

Energy Footprint Tool

Overview and Tour



U.S. DEPARTMENT OF
ENERGY

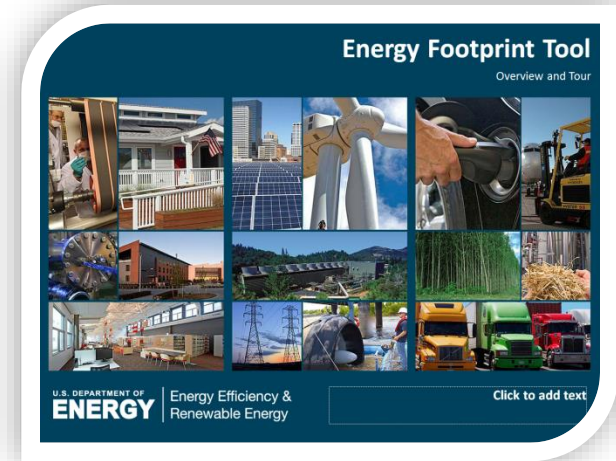
Energy Efficiency &
Renewable Energy

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

This screenshot shows the 'Energy Footprint - ENERGY CONSUMPTION' spreadsheet. It has two main tabs: 'Fuel' and 'Electricity'. The 'Fuel' tab contains a table with columns for 'Month', 'Year', 'Consumption (MMBtu)', and 'Cost (\$)' for various fuel types like Natural Gas, Propane, etc. The 'Electricity' tab contains a similar table for electricity consumption and cost.

This screenshot shows the 'Energy Footprint - RELEVANT VARIABLES' spreadsheet. It has two main tabs: 'Heating Degree Days' and 'Production'. The 'Heating Degree Days' tab contains a table with columns for 'Month', 'Year', 'Heating Degree Days', and 'Cooling Degree Days'. The 'Production' tab contains a table with columns for 'Month', 'Year', and 'Production' for various products.

This screenshot shows the 'Energy Footprint - ENERGY USES' spreadsheet. It has two main tabs: 'Energy Uses' and 'Energy Costs'. The 'Energy Uses' tab contains a table with columns for 'Month', 'Year', 'Energy Use (MMBtu)', and 'Cost (\$)' for various energy uses like Space Heating, Water Heating, etc. The 'Energy Costs' tab contains a table with columns for 'Month', 'Year', 'Energy Cost (\$)', and 'Energy Use (MMBtu)'.

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

Energy Footprint [v1.0] | email: eGuidefeedback@ee.doe.gov

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

First Month: Jan
Current Year: 2015
Number of Years: 3

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	1
<input checked="" type="checkbox"/>	Heating Degree Days	HDD	
<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

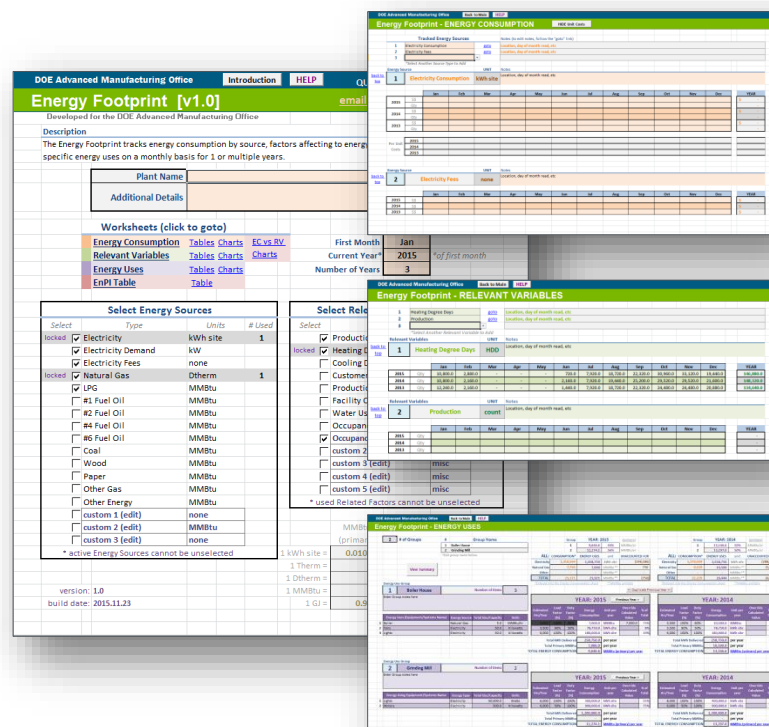
3 kWh site = 0.010228
1 Therm = 0.1
1 Dtherm = 1
1 MMBtu = 1
1 GJ = 0.9478

FOR REFERENCE: These energy conversion factors are used only to calculate the total primary energy consumption and are not otherwise used.

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

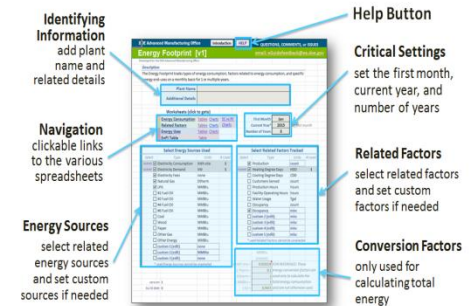
EnPI

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

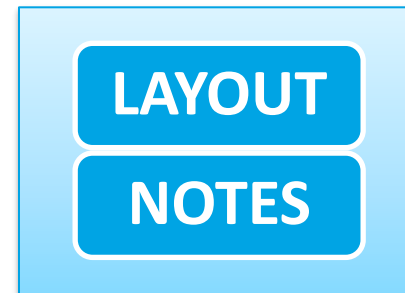
LAYOUT

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.

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

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](#)
Energy Footprint [v1.0] email: eGuidefeedback@ee.doe.gov
 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		

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

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 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

version: 1.0
 build date: 2015.11.23

MMBtu (primary)
 kWh site = 0.010228
 1 Therm = 0.1
 1 Dtherm = 1
 1 MMBtu = 1
 1 GJ = 0.9478

FOR REFERENCE: These energy conversion factors are used only to calculate the total primary energy consumption and are not otherwise used.

- 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

Yearly Totals

Unit Costs
can be hidden
or displayed as
needed

**Energy Source Cost
and Unit Data**
entered by
year and month

Energy Footprint - ENERGY CONSUMPTION

Tracked Energy Sources

Energy Source	UNIT	Notes
1 Electricity	kWh site	Location, day of month read, etc
2 Natural Gas	Dtherm	Location, day of month read, etc

back to top

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
2015	\$	\$18,799.57	\$17,111.78	\$23,615.84	\$28,495.46	\$24,430.42	\$19,004.75	\$14,554.98	\$17,746.82	\$21,895.12	\$15,587.60	\$16,663.00	\$18,281.47	\$ 236,186.81
	Qty	109,282.0	98,838.0	123,900.0	144,960.0	128,352.0	104,215.0	83,224.0	106,890.0	119,200.0	95,445.0	93,670.0	102,588.0	1,310,564.0
2014	\$	\$12,292.81	\$21,077.28	\$24,305.75	\$28,685.28	\$24,219.36	\$18,381.30	\$14,477.05	\$17,243.23	\$17,742.78	\$21,551.04	\$16,666.56	\$17,028.00	\$ 233,670.44
	Qty	67,776.0	113,500.0	131,047.0	151,925.0	133,400.0	92,640.0	84,348.0	90,889.0	100,400.0	121,824.0	93,394.0	88,896.0	1,270,039.0
2013	\$	\$13,541.30	\$15,088.00	\$25,365.00	\$22,205.30	\$22,526.40	\$18,001.17	\$18,395.80	\$13,787.62	\$22,373.40	\$15,670.20	\$18,955.68	\$17,884.68	\$ 223,794.55
	Qty	81,480.0	80,640.0	149,600.0	135,975.0	157,072.0	101,178.0	99,372.0	78,106.0	123,930.0	89,991.0	107,565.0	99,200.0	1,284,109.0
Per Unit Costs		\$ 0.17	\$ 0.17	\$ 0.19	\$ 0.20	\$ 0.19	\$ 0.18	\$ 0.17	\$ 0.17	\$ 0.18	\$ 0.16	\$ 0.18	\$ 0.18	\$ 0.18
2015	\$	\$ 0.17	\$ 0.19	\$ 0.17	\$ 0.16	\$ 0.16	\$ 0.18	\$ 0.19	\$ 0.18	\$ 0.18	\$ 0.17	\$ 0.18	\$ 0.19	\$ 0.18
2014	\$	\$ 0.17	\$ 0.19	\$ 0.17	\$ 0.16	\$ 0.16	\$ 0.18	\$ 0.19	\$ 0.18	\$ 0.18	\$ 0.17	\$ 0.18	\$ 0.19	\$ 0.18
2013	\$	\$ 0.17	\$ 0.19	\$ 0.17	\$ 0.16	\$ 0.16	\$ 0.18	\$ 0.19	\$ 0.18	\$ 0.18	\$ 0.17	\$ 0.18	\$ 0.19	\$ 0.18

back to top

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
2015	\$	\$9,718.14	\$2,280.94	\$1,595.15	\$1,538.21	\$1,296.09	\$1,314.72	\$3,549.50	\$12,560.28	\$15,972.56	\$22,091.98	\$26,033.46	\$15,243.17	\$ 113,194.20
	Qty	953.5	268.3	204.4	191.5	173.8	173.3	342.5	760.6	942.7	1,277.8	1,559.4	908.1	7,755.9
2014	\$	\$6,176.65	\$3,650.33	\$1,405.15	\$1,224.10	\$1,370.16	\$1,290.28	\$3,303.78	\$10,788.72	\$18,571.24	\$22,473.31	\$20,868.12	\$16,513.40	\$ 107,635.24
	Qty	613.5	375.5	188.0	171.7	183.3	183.3	410.2	809.9	1,284.1	2,312.7	1,577.2	1,121.9	9,228.8
2013	\$	\$7,489.25	\$2,391.90	\$2,084.72	\$1,365.60	\$1,454.51	\$1,574.20	\$2,716.86	\$14,805.60	\$15,002.70	\$19,376.49	\$21,091.29	\$17,018.61	\$ 106,371.73
	Qty	795.6	271.9	252.2	192.6	206.7	216.4	336.0	1,588.6	1,532.4	2,065.2	2,448.6	1,535.1	11,441.3
Per Unit Costs		\$ 10.19	\$ 8.50	\$ 7.80	\$ 8.03	\$ 7.46	\$ 7.59	\$ 10.36	\$ 16.51	\$ 16.94	\$ 17.29	\$ 16.69	\$ 16.79	\$ 14.59
2015	\$	\$ 10.07	\$ 9.72	\$ 7.47	\$ 7.13	\$ 7.47	\$ 7.14	\$ 8.05	\$ 13.32	\$ 14.46	\$ 9.72	\$ 13.23	\$ 14.72	\$ 11.66
2014	\$	\$ 9.41	\$ 8.80	\$ 8.27	\$ 7.09	\$ 7.64	\$ 7.27	\$ 8.09	\$ 9.32	\$ 9.79	\$ 9.38	\$ 8.61	\$ 11.09	\$ 9.30
2013	\$	\$ 9.41	\$ 8.80	\$ 8.27	\$ 7.09	\$ 7.64	\$ 7.27	\$ 8.09	\$ 9.32	\$ 9.79	\$ 9.38	\$ 8.61	\$ 11.09	\$ 9.30

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

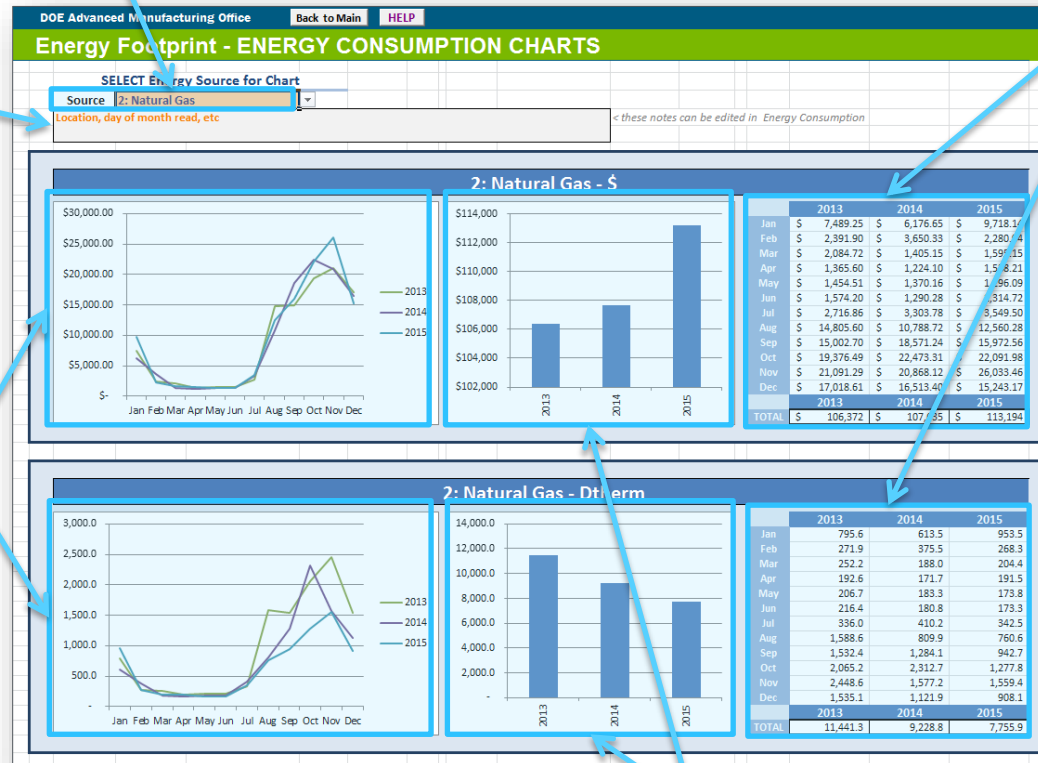
Tables of charted data

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

- 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

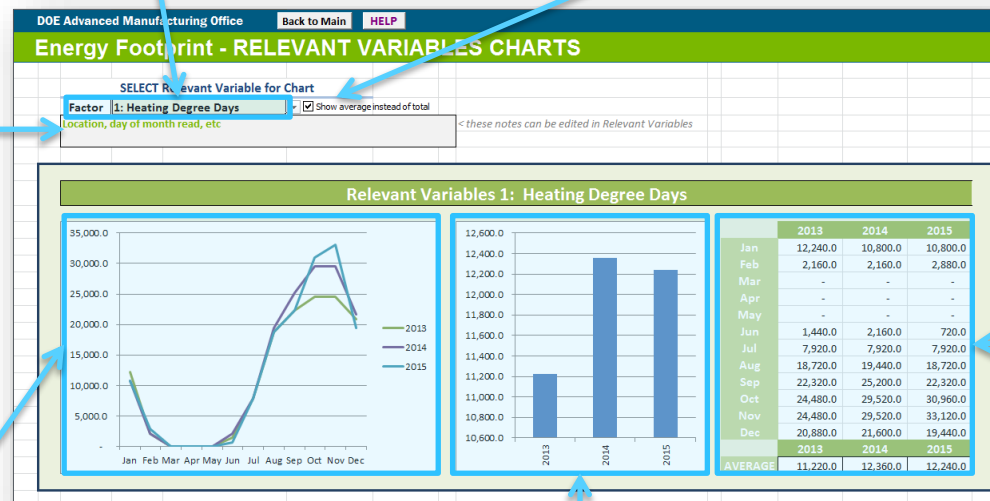
Checkbox toggles between displaying yearly average and total

Relevant Variable Notes

Notes pulled from Relevant Variables sheet

Monthly Data Chart

Displays monthly costs and usage for each tracked year



- 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

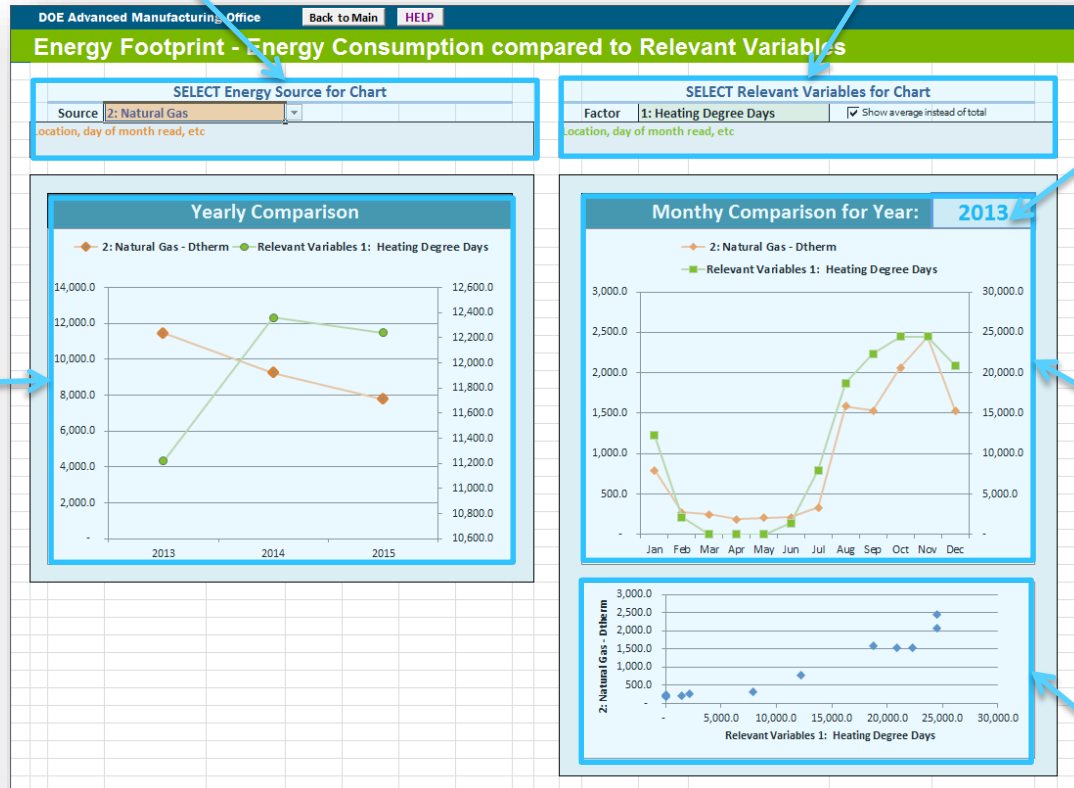
Selected Relevant Variable

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

[GO TO](#)

[Table of Contents](#)

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

Yearly Energy Source Breakdown

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

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

DOE Advanced Manufacturing Office | Back to Main | HELP

Energy Footprint - ENERGY USES

of Groups: 2 | # of Items: 3

View Summary

Energy Use Group: 1 Boiler House | Number of Items: 3

Enter Group notes here

Energy Uses (Equipment/Systems Name)	Energy Source	Total Size/Capacity	Units
Boiler	Natural Gas	5.0	MMBtu/hr
Boiler	Electricity	50.0	Kilowatts
Boiler	Electricity	30.0	Kilowatts

Energy Use Group: 2 Grinding Mill | Number of Items: 2

Enter Group notes here

Energy Using Equipment/Systems Name	Energy Type	Total Size/Capacity	Units
Lights	Electricity	50,000.0	Watts
Motors	Electricity	300.0	Kilowatts

YEAR: 2015 | Previous Year >

Estimated Hrs/Year	Load Factor (%)	Duty Factor (%)	Energy Consumption	Unit per year	Override Calculated Value	% of Total
3,500	100%	50%	7,000.0	MMBtu	7,000.0	73%
3,500	90%	50%	78,750.0	kWh site	8%	8%
6,000	100%	100%	180,000.0	kWh site	19%	19%
Total kWh Delivered			258,750.0	per year		
Total Primary MMBtu			7,000.0	per year		
TOTAL ENERGY CONSUMPTION			9,646.6	MMBtu (primary) per year		

YEAR: 2014

Estimated Hrs/Year	Load Factor (%)	Duty Factor (%)	Energy Consumption	Unit per year	Override Calculated Value	% of Total
3,500	100%	60%	10,500.0	MMBtu	8%	8%
3,500	90%	50%	78,750.0	kWh site	6%	6%
6,000	100%	100%	180,000.0	kWh site	14%	14%
Total kWh Delivered			258,750.0	per year		
Total Primary MMBtu			10,500.0	per year		
TOTAL ENERGY CONSUMPTION			13,146.6	MMBtu (primary) per year		

YEAR: 2015 | Previous Year >

Estimated Hrs/Year	Load Factor (%)	Duty Factor (%)	Energy Consumption	Unit per year	Override Calculated Value	% of Total
6,000	100%	100%	300,000.0	kWh site	25%	25%
6,000	50%	100%	900,000.0	kWh site	75%	75%
Total kWh Delivered			1,200,000.0	per year		
Total Primary MMBtu			-	per year		
TOTAL ENERGY CONSUMPTION			12,274.1	MMBtu (primary) per year		

YEAR: 2014

Estimated Hrs/Year	Load Factor (%)	Duty Factor (%)	Energy Consumption	Unit per year	Override Calculated Value	% of Total
8,000	100%	100%	400,000.0	kWh site	31%	31%
6,000	50%	100%	900,000.0	kWh site	69%	69%
Total kWh Delivered			1,300,000.0	per year		
Total Primary MMBtu			-	per year		
TOTAL ENERGY CONSUMPTION			13,297.0	MMBtu (primary) per year		

Current Selected Year

Previous Year

Group Energy Source Breakdown

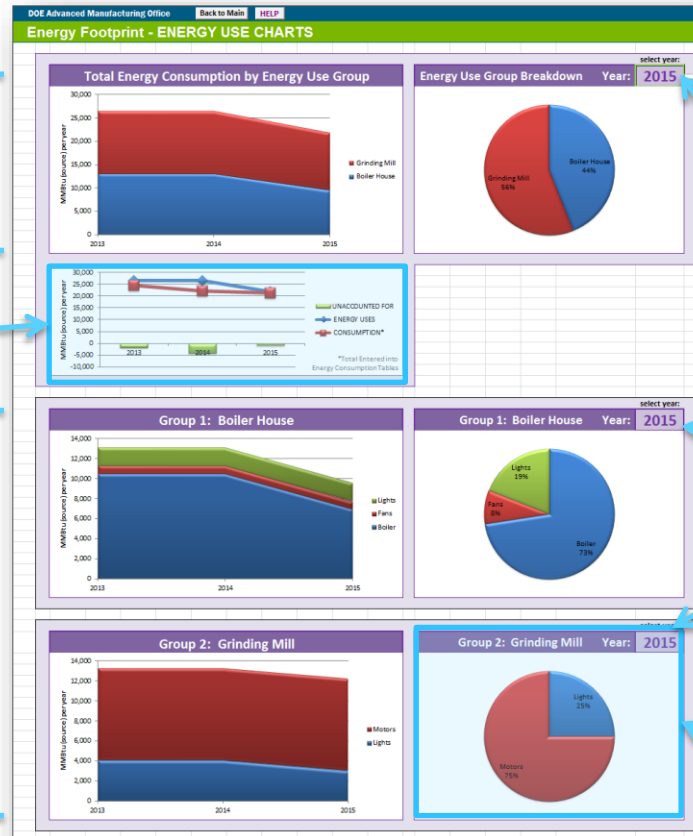
Energy use group total energy consumption by energy source

- 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

[illegible]

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