

# Energy Footprint Tool

Overview and Tour



U.S. DEPARTMENT OF  
**ENERGY**

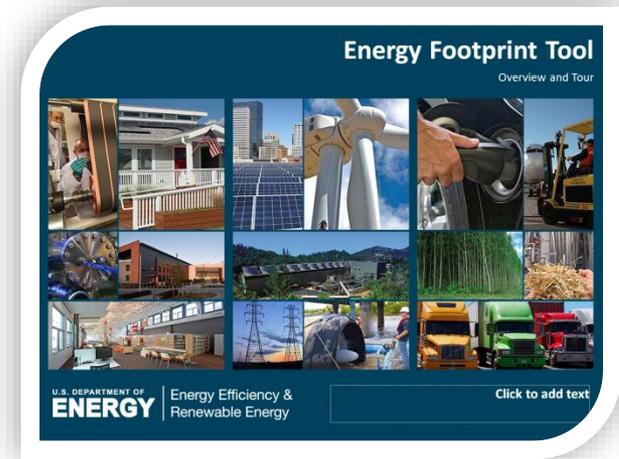
Energy Efficiency &  
Renewable Energy

# How to use this Document

This document is designed to be used as both a comprehensive presentation and a quick reference for the **Energy Footprint Tool**

*To use as a quick reference:*

- The [table of contents](#) provides links to all of the key topics covered.
- Each page also includes a direct link back to the table of contents



# How to use the Energy Footprint Tool

The **Energy Footprint Tool** is designed to be easy to use with significant built-in documentation. Detailed labels and pop-up help windows on all sheets allow users quickly begin using all features.

## *What data needs to be gathered?*

**Monthly Energy Bills** should provide all of the required *Energy Consumption* data.

Depending on the *Relevant Variables*, these may or may not be tracked at the plant (ex. production, operating hours) and might need to be looked up (ex. degree days)

*Energy Uses* may or may not be individually tracked by the plant and could potentially be estimated based on energy consumption or possibly directly measured

Energy Footprint - ENERGY CONSUMPTION

Month	kWh	Cost
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

Energy Footprint - RELEVANT VARIABLES

Month	HDD	Production
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

Energy Footprint - ENERGY USES

Energy Use	Year	Month
Year 2015	Jan	
Year 2015	Feb	
Year 2015	Mar	
Year 2015	Apr	
Year 2015	May	
Year 2015	Jun	
Year 2015	Jul	
Year 2015	Aug	
Year 2015	Sep	
Year 2015	Oct	
Year 2015	Nov	
Year 2015	Dec	
Year 2016	Jan	
Year 2016	Feb	
Year 2016	Mar	
Year 2016	Apr	
Year 2016	May	
Year 2016	Jun	
Year 2016	Jul	
Year 2016	Aug	
Year 2016	Sep	
Year 2016	Oct	
Year 2016	Nov	
Year 2016	Dec	

# Table of Contents (click links to jump to section)

[Introduction to the Energy Footprint Tool](#)

[Summary of Key Sheets](#)

[Key Terms](#)

**Spreadsheet Details** [[description structure](#)]:

- Main: [Layout](#) [Notes](#)
- Energy Consumption: [Layout](#) [Notes](#)
- EC Charts: [Layout](#) [Notes](#)
- Relevant Variables: [Layout](#) [Notes](#)
- RV Charts: [Layout](#) [Notes](#)
- EC-RV: [Layout](#) [Notes](#)
- Energy Uses: [Layout](#) [Notes](#)
- EU Charts: [Layout](#) [Notes](#)
- EnPI Table: [Layout](#) [Notes](#)
- Raw Data: [Layout](#) [Notes](#)

DOE Advanced Manufacturing Office Introduction HELP QUESTIONS, COMMENTS, OR ISSUES  
Developed for the DOE Advanced Manufacturing Office

### Energy Footprint [v1.0]

email: eGuidefeedback@ee.doe.gov

**Description**  
The Energy Footprint tracks energy consumption by source, factors affecting to energy consumption, and specific energy uses on a monthly basis for 1 or multiple years.

Plant Name: \_\_\_\_\_  
Additional Details: \_\_\_\_\_

**Worksheets (click to goto)**

- Energy Consumption Tables Charts EC vs RV
- Relevant Variables Tables Charts Charts
- Energy Uses Tables Charts
- EnPI Table Table

First Month: Jan  
Current Year\*: 2015 \*of first month  
Number of Years: 3

Select	Type	Units	# Used
<input checked="" type="checkbox"/>	Electricity	kWh site	1
<input checked="" type="checkbox"/>	Electricity Demand	kw	
<input checked="" type="checkbox"/>	Electricity Fees	none	
<input checked="" type="checkbox"/>	Natural Gas	Dtherm	1
<input checked="" type="checkbox"/>	LPG	MMBtu	
<input type="checkbox"/>	#1 Fuel Oil	MMBtu	
<input type="checkbox"/>	#2 Fuel Oil	MMBtu	
<input type="checkbox"/>	#4 Fuel Oil	MMBtu	
<input type="checkbox"/>	#6 Fuel Oil	MMBtu	
<input type="checkbox"/>	Coal	MMBtu	
<input type="checkbox"/>	Wood	MMBtu	
<input type="checkbox"/>	Paper	MMBtu	
<input type="checkbox"/>	Other Gas	MMBtu	
<input type="checkbox"/>	Other Energy	MMBtu	
<input type="checkbox"/>	custom 1 (edit)	none	
<input type="checkbox"/>	custom 2 (edit)	MMBtu	
<input type="checkbox"/>	custom 3 (edit)	none	

Select	Type	Units	# Used
<input checked="" type="checkbox"/>	Production	count	1
<input checked="" type="checkbox"/>	Heating Degree Days	HDD	1
<input type="checkbox"/>	Cooling Degree Days	CDD	
<input type="checkbox"/>	Customers Served	count	
<input type="checkbox"/>	Production Hours	hours	
<input type="checkbox"/>	Facility Operating Hours	hours	
<input type="checkbox"/>	Water Usage	gal	
<input type="checkbox"/>	Occupancy	count	
<input checked="" type="checkbox"/>	Occupancy	misc	
<input type="checkbox"/>	custom 2 (edit)	misc	
<input type="checkbox"/>	custom 3 (edit)	misc	
<input type="checkbox"/>	custom 4 (edit)	misc	
<input type="checkbox"/>	custom 5 (edit)	misc	

\* used Related Factors cannot be unselected

version: 1.0  
build date: 2015.11.23

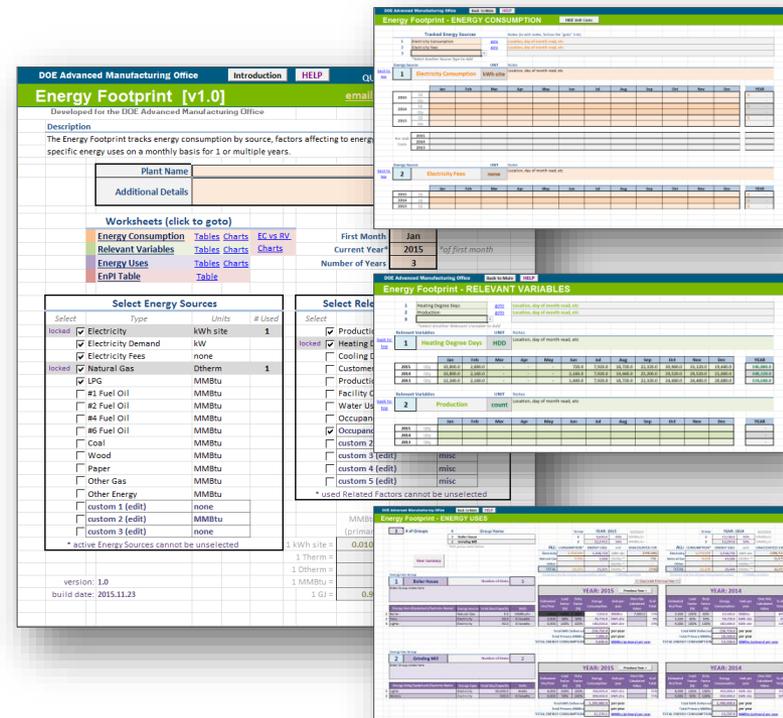
1 kWh site = 0.010228 MMBtu (primary)  
1 Therm = 0.1 conversion factors are used  
1 Dtherm = 1 only to calculate the total  
1 MMBtu = 1 primary energy consumption  
1 GI = 0.9471 and are not otherwise used.

# Introduction

The **Energy Footprint Tool** is designed to allow users to easily track energy consumption, relevant variables, and energy uses.

*Key tracking & features include:*

- **Energy Consumption**
  - Up to 20 Tracked Energy Sources
- **Relevant Variables**
  - Up to 20 Tracked Variables
- **Energy Use**
  - Up to 10 Energy Use Groups
  - Up to 30 Components Each
- **Charts for all tracked data**
- **Export to the EnPI tool**



# Summary of Key Sheets

**Main** – Overview of footprint tool with key settings

**Energy Consumption** – Monthly energy consumption and cost data

**EC Charts** – Energy consumption charts

**Relevant Variables** – Monthly and yearly data for relevant variables

**RV Charts** – Relevant variable charts

**EC-RV** – Charts comparing selected energy consumption with relevant variables

**Energy Uses** – Yearly energy uses tracked by group and specific use

**EU Charts** – Charts of energy uses

**EnPI Table** – Exportable data table compatible with EnPI analysis tool

**Raw Data** – All entered energy consumption and relevant variables data in one large table

# Key Terms

## Energy Consumption

Defined as the “quantity of energy applied” (source ISO 50001:2011), it is the amount of energy consumed

## Energy Source

The type of energy consumed: electricity, natural gas, fuel oil, etc. Electricity is broken into 3 components: electricity consumption, demand, and fees

## Relevant Variables

Variables that likely contribute to energy consumption and use: production, operating hours, heating degree days, etc.

## Energy Use

Defined as the “manner or kind of application of energy”, this often refers to energy use by specific equipment and applications

## Load Factor

Average load relative to the full load of the equipment

## Duty Factor

Average ratio of run time to operating hours

## EnPI

Stands for *Energy Performance Indicator* and is defined as the “quantitative value or measure of energy performance” (source ISO 50001:2011)

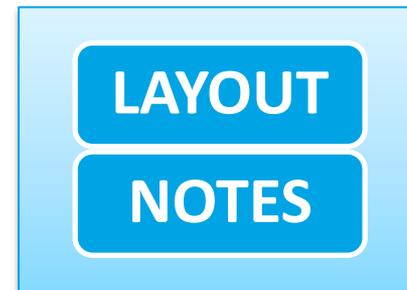
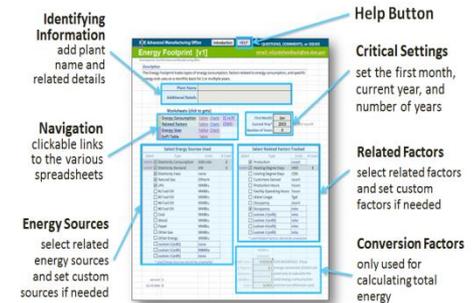
# Structure of Sheet Descriptions

## LAYOUT

Screenshot of the sheets provide details about the layout, highlighting key components

## NOTES

List of functions, features, and tips related to the sheet



- To enter a new years worth of data, change the **Current Year** to the new year and increase the **Number of Years** by 1
- Selected **Energy Sources** and **Related Factors** cannot be changed after they have been directly connected with data and will be grayed out and tagged with the word *locked*.
- The *Introduction* popup can be stopped from automatically opening by checking the box in the lower left of the popup.
- The links to the **Energy Consumption** and **Related Factors** charts only appear if associated data has been entered.
- Changing **First Month** does not adjust entered data. If the **First Month** is changed after the data has been entered, the data will be aligned with different months.

## Help Button

## Critical Settings

set the first month, current year, and number of years

## Relevant Variables

select relevant variables and set custom variables if needed

## Conversion Factors

only used for calculating total energy consumption and by energy use

DOE Advanced Manufacturing Office | Introduction | **HELP** | QUESTIONS, COMMENTS, or ISSUES  
email: eGuidefeedback@ee.doe.gov

### Energy Footprint [v1.0]

Developed for the DOE Advanced Manufacturing Office

**Description**  
The Energy Footprint tracks energy consumption by source, factors affecting to energy consumption, and specific energy uses on a monthly basis for 1 or multiple years.

Plant Name: \_\_\_\_\_  
Additional Details: \_\_\_\_\_

**Worksheets (click to goto)**

Energy Consumption	Tables	Charts	EC vs RV
Relevant Variables	Tables	Charts	Charts
Energy Uses	Tables	Charts	
EnPI Table	Table		

**Critical Settings**

First Month	Jan
Current Year*	2015
Number of Years	3

\* first month

**Select Energy Sources**

Select	Type	Units	# Used
<input checked="" type="checkbox"/>	Electricity	kWh site	1
<input checked="" type="checkbox"/>	Electricity Demand	kW	
<input checked="" type="checkbox"/>	Electricity Fees	none	
<input checked="" type="checkbox"/>	Natural Gas	Dtherm	1
<input checked="" type="checkbox"/>	LPG	MMBtu	
<input type="checkbox"/>	#1 Fuel Oil	MMBtu	
<input type="checkbox"/>	#2 Fuel Oil	MMBtu	
<input type="checkbox"/>	#4 Fuel Oil	MMBtu	
<input type="checkbox"/>	#6 Fuel Oil	MMBtu	
<input type="checkbox"/>	Coal	MMBtu	
<input type="checkbox"/>	Wood	MMBtu	
<input type="checkbox"/>	Paper	MMBtu	
<input type="checkbox"/>	Other Gas	MMBtu	
<input type="checkbox"/>	Other Energy	MMBtu	
<input type="checkbox"/>	custom 1 (edit)	none	
<input type="checkbox"/>	custom 2 (edit)	MMBtu	
<input type="checkbox"/>	custom 3 (edit)	none	

\* active Energy Sources cannot be unselected

**Select Relevant Variables Tracked**

Select	Type	Units	# Used
<input checked="" type="checkbox"/>	Production	count	
<input checked="" type="checkbox"/>	Heating Degree Days	HDD	1
<input type="checkbox"/>	Cooling Degree Days	CDD	
<input type="checkbox"/>	Customers Served	count	
<input type="checkbox"/>	Production Hours	hours	
<input type="checkbox"/>	Facility Operating Hours	hours	
<input type="checkbox"/>	Water Usage	Tgal	
<input type="checkbox"/>	Occupancy	count	
<input checked="" type="checkbox"/>	Occupancy	misc	
<input type="checkbox"/>	custom 2 (edit)	misc	
<input type="checkbox"/>	custom 3 (edit)	misc	
<input type="checkbox"/>	custom 4 (edit)	misc	
<input type="checkbox"/>	custom 5 (edit)	misc	

\* used Related Factors cannot be unselected

**Conversion Factors**

	MMBtu (primary)	
kWh site =	0.010228	FOR REFERENCE: These energy conversion factors are used only to calculate the total primary energy consumption and are not otherwise used.
1 Therm =	0.1	
1 Dtherm =	1	
1 MMBtu =	1	
1 GJ =	0.9478	

version: 1.0  
build date: 2015.11.23

## Identifying Information

add plant name and related details

## Navigation

clickable links to the various spreadsheets

## Energy Sources

select related energy sources and set custom sources if needed

- To enter a new years worth of data, change the **Current Year** to the new year and increase the **Number of Years** by 1
- Selected **Energy Sources** and **Relevant Variables** cannot be changed after they have been directly connected with data and will be grayed out and tagged with the word *locked*.
- The *Introduction* popup can be stopped from automatically opening by checking the box in the lower left of the popup.
- The links to the **Energy Consumption** and **Relevant Variables** charts only appear if associated data has been entered.
- Changing the **First Month** does not adjust entered data. If the **First Month** is changed after the data has been entered, the data will be aligned with different months.

# Energy Consumption sheet

LAYOUT

[GO TO](#)

[Table of Contents](#)

## Tracked Energy Sources

includes only selected Energy Source types

Energy Source Units pulled from Main sheet

Energy Sources # the ID number for the specific energy source data

Energy Source Notes Can include details like meter location, utility, building, etc

The screenshot displays the 'Energy Footprint - ENERGY CONSUMPTION' spreadsheet. It features a 'Tracked Energy Sources' table with columns for Energy Source, UNIT, and Notes. Below this are two main data tables: one for Electricity (kWh site) and one for Natural Gas (Dtherm). Each table includes monthly data from Jan to Dec, a 'YEAR' column for totals, and a 'Per Unit Costs' section at the bottom. The 'Per Unit Costs' section shows costs for the years 2013, 2014, and 2015. The 'UNIT' column is hidden for the Natural Gas section, as indicated by the text below.

Energy Source Cost and Unit Data entered by year and month

Yearly Totals

Unit Costs can be hidden or displayed as needed

Energy Source Format Repeats unit fields are hidden for unit-less energy sources

- Up to 20 **Energy Sources** can be tracked
- Units fields only appear for **Energy Sources** that include units. For example, *Electricity Fees* do not include units
- To add a new **Tracked Energy Source**, select it from the dropdown menu in the blank space
- Only the last **Tracked Energy Source** can be removed. This can be done by deleting the **Energy Source** from the list.
- To add an **Energy Source** to the dropdown menu, go to the **Main** sheet and select the additional **Energy Source**
- *Unit Costs* can be used to quickly identify data errors
- Even when rows are hidden, the data is not deleted or overwritten

## Selected Energy Source

Charts display selected energy source

## Related Data Tables

Tables of charted data

## Energy Source Notes

Notes pulled from Energy Consumption sheet

## Monthly Data Charts

Displays monthly costs and energy consumption for each tracked year

## Cost Related

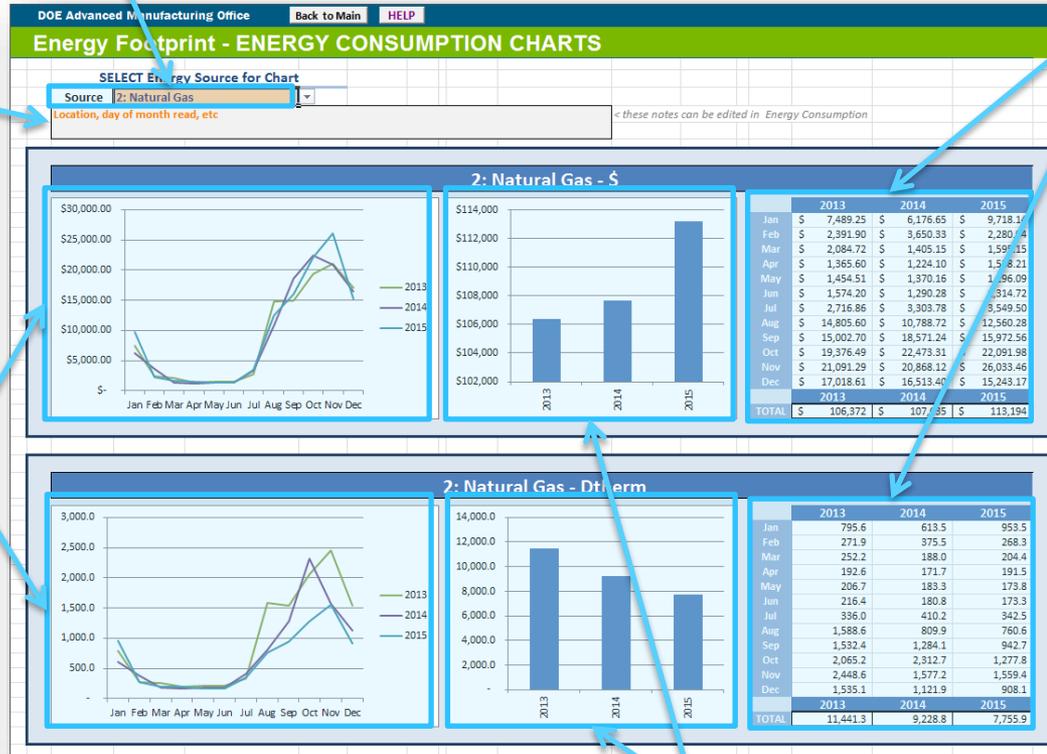
Charts and tables

## Energy Consumption Related

Charts and tables. Hidden if unit-less energy source selected

## Yearly Data Charts

Displays total yearly costs and energy consumption



- The ***EC Charts*** sheet will be hidden until **Tracked Energy Sources** are added to the ***Energy Consumption*** sheet
- Change the selected **Energy Source** to change the charts
- The notes associated with the **Energy Source** will also be displayed
- Additional aggregate Energy Consumption data can be charted if applicable including; *Total Electricity, Total Natural Gas, Total Other*, and overall *Total Energy*
- The usage charts will be hidden if the selected **Energy Source** is unit-less
- Changing the selected **Energy Source** will also update the selected **Energy Source** on the ***EC-RV*** sheet

**Tracked Relevant Variables**  
includes only selected Relevant Variable types

**Relevant Variables Units**  
pulled from Main sheet

**Relevant Variables Notes**  
Can include details like building, tracking method, source, etc

**Relevant Variables #**  
ID number of the tracked sources

**Relevant Variables Data**  
entered by year and month

**Yearly Totals**

Energy Footprint - RELEVANT VARIABLES																
1	Heating Degree Days	goto	Location, day of month read, etc													
2	Production	goto	Location, day of month read, etc													
*Select Another Relevant Variable to Add																
back to top	1	Heating Degree Days	HDD	Location, day of month read, etc												
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
	2015	Qty		10,800.0	2,880.0	-	-	-	720.0	7,920.0	18,720.0	22,320.0	30,960.0	33,120.0	19,440.0	146,880.0
	2014	Qty		10,800.0	2,160.0	-	-	-	2,160.0	7,920.0	19,440.0	25,200.0	29,520.0	29,520.0	21,600.0	148,320.0
	2013	Qty		12,240.0	2,160.0	-	-	-	1,440.0	7,920.0	18,720.0	22,320.0	24,480.0	24,480.0	20,880.0	134,640.0
back to top	2	Production	count	Location, day of month read, etc												
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
	2015	Qty														-
	2014	Qty														-
	2013	Qty														-

**Relevant Variables Format Repeats**

- Up to 20 **Relevant Variables** can be tracked
- To add a new **Relevant Variables**, select it from the dropdown menu in the blank space
- Only the last **Relevant Variables** can be removed by deleting the Energy Source from the list
- To add a **Relevant Variables** to the dropdown menu, go to the **Main** sheet and select the additional **Relevant Variables**
- Even when rows are hidden, the data is not deleted or overwritten

### Selected Relevant Variable

Charts displayed selected relevant variable

### Total or Average

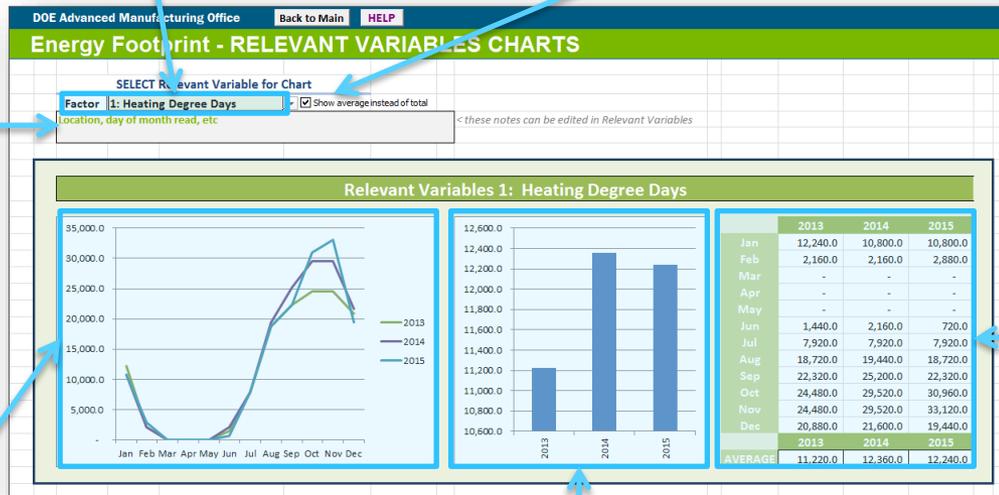
Checkbox toggles between displaying yearly average and total

### Relevant Variable Notes

Notes pulled from Relevant Variables sheet

### Monthly Data Chart

Displays monthly costs and usage for each tracked year



### Related Data Tables

Table of charted data

### Yearly Data Charts

Displays yearly total or average for Relevant Variable

- The ***RV Charts*** sheet will be hidden until **Tracked Relevant Variables** are added to the ***Relevant Variables*** sheet
- Change the selected **Relevant Variables** to change the charts
- The notes associated with the **Relevant Variables** will also be displayed
- Changing the selected **Relevant Variable** will also update the selected **Relevant Variable** on the ***EC-RV*** sheet
- The *Show average instead of total* checkbox will change the yearly total to yearly average to better represent **Relevant Variables** that are not cumulative

**Selected Energy Source**  
Charts display selected energy source

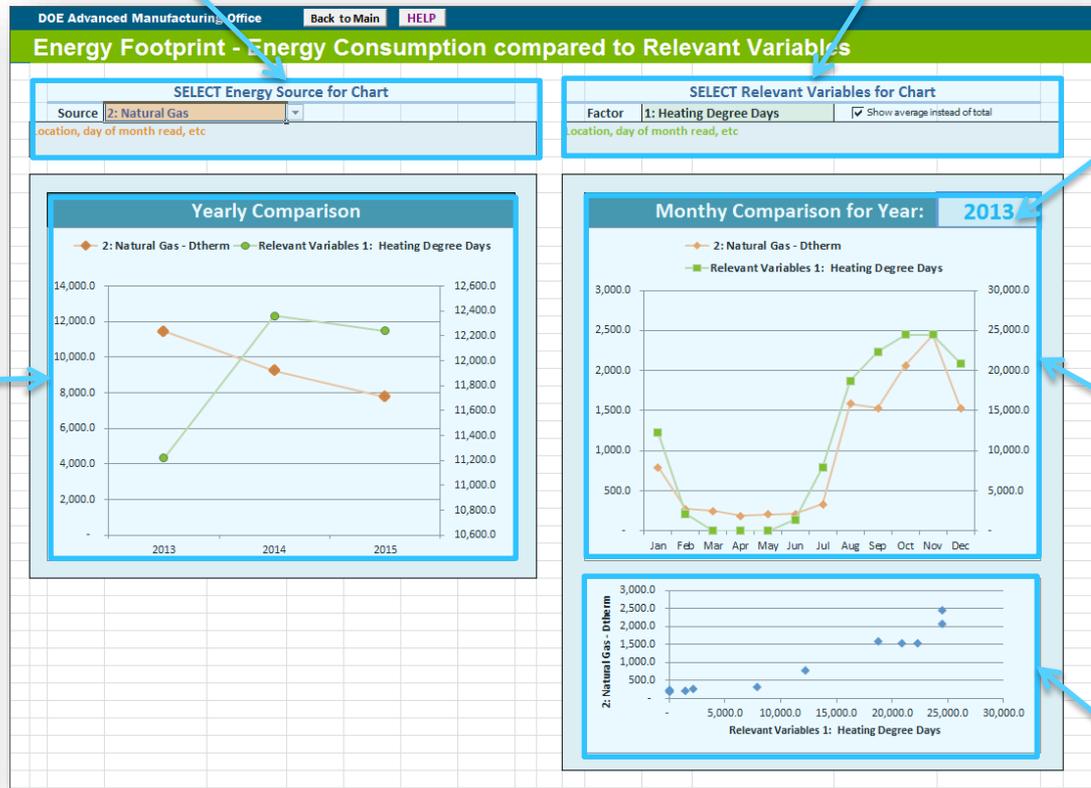
**Selected Relevant Variable**  
Charts display selected Relevant Variable

**Selected Year**  
Current year used for comparison charts below. Change to update

**Yearly Data Comparison**  
Compares energy source yearly energy consumption with Relevant Variable yearly total or average

**Monthly Data Comparison**  
Compares energy source consumption with Relevant Variable by month

**Direct Comparison**  
Energy consumption is directly plotted against the Relevant Variable



- The ***EC-RV Charts*** sheet will be hidden until both **Energy Consumption** and **Tracked Relevant Variables** have been added
- Change the selected **source** or **factor** to update the the charts
- Changing the selected **source** or **factor** will also update the selected **source** or **factor** on the related sheet
- Changing the *Year* will update both monthly comparison charts
- The *Show average instead of total* checkbox will change the yearly total to yearly average to better represent **Relevant Variables** that are not cumulative

# Energy Uses sheet

LAYOUT

### Number # of Groups

The number # selected controls the number of groups displayed below

### Number # of Items

This controls the number of items included in this group

### Duplicate Previous Year

Copies previous years data to current year

### Energy Use Group Total Yearly Energy Consumption

Total for each groups yearly energy end-use

### Group Name and Notes

Enter group name and descriptive details about the group

### Group Item List

List of equipment and other energy uses that are included in this group

### Yearly Energy Source Breakdown

Yearly energy consumption for each energy use group and overall by energy source

### Energy Use

Energy consumption by energy use estimated or directly entered

### Group Energy Source Breakdown

Energy use group total energy consumption by energy source

Group	YEAR: 2015 (primary)	YEAR: 2014 (primary)
1 Boiler House	9,646.6 44%	13,146.6 50%
2 Grinding Mill	12,274.1 50%	13,297.0 50%
<b>ALL: CONSUMPTION*</b>	<b>21,920.7</b>	<b>26,443.6</b>

Group	YEAR: 2015 (primary)	YEAR: 2014 (primary)																														
1 Boiler House	<table border="1"> <thead> <tr> <th>Energy Source</th> <th>Consumption</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Electricity</td> <td>1,310,564</td> <td>kWh site</td> </tr> <tr> <td>Natural Gas</td> <td>7,756</td> <td>MMBtu**</td> </tr> <tr> <td>Other</td> <td>-</td> <td>MMBtu**</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>21,171</b></td> <td><b>21,921</b></td> </tr> </tbody> </table>	Energy Source	Consumption	Unit	Electricity	1,310,564	kWh site	Natural Gas	7,756	MMBtu**	Other	-	MMBtu**	<b>TOTAL</b>	<b>21,171</b>	<b>21,921</b>	<table border="1"> <thead> <tr> <th>Energy Source</th> <th>Consumption</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Electricity</td> <td>1,270,039</td> <td>kWh site</td> </tr> <tr> <td>Natural Gas</td> <td>9,229</td> <td>MMBtu**</td> </tr> <tr> <td>Other</td> <td>-</td> <td>MMBtu**</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>22,228</b></td> <td><b>26,444</b></td> </tr> </tbody> </table>	Energy Source	Consumption	Unit	Electricity	1,270,039	kWh site	Natural Gas	9,229	MMBtu**	Other	-	MMBtu**	<b>TOTAL</b>	<b>22,228</b>	<b>26,444</b>
Energy Source	Consumption	Unit																														
Electricity	1,310,564	kWh site																														
Natural Gas	7,756	MMBtu**																														
Other	-	MMBtu**																														
<b>TOTAL</b>	<b>21,171</b>	<b>21,921</b>																														
Energy Source	Consumption	Unit																														
Electricity	1,270,039	kWh site																														
Natural Gas	9,229	MMBtu**																														
Other	-	MMBtu**																														
<b>TOTAL</b>	<b>22,228</b>	<b>26,444</b>																														
2 Grinding Mill	<table border="1"> <thead> <tr> <th>Energy Source</th> <th>Consumption</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Electricity</td> <td>3,500</td> <td>MMBtu/hr</td> </tr> <tr> <td>Gas</td> <td>3,500</td> <td>90% 50%</td> </tr> <tr> <td>Other</td> <td>6,000</td> <td>100% 100%</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>180,000.0</b></td> <td><b>180,000.0</b></td> </tr> </tbody> </table>	Energy Source	Consumption	Unit	Electricity	3,500	MMBtu/hr	Gas	3,500	90% 50%	Other	6,000	100% 100%	<b>TOTAL</b>	<b>180,000.0</b>	<b>180,000.0</b>	<table border="1"> <thead> <tr> <th>Energy Source</th> <th>Consumption</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Electricity</td> <td>3,500</td> <td>100% 60%</td> </tr> <tr> <td>Gas</td> <td>3,500</td> <td>90% 50%</td> </tr> <tr> <td>Other</td> <td>6,000</td> <td>100% 100%</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>180,000.0</b></td> <td><b>180,000.0</b></td> </tr> </tbody> </table>	Energy Source	Consumption	Unit	Electricity	3,500	100% 60%	Gas	3,500	90% 50%	Other	6,000	100% 100%	<b>TOTAL</b>	<b>180,000.0</b>	<b>180,000.0</b>
Energy Source	Consumption	Unit																														
Electricity	3,500	MMBtu/hr																														
Gas	3,500	90% 50%																														
Other	6,000	100% 100%																														
<b>TOTAL</b>	<b>180,000.0</b>	<b>180,000.0</b>																														
Energy Source	Consumption	Unit																														
Electricity	3,500	100% 60%																														
Gas	3,500	90% 50%																														
Other	6,000	100% 100%																														
<b>TOTAL</b>	<b>180,000.0</b>	<b>180,000.0</b>																														

Current Selected Year

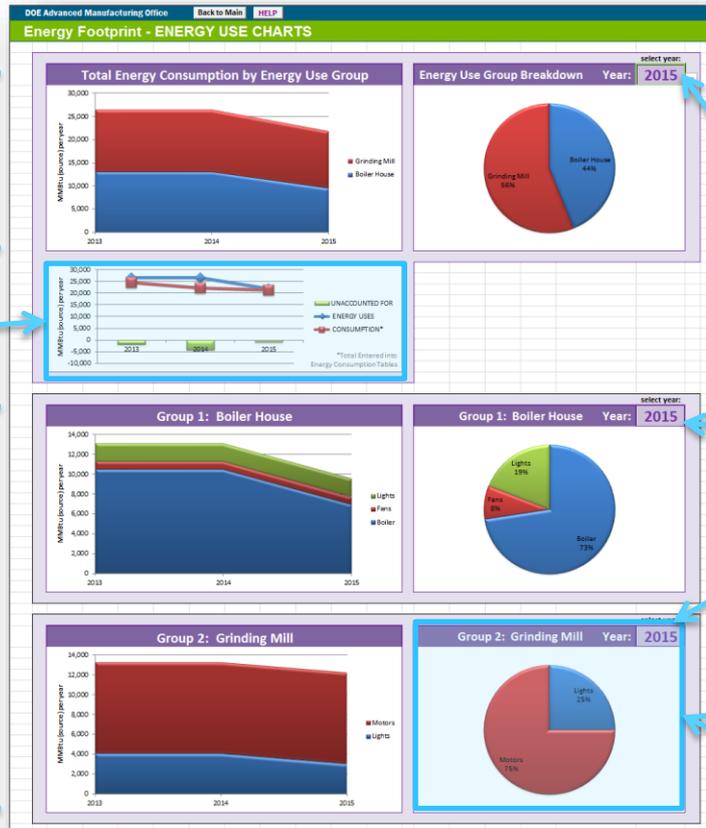
Previous Year

- The ***Energy Uses*** sheet uses navigation buttons to switch the current year displayed
- Only 2 years are displayed at a time, the current selected year and the year previous to that
- A previous years Energy End-Use data can be copied to the current selected year by clicking the *Duplication Previous Year* button and typing “*confirm*” into the confirm popup
- The ***Energy Uses*** sheet attempts to estimate the equipment energy consumption by using load factor, duty factor, and operating hours. If the actual energy consumption is known, it can be entered in the override field and other will be ignored
- A *Summary* of the equipment, group, and total energy consumption by year can be displayed by clicking the *View Summary* button

Total Yearly Energy Use  
Comparing all groups

Total Yearly Energy Use and  
Energy Consumption  
Comparison

Group Specific Charts  
Charts for each active  
energy use group



Selected Year  
Pie charts  
display data for  
selected year.  
Change any  
selected year to  
update all

Pie Chart of  
Energy Use

- Changing any of the selected *Years* will update all select *Years* and associated pie charts
- The charts display groups and items based on the *number of groups/items* selected on the **Energy Uses** sheet. This means blank rows will still be charted if they are visible. To correct this, adjust the *number of groups/items* on the **Energy Uses** sheet to match the number of groups/items with data.
- The chart comparing **Energy Use** with **Energy Consumption** only displays energy consumption for energy use groups and overall by year. To compare energy consumption by energy use in more detail, review the summary tables in the **Energy Uses** sheet

DOE Advanced Manufacturing Office [Back to Main](#) [HELP](#)

### Energy Footprint - EnPI Compatible Table

The following table provides the entered energy and relevant variables data in a format compatible with the DOE EnPI tool. NOTE: The EnPI Tool MUST FIRST be downloaded and installed.

download: <https://www.energy.gov/eere/amo/articles/energy-performance-indicator-tool>

Once the EnPI has been installed, click the "EXPORT TABLE" button to export this table for use with the EnPI tool

**EXPORT TABLE**

Date	Electricity (kWh site)	Electricity Cost	Natural Gas (Dtherms)	Natural Gas Cost	Other Energy (MMBtu)	Other Energy Cost	Heating Degree Days (HDD)
1/1/2013	81,480.00	\$ 13,541.30	795.60	\$ 7,489.25	-	\$ -	12,240.00
2/1/2013	80,640.00	\$ 15,088.00	271.90	\$ 2,391.90	-	\$ -	2,160.00
3/1/2013	149,600.00	\$ 25,365.00	252.20	\$ 2,084.72	-	\$ -	-
4/1/2013	135,975.00	\$ 22,205.30	192.60	\$ 1,365.60	-	\$ -	-
5/1/2013	137,072.00	\$ 22,526.40	206.70	\$ 1,454.51	-	\$ -	-
6/1/2013	101,178.00	\$ 18,001.17	216.40	\$ 1,574.20	-	\$ -	1,440.00
7/1/2013	99,372.00	\$ 18,395.80	336.00	\$ 2,716.86	-	\$ -	7,920.00
8/1/2013	78,106.00	\$ 13,787.62	1,588.60	\$ 14,805.60	-	\$ -	18,720.00
9/1/2013	123,930.00	\$ 22,373.40	1,532.40	\$ 15,002.70	-	\$ -	22,320.00
10/1/2013	89,991.00	\$ 15,670.20	2,065.20	\$ 19,376.49	-	\$ -	24,480.00
11/1/2013	107,565.00	\$ 18,955.68	2,448.60	\$ 21,091.29	-	\$ -	24,480.00
12/1/2013	99,200.00	\$ 17,884.68	1,535.10	\$ 17,018.61	-	\$ -	20,880.00
1/1/2014	67,776.00	\$ 12,292.81	613.50	\$ 6,176.65	-	\$ -	10,800.00
2/1/2014	113,500.00	\$ 21,077.28	375.50	\$ 3,650.33	-	\$ -	2,160.00
3/1/2014	131,047.00	\$ 24,305.75	188.00	\$ 1,405.15	-	\$ -	-
4/1/2014	151,925.00	\$ 28,685.28	171.70	\$ 1,224.10	-	\$ -	-
5/1/2014	133,400.00	\$ 24,219.36	183.30	\$ 1,370.16	-	\$ -	-
6/1/2014	92,640.00	\$ 18,381.30	180.80	\$ 1,290.28	-	\$ -	2,160.00
7/1/2014	84,348.00	\$ 14,477.05	410.20	\$ 3,303.78	-	\$ -	7,920.00
8/1/2014	90,889.00	\$ 17,243.23	809.90	\$ 10,788.72	-	\$ -	19,440.00
9/1/2014	100,400.00	\$ 17,742.78	1,284.10	\$ 18,571.24	-	\$ -	25,200.00
10/1/2014	121,824.00	\$ 21,551.04	2,312.70	\$ 22,473.31	-	\$ -	29,520.00
11/1/2014	93,394.00	\$ 16,666.56	1,577.20	\$ 20,868.12	-	\$ -	29,520.00
12/1/2014	88,896.00	\$ 17,028.00	1,121.90	\$ 16,513.40	-	\$ -	21,600.00
1/1/2015	109,282.00	\$ 18,799.57	953.50	\$ 9,718.14	-	\$ -	10,800.00
2/1/2015	98,838.00	\$ 17,111.78	268.30	\$ 2,280.94	-	\$ -	2,880.00
3/1/2015	123,900.00	\$ 23,615.84	204.40	\$ 1,595.15	-	\$ -	-
4/1/2015	144,960.00	\$ 28,495.46	191.50	\$ 1,538.21	-	\$ -	-
5/1/2015	128,352.00	\$ 24,430.42	173.80	\$ 1,296.09	-	\$ -	-
6/1/2015	104,215.00	\$ 19,004.75	173.30	\$ 1,314.72	-	\$ -	720.00
7/1/2015	83,224.00	\$ 14,554.98	342.50	\$ 3,549.50	-	\$ -	7,920.00
8/1/2015	106,890.00	\$ 17,746.82	760.60	\$ 12,560.28	-	\$ -	18,720.00
9/1/2015	119,200.00	\$ 21,895.12	942.70	\$ 15,972.56	-	\$ -	22,320.00
10/1/2015	95,445.00	\$ 15,587.60	1,277.80	\$ 22,091.98	-	\$ -	30,960.00
11/1/2015	93,670.00	\$ 16,663.00	1,559.40	\$ 26,033.46	-	\$ -	33,120.00
12/1/2015	102,588.00	\$ 18,281.47	908.10	\$ 15,243.17	-	\$ -	19,440.00

**EXPORT DATA**  
Generate EnPI tool compatible workbook

**Preview Table**  
This table approximately matches the data and format of the EnPI data input table

- EnPI stands for *Energy Performance Indicator*
- The **EnPI Table** sheet formats the entered data for use with the *EnPI tool* (v5)
- The *EnPI tool* establishes a normalized baseline of energy consumption and tracks annual progress of energy intensity improvements.
- To use this table with the *EnPI tool*, the table must first be exported to a separate workbook. This can be done automatically by clicking the **Export Table** button
- For more information and to download the EnPI tool, goto: <https://www.energy.gov/eere/amo/articles/energy-performance-indicator-tool>

**General Settings**  
Current Year, First Month, Number of Years, Plant Name, and Additional Details

The screenshot shows an Excel spreadsheet with a data table. The table has columns for 'Element', 'Electrical', 'Gas', 'Water', 'Steam', 'Cooling Water', 'District Heating', 'District Cooling', 'Other', 'Head Pressure', and 'Flow'. The data is organized into rows for different plant elements and years. A blue box highlights the 'General Settings' section at the top of the spreadsheet, which includes fields for 'Current Year', 'First Month', 'Number of Displayed Years', 'Plant Name', and 'Additional Details'. The data table itself contains numerical values for each element across multiple years.

Energy Consumption Data

Relevant Variables Data

- The ***Raw Data*** table provides all of the entered **Energy Consumption** and **Relevant Variables** data in one large table
- This allows advanced users to easily analyze and work with this data outside of the ***Footprint Tool*** as needed
- All data, including hidden data, is included