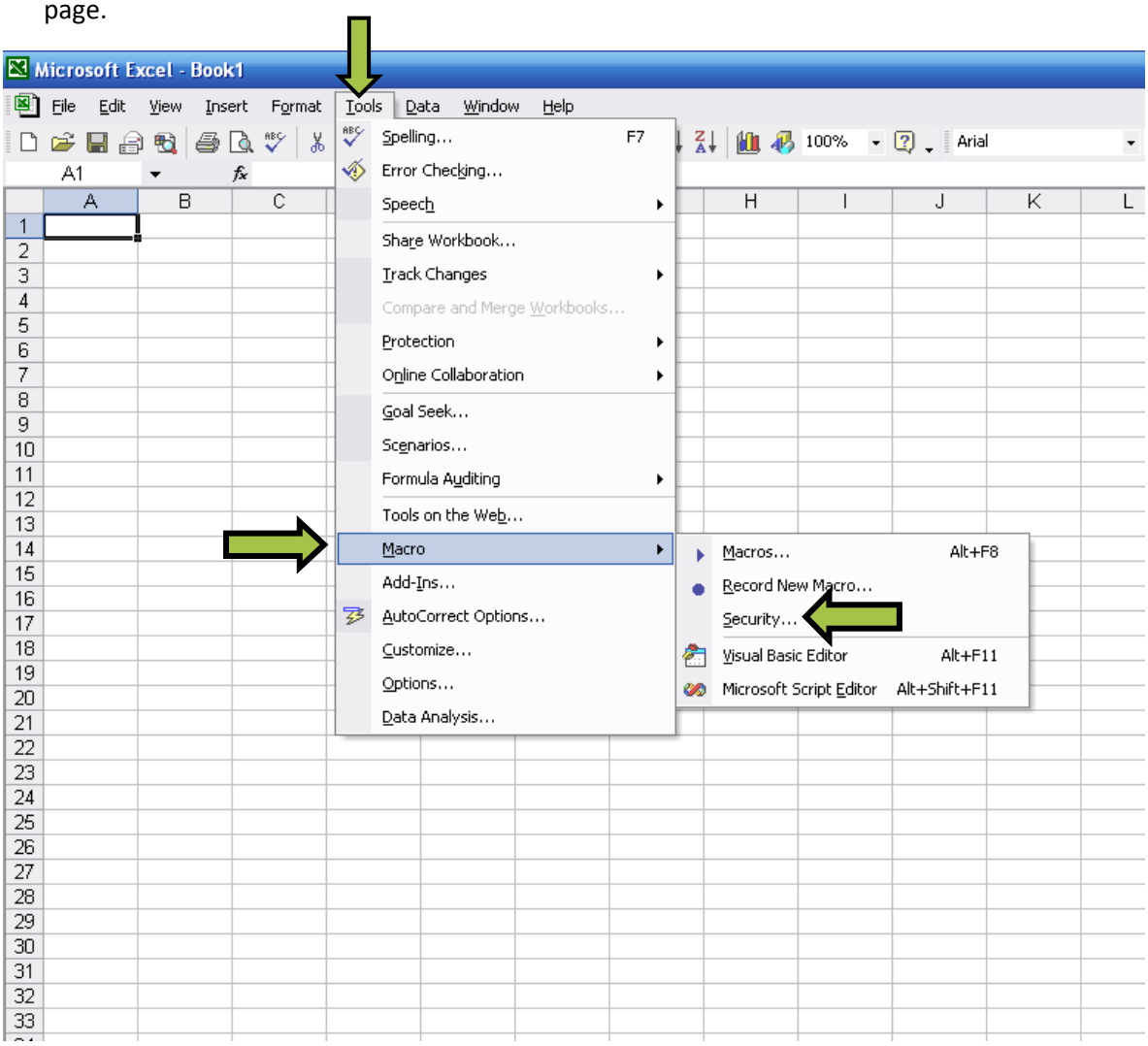

Figure 36: Changing Security Settings for Microsoft Excel 2002

2. Then scroll down the drop down list until you see “Macro”. On the list off to the side of that, click “Security”, as seen in Figure 36.

3. Once you click on “Security”, a pop-up will appear. Make sure the medium security setting is selected. This will allow macros to be enabled, but only after you’ve been notified. Only enable macros from a trusted source.

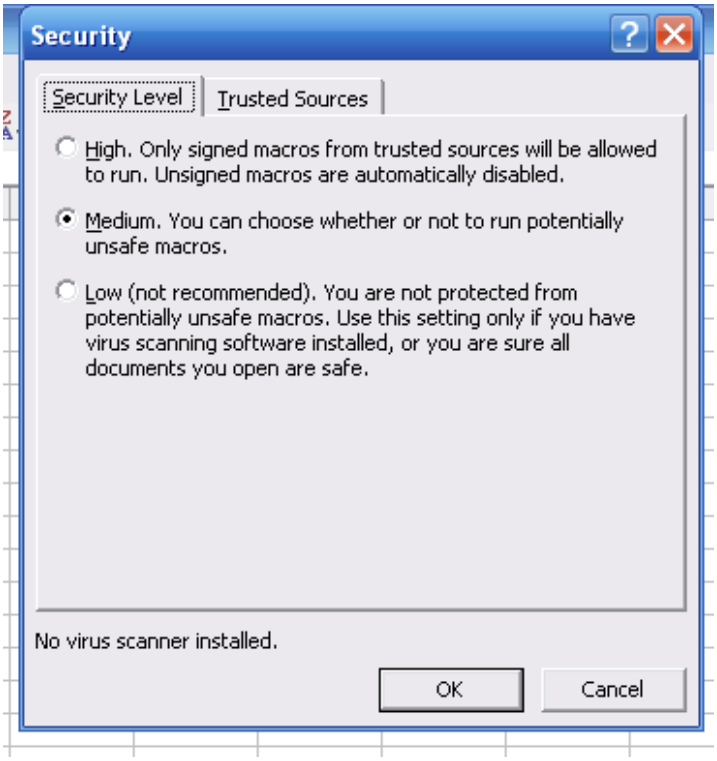

Figure 37: Security Settings

Enable Macros

Now when you open a document that includes macros, you will see a warning message. If the document you are opening is a trusted file, then to enable macros, click the button that is labeled enable this content then click “OK”. If the document you have opened is not one that you trust, then do not enable the content.

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Ensure EnPI Tool Automatic Calculations Are Turned On

1. Open the EnPI Tool. To ensure the settings to automatically evaluate formulas are appropriately selected, click on the tab labeled "Tools". Select "Options" on the drop-down menu that appears.

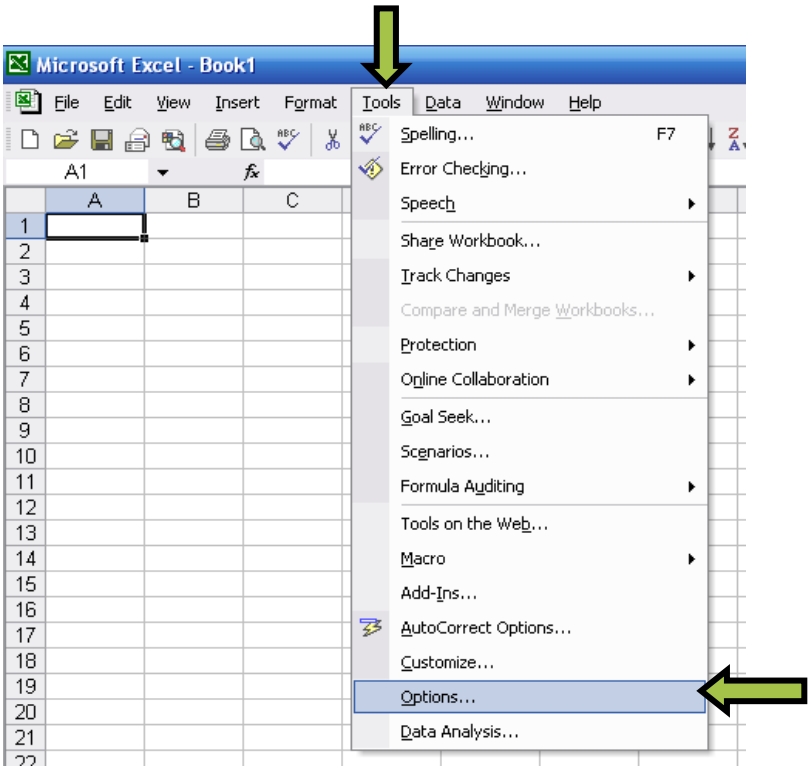

Figure 38: Locate Options to Change the Settings of Calculations

2. On the options pop-up, click the tab labeled "Calculation." At the very top, select the "Automatic" option.

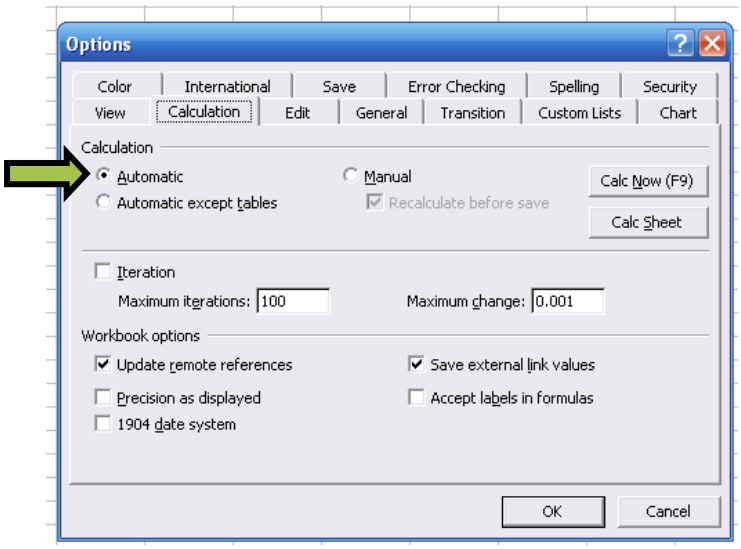

Figure 39: Check Calculation Settings

Excel Settings: Excel Mac

Purpose

The purpose of reviewing Excel settings is to assist users in determining if the Excel version being used is appropriately configured for effective use of the EnPI Tool.

Process

Set Security

1. To ensure the appropriate security settings are selected, click on the Excel tab on the top of the screen, then choose "Preferences".

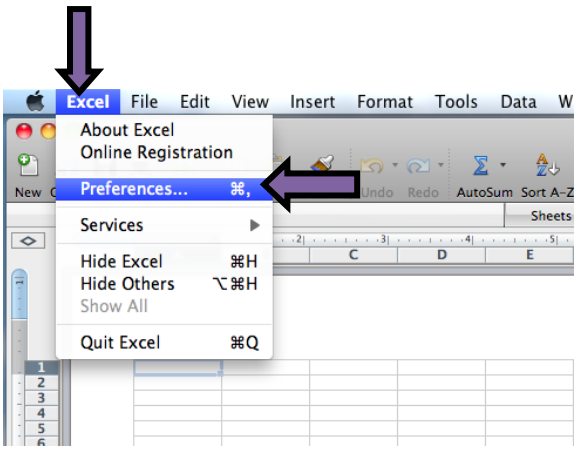

Figure 40: Select Preferences to Change Security Settings

2. You will see the following pop-up. Under "Sharing and Privacy", click "Security".

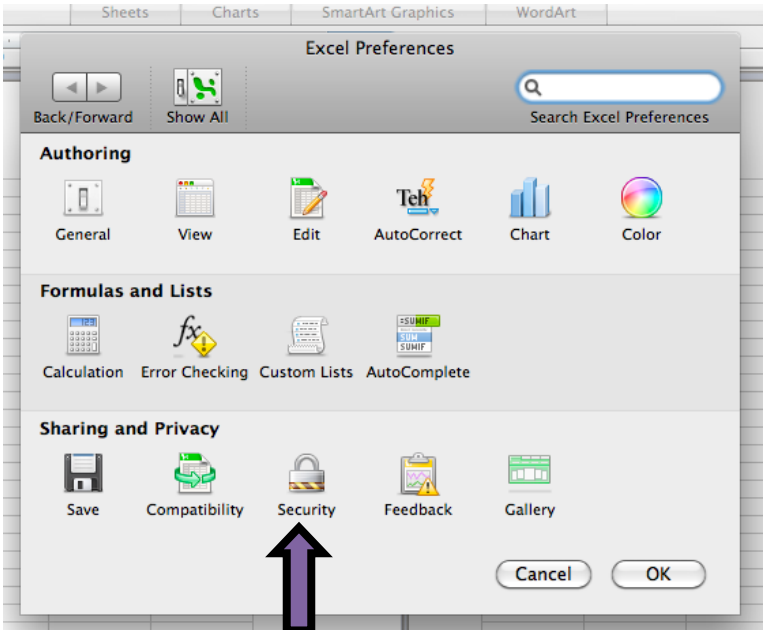

Figure 41: Locate the Security Icon

3. Once you click “Security”, the following screen will pop up as seen in Figure 42. Make sure the option under “Macro Security” that states “Warn before opening a file that contains macros” is checked.

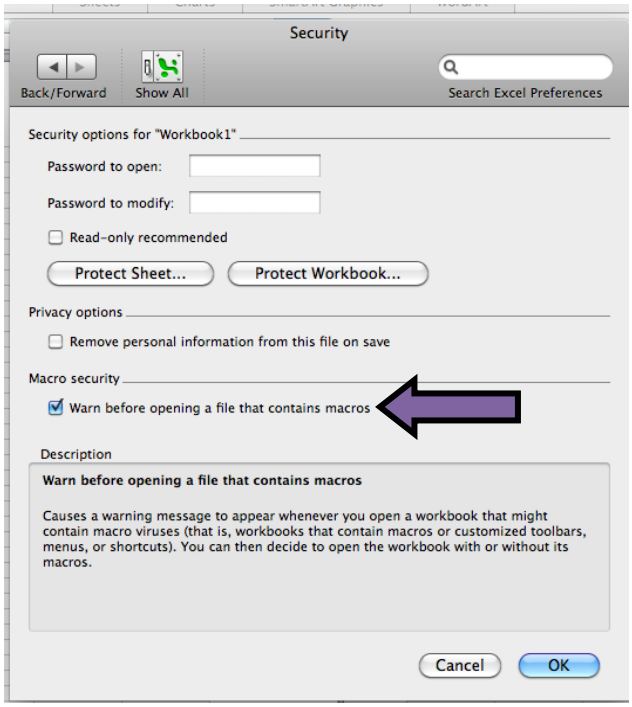

Figure 42: Enable macros only after being notified

Enable Macros

Next time you open a document with macros, you should see a security notification. If the document you are opening is a trusted file, then to enable macros, click the button that is labeled enable this content then click “OK”. If the document you have opened is not one that you trust, then do not enable the content.

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Ensure EnPI Tool Automatic Calculations Are Turned On

1. Open the EnPI Tool. To ensure the settings to automatically evaluate formulas are appropriately selected, click on "Excel" which is located on the top toolbar. Then select "Preferences".

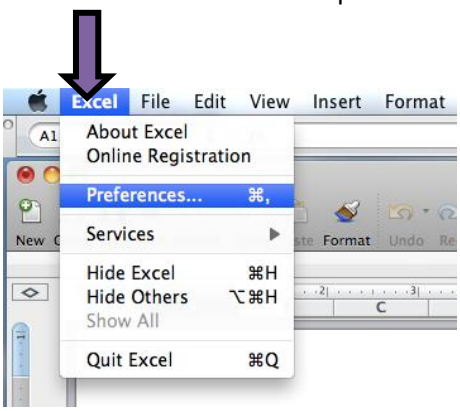

Figure 43: Check Calculation Settings

2. Then select the "Calculation" option that is located on the middle-left side of the pop-up.

Figure 44: Select Calculations

3. Then make sure “Automatically” is selected under “Calculate Sheets”.

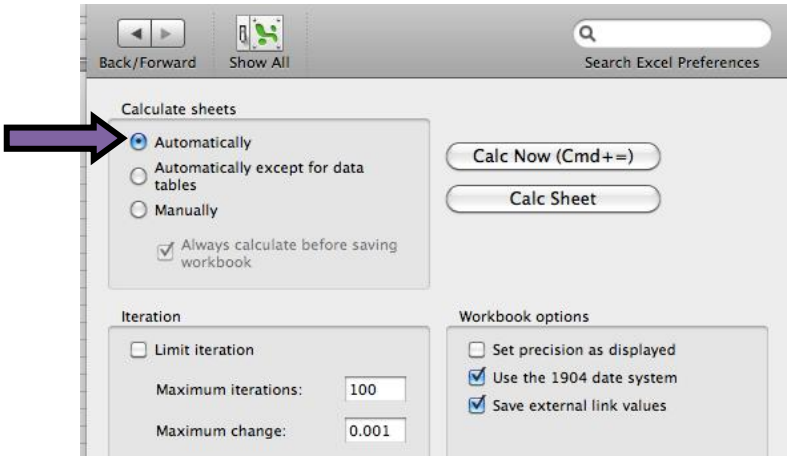

Figure 45: Calculations Done Automatically