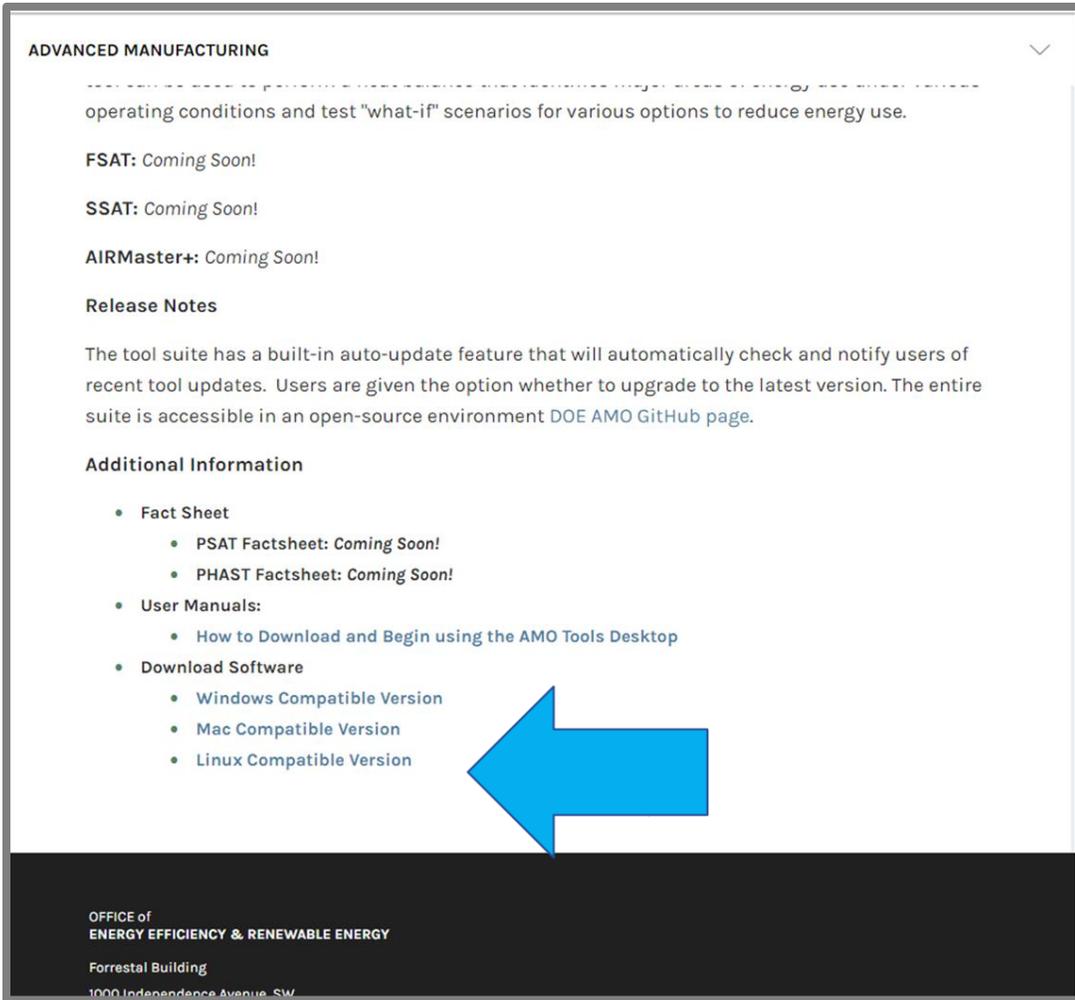




How to Download and Begin using MEASUR: The Manufacturing Energy Assessment Software for Utility Reduction



Download via DOE-EERE- AMO website



ADVANCED MANUFACTURING

operating conditions and test "what-if" scenarios for various options to reduce energy use.

FSAT: *Coming Soon!*

SSAT: *Coming Soon!*

AIRMaster+: *Coming Soon!*

Release Notes

The tool suite has a built-in auto-update feature that will automatically check and notify users of recent tool updates. Users are given the option whether to upgrade to the latest version. The entire suite is accessible in an open-source environment DOE AMO GitHub page.

Additional Information

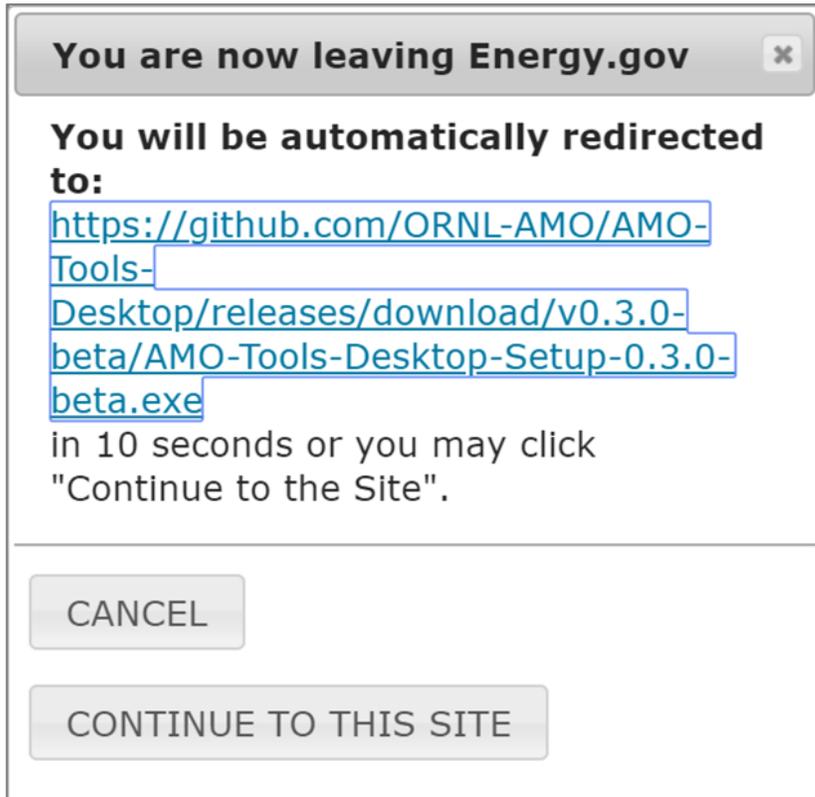
- Fact Sheet
 - PSAT Factsheet: *Coming Soon!*
 - PHAST Factsheet: *Coming Soon!*
- User Manuals:
 - How to Download and Begin using the AMO Tools Desktop
- Download Software
 - Windows Compatible Version
 - Mac Compatible Version
 - Linux Compatible Version

OFFICE of
ENERGY EFFICIENCY & RENEWABLE ENERGY

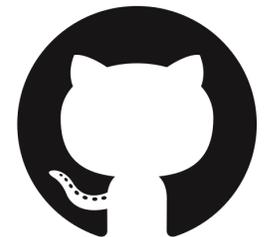
Forrestal Building
1000 Independence Avenue, SW

- <https://www.energy.gov/eere/amo/measur>
- Includes overview of the effort to reprogram our legacy tools
- Scroll to the bottom to find and download your version

Download via DOE-EERE- AMO website

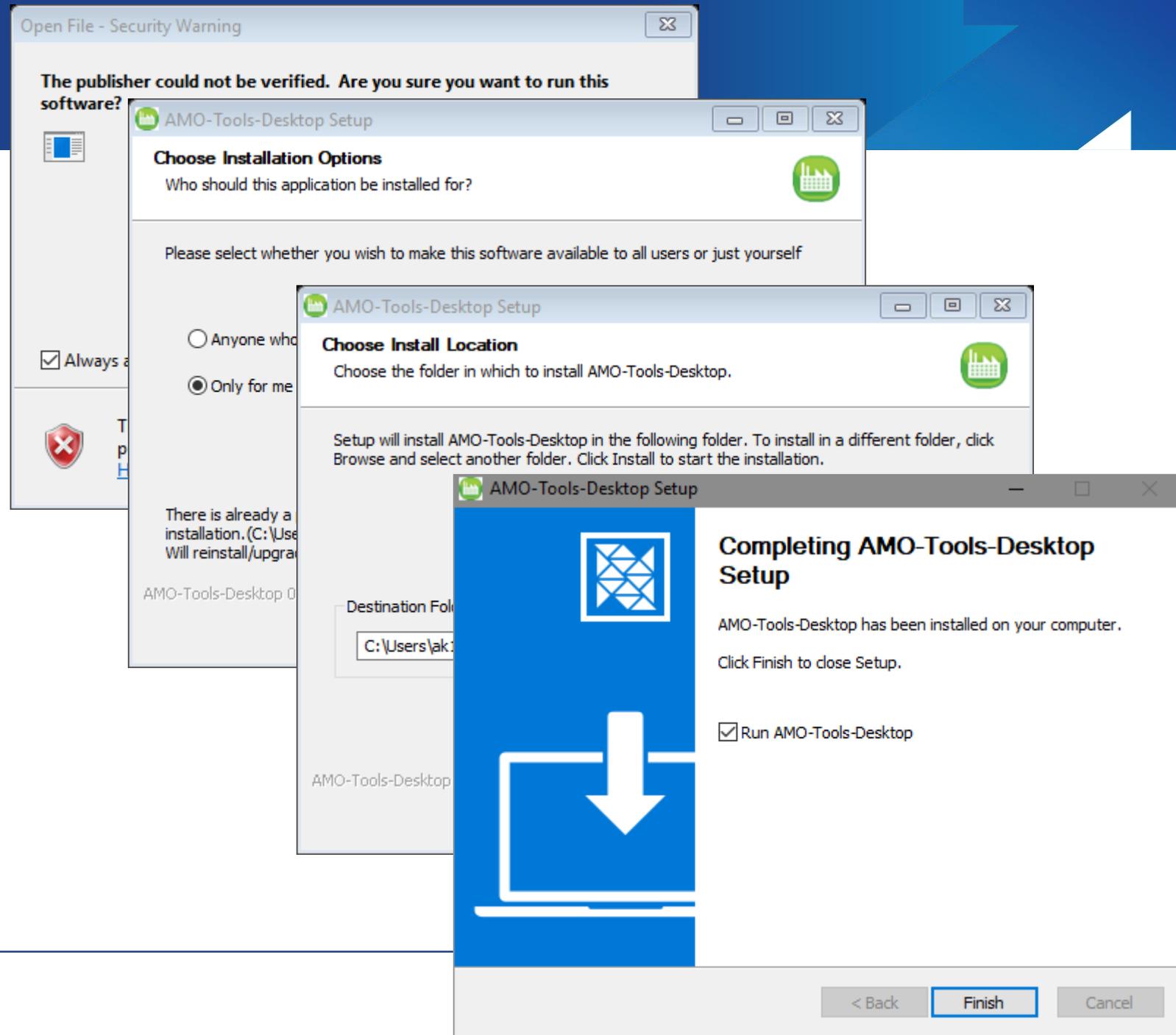


- This message will appear indicating that the file you are downloading is hosted on another website.
- That web site is GitHub, the common repository for software applications and is perfectly safe.



Download

- Click the file extension that matches your operating system
- Open the download
- Click “Run”
- Follow the instructions for the Installation Wizard
- If updating via the webpage DO NOT uninstall first



Updating

- This Tool is in beta, so we are constantly upgrading it and publishing releases fairly often.
- After installation, if an update becomes available, a popup will appear at startup to notify you.
 - You can choose to update right away, or you can wait.
 - If for some reason this does not happen, you can download from the AMO Tools Download Center
- **DO NOT UNINSTALL** before updating, you will lose **ALL** your assessments.

Getting Started



Welcome to the most efficient way to manage and optimize your plant's systems and equipment.

Create an assessment to model your system and find opportunities for efficiency or run calculations from one of our many property and equipment calculators.
Get started with one of the following options.

Create Assessment
Model a system and explore multiple optimization scenarios.

- Create Pump Assessment**
formerly DOE Pumping System Assessment Tool (PSAT)
- Create Process Heating Assessment**
formerly DOE Process Heating Assessment and Survey Tool (PHAST)
- Create Fan Assessment**
formerly DOE Fan System Assessment Tool (FSAT)

Properties & Equipment Calculators
Generate detailed properties and test a variety of adjustments.

- Motors
- Pumps
- Fans
- Process Heating
- Steam
- Compressed Air
- General

[View All Your Assessments](#)

Add Assessment

Home

- All Assessments
 - Examples
 - Extra case studies

- All Calculators
- Motors
 - Pumps
 - Fans
 - Process Heating
 - Steam
 - Compressed Air
 - General

- Settings
- Custom Materials
 - Tutorials
 - About
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v0.3.0-beta

Can Start an assessment via several buttons



Getting Started

The screenshot displays the MEASUR web application interface. At the top left is the U.S. Department of Energy logo and the text 'Energy Efficiency & Renewable Energy'. The main header features the 'MEASUR' logo. A central dialog box titled 'Create New Assessment' is open, containing the following fields:

- Assessment Name:** A text input field with 'New Assessment' entered. Below it, an example reads: 'Example: "Pump123" or "ORNL Pump 3"'
- Assessment Type:** A dropdown menu with 'Pump' selected.
- Folder Location:** A dropdown menu with 'All Assessments/' selected. Below it is a link: 'Add a new folder for this assessment'

Buttons for 'Close' and 'Add Assessment' are at the bottom of the dialog. The background interface includes a sidebar with 'Add Assessment' and 'Home' sections, and a main content area with various assessment options like 'Create Process Heating Assessment' and 'Create Fan Assessment'. A green box on the right contains the text: 'Using the Green Arrows will make a popup for you to name your assessment, choose type, and folder location'. A light blue box at the bottom left contains the text: 'Can Start an assessment via several buttons', with arrows pointing to the 'Add Assessment' button and the 'Create Process Heating Assessment' button.

Using the Green Arrows will make a popup for you to name your assessment, choose type, and folder location

Can Start an assessment via several buttons

Getting Started



Add Assessment

Home

- All Assessments
- Examples
- Extra case studies

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U.S. DEPARTMENT OF ENERGY

Energy Efficiency & Renewable Energy

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All Assessments / Extra case studies

Add Assessment Add Pre-Assessment Add Folder Generate Report Delete Export Import

EXTRA CASE STUDIES INFO

Comp	ORNL	Facility	ORNL	Date	8/14/2018
				View Details	Edit Info

EXTRA CASE STUDIES SUMMARY

Type	Assessments	Annual Energy Used	Annual Energy Cost
Pumps	3	6,508.68 kWh	\$373,614.00
Process Heating	3	3,472,440 MMBtu	\$35,678,552.74
Fans	2	15,659.6 kWh	\$939,573.03
Total	8	3,472,510 MMBtu	\$36,991,739.76

EXTRA CASE STUDIES SETTINGS

Units of Measure	Imperial
Fuel Cost	\$3.99 /MMBtu
Steam Cost	\$4.69 /MMBtu
Electricity Cost	\$0.07 /kWh

[Edit Settings](#)

Will take you to the home page

Can still access this button

Following the Blue Arrows will bring you to the Dashboard where you can view existing assessments or add a new assessment

Other Important Features



Welcome to the most efficient way to manage and optimize your plant's systems and equipment.

Create an assessment to model your system and find opportunities for efficiency or run calculations from one of our many property and equipment calculators. Get started with one of the following options.

Quick Access to Assessments

Calculators such as:
Unit Converter
PHAST O₂ Enrichment Calculator

Settings such as:
Defaults

What has
changed since the
last update

- Home
- All Assessments
 - Examples
 - Extra case studies
- All Calculators
 - Motors
 - Pumps
 - Fans
 - Process Heating
 - Steam
 - Compressed Air
 - General
- Settings
 - Custom Materials
 - Tutorials
 - About
 - Contact
 - Acknowledgments
- v0.3.0-beta ⓘ

Create Assessment

Model a system and explore multiple optimization scenarios.

Properties & Equipment Calculators

Generate detailed properties and test a variety of adjustments.

- Motors
- Pumps
- Fans
- Process Heating
- Steam
- Compressed Air
- General

[View All Your Assessments](#)

Some things to note about the Process Heating Assessment

New Assessment
Fuel-fired

System Setup | Assessment | Diagram | Report | Sankey | Calculators | Back To Home

1 Assessment Settings | 2 Heat Balance | 3 Aux Equipment | 4 Design Energy Use | 5 Metered Energy

NEW ASSESSMENT SETTINGS

Language: English
Currency: \$ - US Dollar
Units of Measure: Imperial Metric
Energy Result Unit: Kilowatt-hours (kWh)
Select Energy Source Type: Fuel-fired Electrotechnology Steam-based

EQUIPMENT NOTES

Add additional information for your equipment

OPERATING CONDITIONS AT TIME OF ASSESSMENT

Add note for operating conditions

HELP

System Basics

Your system basics help define the units of measure and other information related to the system you are modeling for this assessment. These settings are inherited by default from your directory or applications settings and can be customized for this assessment.

Note: the words furnace, process heating equipment, process heating system, PH System, may be used interchangeably throughout this tool.

- This is where you choose what type of process heating equipment you are modeling.
- You cannot change the “Energy Source Type” after you move on to “Heat Balance”
- You can also add notes about the process heating equipment

Some things to note

The screenshot shows the 'New Assessment' software interface for a 'Fuel-fired' system. The top navigation bar includes 'System Setup', 'Assessment', 'Diagram', 'Report', 'Sankey', and 'Calculators'. Below this is a progress bar with five steps: 1. Assessment Settings (active), 2. Heat Balance, 3. Aux Equipment, 4. Design Energy Use, and 5. Metered Energy. The main content area is divided into 'NEW ASSESSMENT SETTINGS' and 'HELP'. The 'NEW ASSESSMENT SETTINGS' section includes dropdown menus for Language (English), Currency (\$ - US Dollar), Units of Measure (Imperial selected), and Energy Result Unit (Kilowatt-hours (kWh)). It also has radio buttons for 'Select Energy Source Type' with 'Fuel-fired' selected. The 'HELP' section is titled 'System Basics' and contains text about system basics and a note about equipment terminology. A 'Next' button is visible at the bottom right.

1 Assessment Settings **2 Heat Balance** **3 Aux Equipment** **4 Design Energy Use** **5 Metered Energy**

NEW ASSESSMENT SETTINGS

Language: English
Currency: \$ - US Dollar
Units of Measure: Imperial Metric
Energy Result Unit: Kilowatt-hours (kWh)
Select Energy Source Type: Fuel-fired Electrotechnology Steam-based

EQUIPMENT NOTES
Add additional information for this equipment

OPERATING CONDITIONS
Add note for operating conditions

HELP
System Basics
Your system basics help define the units of measure and other information related to the system you are modeling for this assessment. These settings are inherited from the software directory or applications settings and can be customized for this assessment.

Note: the words furnace, process heating equipment, process heating System, may be used interchangeably throughout this tool.

Next

You can quickly access calculators at any point!

Once your baseline is complete, you can move on to Assessments to create different scenarios for the same furnace to compare energy savings opportunities!

This lets you view a diagram of a generic equipment to help explain the different types of losses

This lets you view a Sankey Diagram of your modeled system

Some things to note

- After finishing your baseline, the other sections (Assessment, Report, etc.) of the tool can be accessed
- You can also begin an “Assessment” where you create “Modifications” for energy savings opportunities
- Once you create a modification, you **cannot** add or remove any losses from your baseline (you can change the values)
- Explore Opportunities allows you to change values relating to several common opportunities
- Modify All Conditions allows you to change any value
 - Here you can make multiple Modifications that you can name individually
 - You can change values in multiple loss calculators

Some things to note

Explore Opportunities (Novice View)

Individual Opportunity 4 - Reduce O2 level in flue gases

SELECT POTENTIAL ADJUSTMENT PROJECTS

Modification Name: Individual Opportunity 4 - Reduce O2 level in flue gases

Maintain Optimum Air/Fuel Ratio or Recommended O₂ Level in Flue Gas

Baseline Oxygen Calculation Method: Oxygen in Flue Gas

Modified Oxygen Calculation Method: Oxygen in Flue Gas

Baseline Oxygen in Flue Gas: 6 %

Modified Oxygen in Flue Gas: 2 %

Baseline Excess Air in Flue Gas: 36.52 %

Modified Oxygen in Flue Gas: 09.90 %

Energy Loss/Use	Baseline MMBtu/hr	Individual Opportunity 4 - Reduce O2 level in flue gases MMBtu/hr
Charge Materials	143.56	143.56
Fixtures, trays etc.	---	---
Wall Losses	7.47	7.47
Cooling Losses	24.16	24.16
Atmosphere Losses	---	---
Opening Losses	2.81	2.81
Leakage Losses	3.26	3.26
Extended Surface Losses	---	---
Other Losses	---	---
Total Net Heat Required	181.27	181.27
Available Heat (%)	59.2%	64.0%
Flue Gas Losses	124.82	102.11
Exothermic Heat from Process	---	---
Gross Heat Input	306.09	283.38

Click here to View all Scenarios or Add a new one!

Modify All Conditions (Expert View)

Individual Opportunity 4 - Reduce O2 level in flue gases

Operations: Charge Materials, **Flue Gas**, Fixture, Wall, Cooling, Atmosphere, Opening, Leakage, Extended Surface, Other

BASELINE

Loss #1

Type of fuel: Gas

Fuel: Typical Natural Gas - US

Flue Gas Temperature: 1800 °F

Percent Oxygen Or Excess Air?: Oxygen in Flue Gas

Oxygen In Flue Gas: 6 %

Excess Air: 36.52 %

Combustion Air Temperature: 850 °F

Fuel Temperature: 65 °F

Available Heat: 59.2 %

Gross Heat: 306.091 MMBtu/hr

Flue Gas Losses: 124.822 MMBtu/hr

INDIVIDUAL OPPORTUNITY 4 - REDUCE O2 LEVEL IN FLUE GASES

Loss #1

Type of fuel: Gas

Fuel: Typical Natural Gas - US

Flue Gas Temperature: 1800 °F

Percent Oxygen Or Excess Air?: Oxygen in Flue Gas

Oxygen In Flue Gas: 2 %

Excess Air: 09.90 %

Combustion Air Temperature: 850 °F

Fuel Temperature: 65 °F

Available Heat: 64.0 %

Gross Heat: 283.378 MMBtu/hr

Flue Gas Losses: 102.110 MMBtu/hr

Savings Suggestions

- Maintain appropriate level of oxygen in flue gases by controlling air-fuel ratio for the burners
- Maintain and control burner operations to eliminate formation of soot or combustible gases such as carbon monoxide and hydrogen in flue gases
- Eliminate or reduce air leakage in the furnace. See "Opening Losses" section
- Consider use of heat recovery from flue gases. Consider use of various methods of heat recovery to reduce flue gas temperature leaving the heating system
- Use preheated combustion air through use of recuperators or regenerators
- Where appropriate, consider use of oxygen enrichment of combustion air to reduce mass of flue gas

- Two ways to modify a Scenario
 - Explore Opportunities (Novice View)
 - Allows you to only change key energy savings opportunities related fields
 - Modify All Conditions (Expert View)
 - Allows you access to all fields that were used in the baseline for modifying

Some things to note

Select Scenario

Name	Modifications
Individual Opportunity 4 - Reduce O2 level in flue gases	Flue
Individual Opportunity 3 - Repair wall insulation	Wall
Individual Opportunity 2 - Repair fixed openings	Open
Individual Opportunity 1 - Preheat Charge Material	ChMat
All Opportunities	ChMat Flue GasL Open Wall

Add a new scenario. Your data will be copied directly from your baseline. Please use a unique name.

New Scenario Name

Add New Scenario

Back Next View Report

Navigate to a created Scenario

Click here to rename, copy or delete a Scenario

Badges to show you what pages have been modified

Name and Create New Scenarios

Some things to note

- Badges show you more information about your assessment at a glance

The screenshot displays the 'Reheat Furnace Case Study' software interface. The top navigation bar includes 'System Setup', 'Assessment' (highlighted), 'Diagram', 'Report', 'Sankey', and 'Calculators'. Below this, there are tabs for 'Explore Opportunities' (Novice View) and 'Modify All Conditions' (Expert View). The main assessment area shows 'Individual Opportunity 4 - Reduce O2 level in flue gases' as the selected scenario. A horizontal bar lists assessment categories: Operations (green dot), Charge Materials (green dot with '1'), Flue Gas (blue dot with '1'), Fixture, Wall (yellow dot with '1'), Cooling (red dot with '1'), Atmosphere, Opening (green dot with '2'), Leakage (green dot with '1'), Extended Surface, and Other. Below this bar, six colored boxes with arrows pointing to specific categories provide detailed information:

- Green box (Operations):** Everything is okay & the same as the baseline
- Blue box (Flue Gas):** Everything is okay but different from the baseline
- Yellow box (Wall):** An error has occurred
- Red box (Cooling):** A field is blank
- Green box (Opening):** There are two losses
- Green box (Leakage):** There is only one loss

Some things to note



Reheat Furnace Case Study
Fuel-fired

System Setup **Assessment** Diagram Report Sankey Calculators [Back To Home](#)

Explore Opportunities **Modify All Conditions** [View / Add Scenarios](#)
Novice View Expert View

Individual Opportunity 4 - Reduce O2 level in flue gases
Selected Scenario

Operations **Charge Materials** Flue Gas Fixture Wall Cooling Atmosphere Opening Leakage Extended Surface Other

BASELINE

Material #1
Select Type: Solid

Name of Material: Carbon Steel

Average specific heat of the solid material: 0.16 Btu/(lb-°F)

Latent Heat of Fusion: 60 Btu/lb

Specific heat of liquid from molten material: 0.175 Btu/(lb-°F)

Melting Point: 2800 °F

Charge (wet)-Feed Rate: 400000 lb/hr

Initial Temperature: 60 °F

Charge Material Discharge Temperature: 2300 °F

Water Content as Charged: 0 %

Water Content as Discharged: 0 %

Water Vapor Discharge Temperature: 0 °F

Charge Melted: 0 %

Charge Reacted: 1 %

Heat of Reaction: 50 Btu/lb

Endothermic/Exothermic: Endothermic

Additional Heat Required: 0 Btu/hr

Material #1 Heat Required: 143.360 MMBtu/hr
Material #1 Reaction Heat: 0.200000 MMBtu/hr
Material #1 Total Heat Required: 143.560 MMBtu/hr

All Materials Heat Required: 143.360 MMBtu/hr
All Materials Reaction Heat: 0.200000 MMBtu/hr
All Materials Total Heat Required: 143.560 MMBtu/hr

INDIVIDUAL OPPORTUNITY 4 - REDUCE O2 LEVEL IN FLUE GASES

Material #1
Select Type: Solid

Name of Material: Carbon Steel

Average specific heat of the solid material: 0.16 Btu/(lb-°F)

Latent Heat of Fusion: 60 Btu/lb

Specific heat of liquid from molten material: 0.175 Btu/(lb-°F)

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Endothermic/Exothermic: Endothermic

Additional Heat Required: 0 Btu/hr

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Material #1 Reaction Heat: 0.200000 MMBtu/hr
Material #1 Total Heat Required: 143.560 MMBtu/hr

All Materials Heat Required: 143.360 MMBtu/hr
All Materials Reaction Heat: 0.200000 MMBtu/hr
All Materials Total Heat Required: 143.560 MMBtu/hr

RESULTS HELP **NOTES**

Add note for charge material

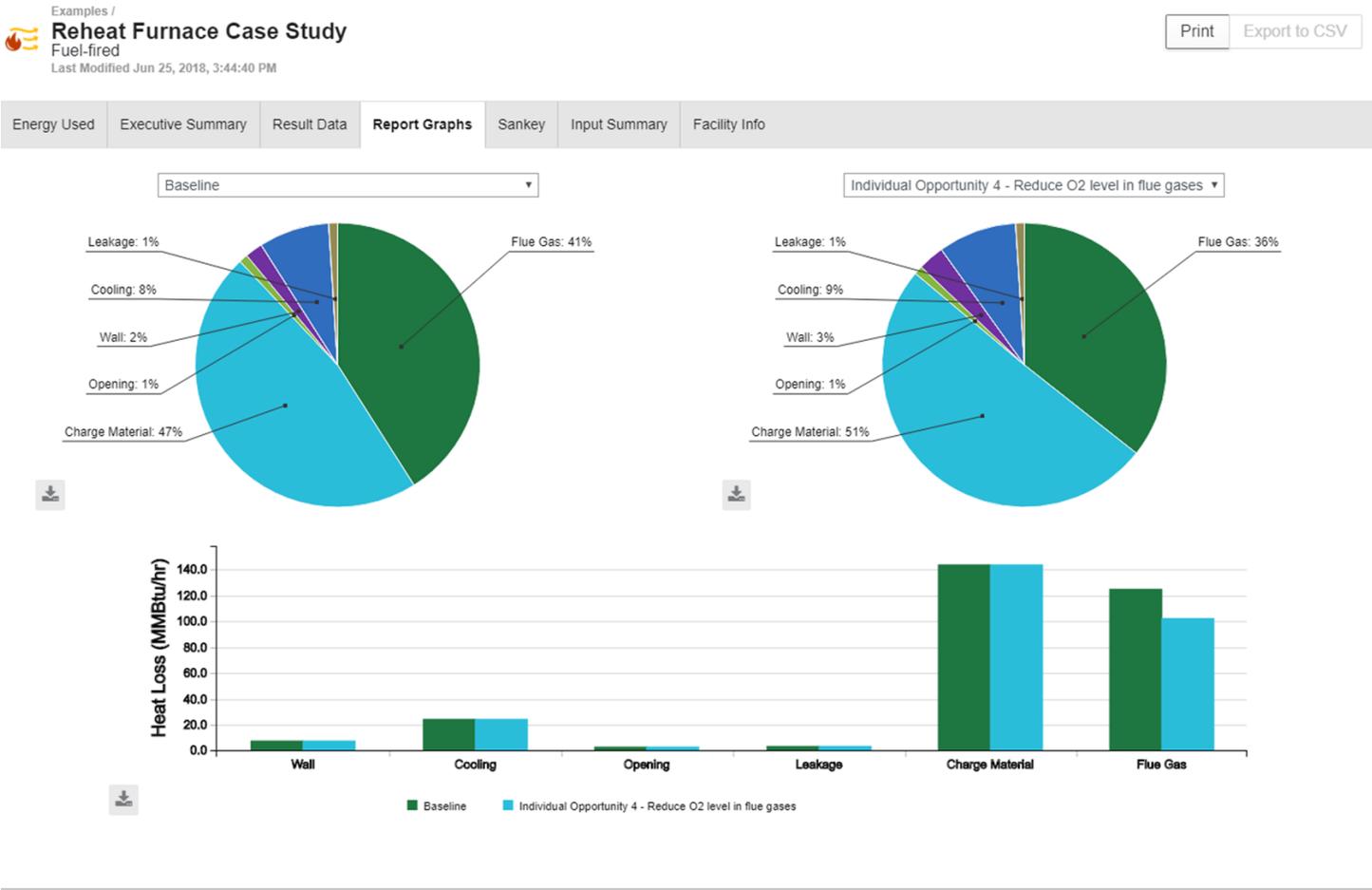


- When in “Assessment” mode, you can add notes in the right panel that will show up in the report to help you identify what you are modeling in this modification

Back

Next View Report

Report



- The Report Tab allows you to access the equipment level report
- There are several tabs with high level and loss level results, graphs, Sankey Diagrams, etc.
- Each graph has an icon to download a .png of the graph
- Clicking Print will let you choose what sections of the report you which to print (or save to .pdf)

Facility Report

- To generate a facility report, return to “All Assessments”
- Check the folder of the facility you wish to generate a report for
- Click “Generate Report”
- This will generate a page with all the equipment you selected
 - You can mix process heating and pumps
- If you made multiple Modifications, choose which modification you wish to be represented in the roll up
- Click “View More Details to access the rollup

Facility Report

- To generate a facility report, return to “All Assessments”
- Check the folder of the facility you wish to generate a report for
- Or the individual assessments you want in the report
- Click “Generate Report”

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Energy Efficiency & Renewable Energy

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U.S. DEPARTMENT OF ENERGY / All Assessments / Extra case studies

Add Assessment Add Pre-Assessment Add Folder Generate Report Delete Export Import Select all folder content

EXTRA CASE STUDIES INFO

Company ORNL Facility ORNL Date 8/14/2018
View Details Edit Info

EXTRA CASE STUDIES SUMMARY

Type	Assessments	Annual Energy Used	Annual Energy Cost
Pumps	3	6,508.68 kWh	\$373.00
Process Heating	3	3,472,440 MMBtu	\$35,678,552.74
Fans	2	15,659.6 kWh	\$939,573.03
Total	8	3,472,510 MMBtu	\$36,991,739.76

EXTRA CASE STUDIES SETTINGS

Units of Measure	Imperial
Fuel Cost	\$3.99 /MMBtu
Steam Cost	\$4.69 /MMBtu
Electricity Cost	\$0.07 /kWh

EDIT SETTINGS

FURNACES

Number of Furnaces	3
Annual Energy Used	548.54 MMBtu
Annual Energy Cost	\$4,336.47

Show / Edit

FANS

Number of Fans	2
Annual Energy Used	6.31 MMBtu
Annual Energy Cost	\$122.10

Show / Edit

PUMPS

Number of Pumps	3
Annual Energy Used	2.57 MMBtu
Annual Energy Cost	\$49.70

Show / Edit

ELECTRIC ARC FURNACE

Furnace Type:	Electric Arc Furnace (EAF)
Baseline Data:	
Annual Energy Use:	375,802,931 kWh
Annual Energy Costs:	\$24,802,993
Modification Data:	
Number of Modifications:	3
Max Energy Savings:	20,985,174 kWh
Max Cost Savings:	\$1,385,022

PUSHER FURNACE

Furnace Type:	Pusher Furnace
Baseline Data:	
Annual Energy Use:	74,450 MMBtu
Annual Energy Costs:	\$297,056
Modification Data:	
Number of Modifications:	4
Max Energy Savings:	31,415 MMBtu
Max Cost Savings:	\$125,348

REHEAT FURNACE

Furnace Type:	Reheat Furnace
Baseline Data:	
Annual Energy Use:	2,115,701 MMBtu
Annual Energy Costs:	\$10,578,503
Modification Data:	
Number of Modifications:	5
Max Energy Savings:	396,998 MMBtu
Max Cost Savings:	\$1,984,992

EXTRA CASE STUDIES

- Electric Arc Furnace
- Pusher Furnace
- Reheat Furnace
- Coal Dryer
- HVAC Fan
- Cooling Pump 1

Last updated Aug 14, 2018

Facility Report

Efficiency Report

Pumps	Furnaces	Fans	Motors
Maximum Annual Cost Savings: \$111,138 Annual Cost: \$262,476	Maximum Annual Energy Savings: 1,919 MWh Annual Energy: 4,590 MWh	Maximum Annual Energy Savings: 500,018 MMBtu Annual Energy: 2,972,421 MMBtu	Maximum Annual Energy Savings: 2,072 MWh Annual Energy: 13,588 MWh
Click for details	Click for details	Click for details	Click for details

Units Print Export to CSV Close Report

Can customize the units used in the report

Access a rollup report

- Cooling Pump 1
- Cooling Pump 2
- Process Pump 1
- Electric Arc Furnace
- Pusher Furnace
- Reheat Furnace
- Coal Dryer
- HVAC Fan

Extra case studies /
Electric Arc Furnace
Electric Arc Furnace (EAF)
Last Modified Aug 15, 2018, 12:28:59 PM

Energy Used **Executive Summary** Result Data Report Graphs Sankey Input Summary Facility Info

	Baseline	Reduce Slag	Preheat Steel	Cooling
Percent Savings (%)	--	2%	6%	
Energy Intensity (kWh/lb)	0.28656	0.28201	0.27056	
Annual Energy Used (kWh/yr)	375,800,000	369,840,000	354,820,000	
Annual Energy Savings (kWh/yr)	--	5,961,100	20,985,000	
Annual Cost	\$24,802,993	\$24,409,559	\$23,417,972	
Annual Cost Savings	--	\$393,435	\$1,385,022	
Implementation Costs	--	--	--	
Simple Payback Period (months)	--	--	--	
Use for Summary	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

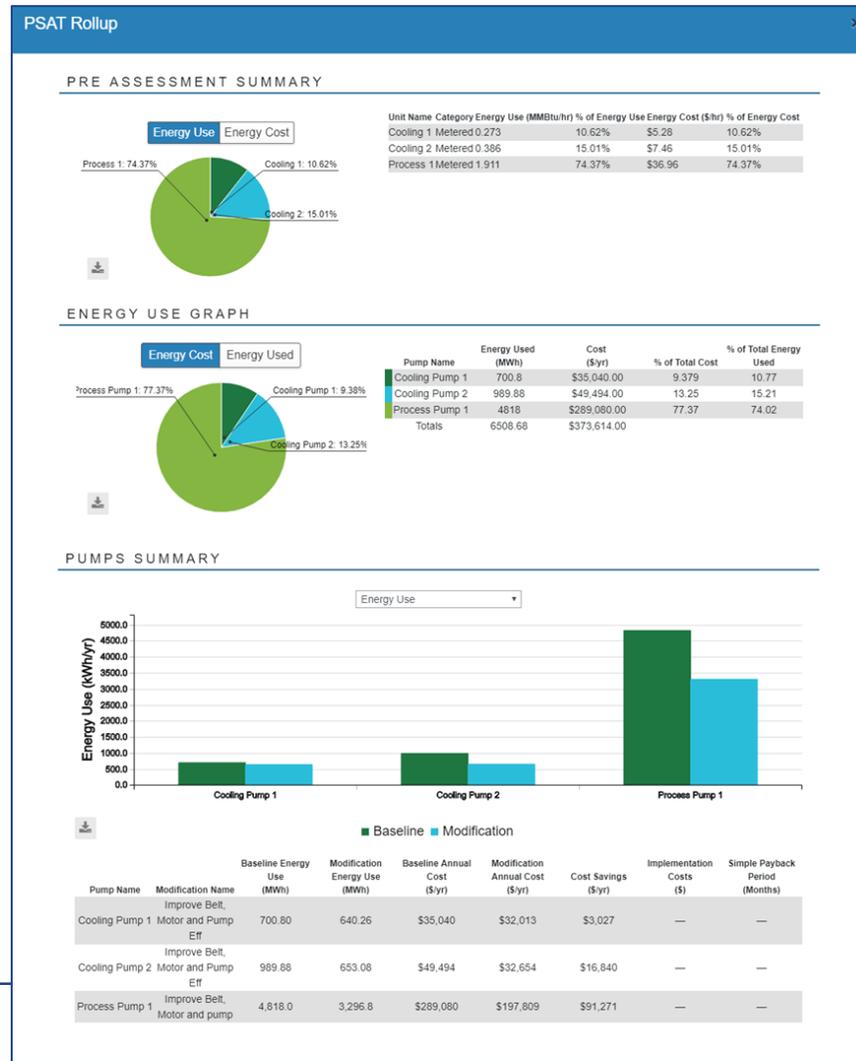
If you made multiple Modifications, choose which modification you wish to be represented in the roll up

Can view any Modification Notes you made

Modification Notes
Preheat Steel — Charge Materials: Preheat steel using flue gas exhaust

Facility Report – Roll up

- Click “View More Details to access the rollup



Pre-Assessment

MEASUR Calculated Energy Use/Cost

Summary with Chosen Modifications

All Assessments Dashboard



Energy Efficiency & Renewable Energy

Add Assessment

Home

All Assessments

- Examples
 - Reheat Furnace Case Study
 - Example Pump
 - Fan Example
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 - Pusher Furnace
 - Reheat Furnace
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 - HVAC Fan
 - Cooling Pump 1
 - Cooling Pump 2
 - Process Pump 1

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ALL ASSESSMENTS

Buttons: Add Assessment, Add Pre-Assessment, Add Folder, Generate Report, Delete, Export, Import

Select all folder content

ALL ASSESSMENTS INFO

Add Facility Info

No Facility Info found for this directory.

ALL ASSESSMENTS SUMMARY

Type	Assessments	Annual Energy Used	Annual Energy Cost
Pumps	0	0.00000 kWh	\$0.00
Process Heating	0	0.00000 MMBtu	\$0.00
Fans	0	0.00000 kWh	\$0.00
Total	0	0.00000 MMBtu	\$0.00

ALL ASSESSMENTS PRE-ASSESSMENT

Add Pre-Assessment / Screening

No Pre-Assessment found for this facility.

EXAMPLES

- Reheat Furnace Case Study
- Example Pump
- Fan Example

Last updated Aug 13, 2018

EXTRA CASE STUDIES

- Electric Arc Furnace
- Pusher Furnace
- Reheat Furnace
- Coal Dryer
- HVAC Fan
- Cooling Pump 1

Cost Summary:

- Fuel Cost: \$3.99 /MMBtu
- Steam Cost: \$4.99 /MMBtu
- Electricity Cost: \$0.00 /kWh

Edit Settings

Edit Extra case studies Properties

Edit Folder Name: Extra case studies

Change Folder Location: All Assessments/

Save

Select Files to delete

Add New Folder

Pop up to rename or move files

Exporting: Sending & Backing up Data

- The export function can be used for both
 - Sending your assessments to colleagues
 - Backing up your files in a safe place
- Click on “All Assessments” or “View your Assessments”
- Choose the Assessments you wish to export
 - Click the check box in the upper left corner of the card
 - Can choose individually or by folder
- Click the “Export” button
- Click “Export” in the popup

Exporting: Sending & Backing up Data

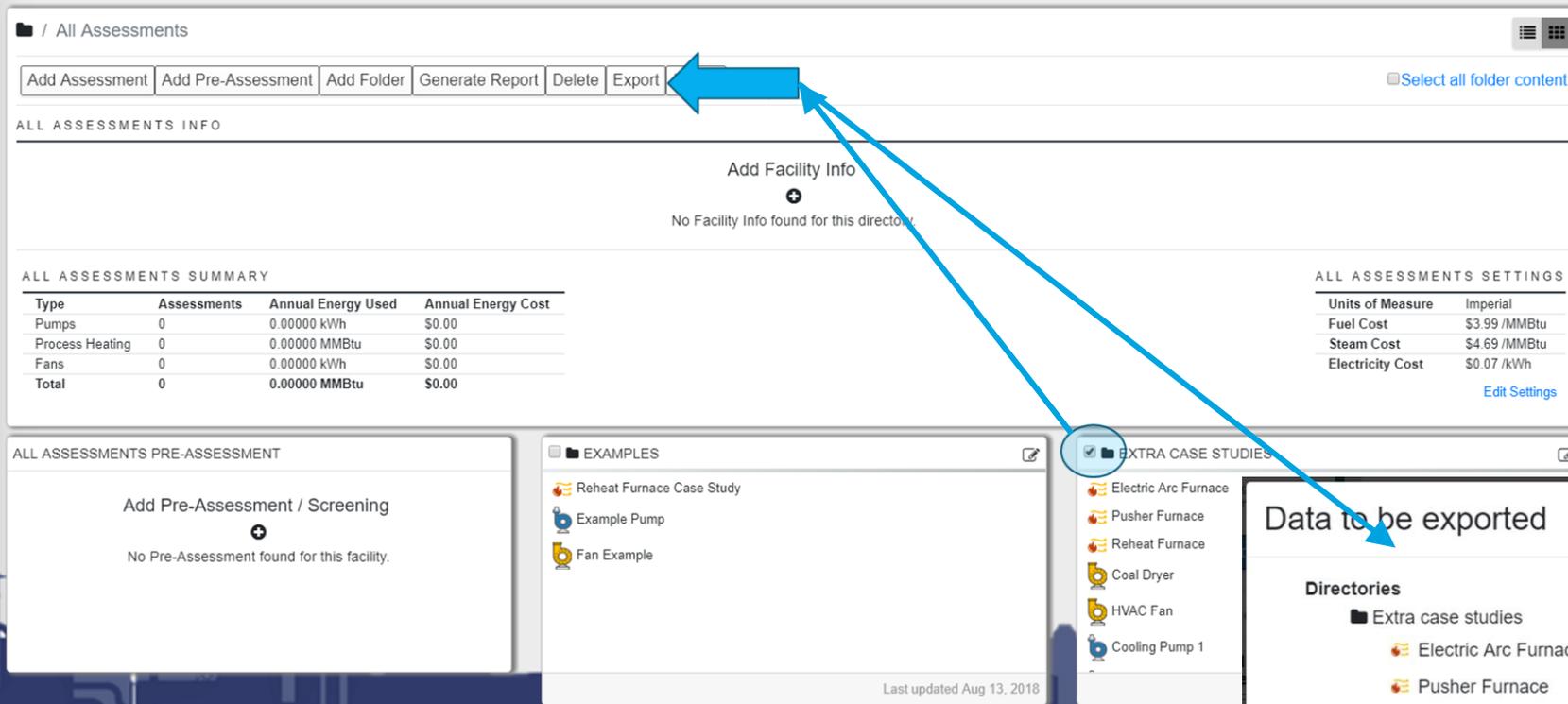
Add Assessment

Home

All Assessments

- Examples
 - Reheat Furnace Case Study
 - Example Pump
 - Fan Example
- Extra case studies
 - Electric Arc Furnace
 - Pusher Furnace
 - Reheat Furnace
 - Coal Dryer
 - HVAC Fan
 - Cooling Pump 1
 - Cooling Pump 2
 - Process Pump 1

- All Calculators
- Motors
 - Pumps
 - Fans
 - Process Heating
 - Steam
 - Compressed Air
 - General



U.S. DEPARTMENT OF ENERGY

Energy Efficiency & Renewable Energy

Add Assessment

Home

All Assessments

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All Calculators

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- Steam
- Compressed Air
- General

All Assessments

Export

ALL ASSESSMENTS INFO

Add Facility Info

No Facility Info found for this directory.

ALL ASSESSMENTS SUMMARY

Type	Assessments	Annual Energy Used	Annual Energy Cost
Pumps	0	0.00000 kWh	\$0.00
Process Heating	0	0.00000 MMBtu	\$0.00
Fans	0	0.00000 kWh	\$0.00
Total	0	0.00000 MMBtu	\$0.00

ALL ASSESSMENTS SETTINGS

Units of Measure	Imperial
Fuel Cost	\$3.99 /MMBtu
Steam Cost	\$4.69 /MMBtu
Electricity Cost	\$0.07 /kWh

Edit Settings

ALL ASSESSMENTS PRE-ASSESSMENT

Add Pre-Assessment / Screening

No Pre-Assessment found for this facility.

EXAMPLES

- Reheat Furnace Case Study
- Example Pump
- Fan Example

EXTRA CASE STUDIES

- Electric Arc Furnace
- Pusher Furnace
- Reheat Furnace
- Coal Dryer
- HVAC Fan
- Cooling Pump 1

Last updated Aug 13, 2018

Data to be exported

Directories

- Extra case studies
 - Electric Arc Furnace
 - Pusher Furnace
 - Reheat Furnace
 - Coal Dryer
 - HVAC Fan
 - Cooling Pump 1
 - Cooling Pump 2
 - Process Pump 1

Cancel

Name your file: Case Studies Export

Export as .json

Choose the Assessments you wish to export

Click the check box in the upper left corner of the card

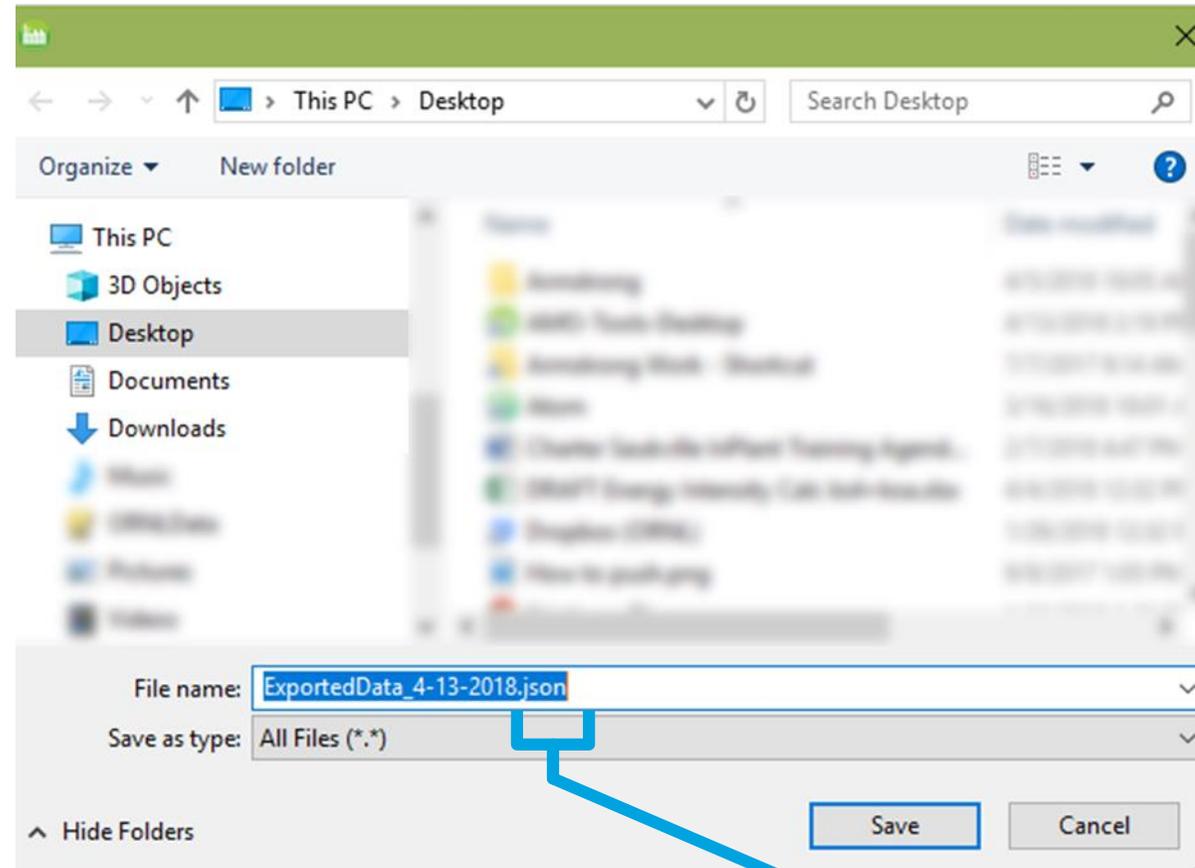
Can choose individually or by folder

Click the "Export" button

Choose your file name (or leave blank for default name)

Click "Export as .json"

Exporting: Sending & Backing up Data



If you rename the file here, be sure to keep the **.json** at the end

Exporting: Sending & Backing up Data

- The import function will add .json files as assessments
- Click on “All Assessments” or “View your Assessments”
- Click “Import” link, then click “Choose File”
- Choose the .json files you wish to import
- Click the “Import” button
- The files should appear in your “All Assessments” folder
- If you get an invalid file type error, rename the file to have .json at the end

Importing: Sending & Backing up Data



Add Assessment

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- All Calculators
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- General

U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

Type	Assessments	Annual Energy Used	Annual Energy Cost
Pumps	0	0.00000 kWh	\$0.00
Process Heating	0	0.00000 MMBtu	\$0.00
Fans	0	0.00000 kWh	\$0.00
Total	0	0.00000 MMBtu	\$0.00

Units of Measure	Imperial
Fuel Cost	\$3.99 /MMBtu
Steam Cost	\$4.69 /MMBtu
Electricity Cost	\$0.07 /kWh

ALL ASSESSMENTS PRE-ASSESSMENT

ALL ASSESSMENTS SUMMARY

ALL ASSESSMENTS SETTINGS

EXAMPLES

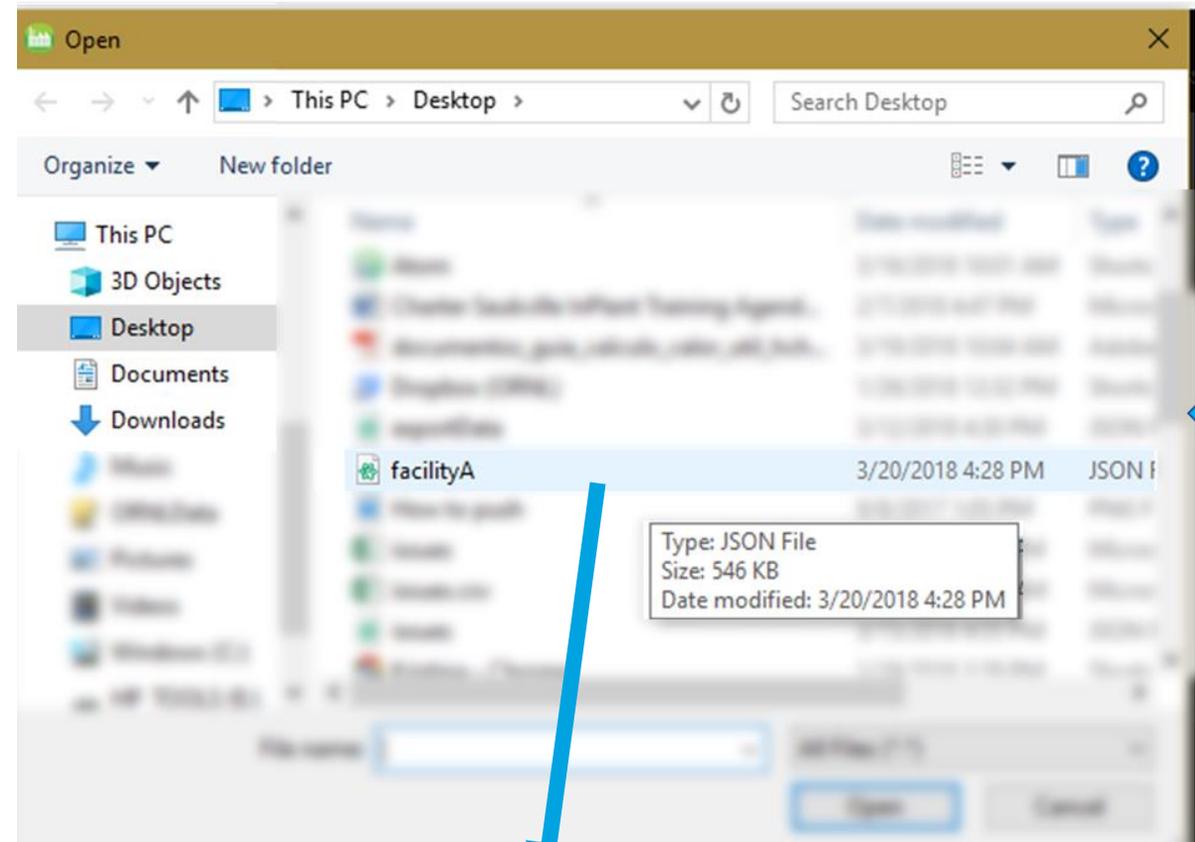
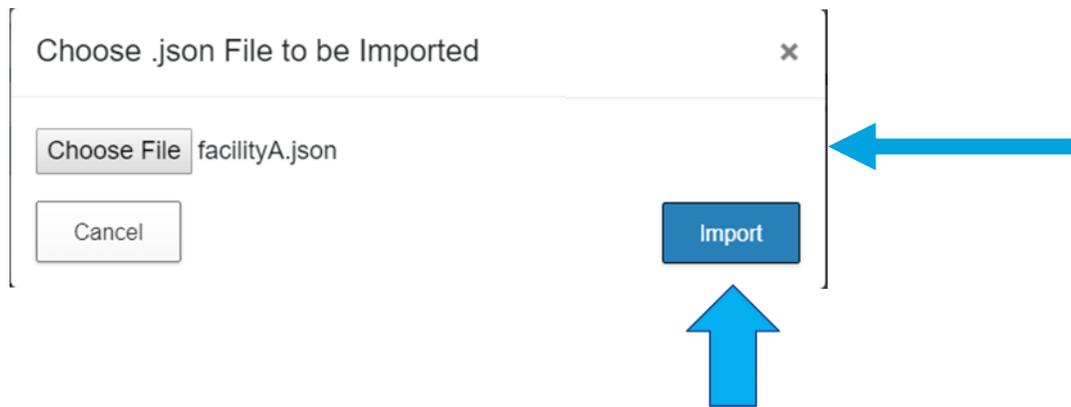
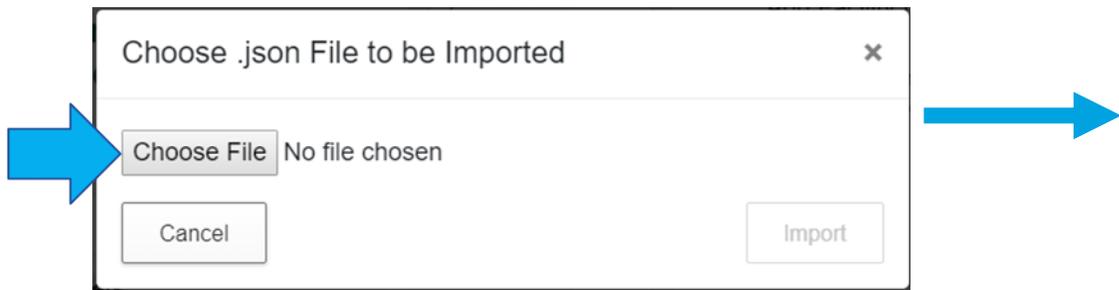
- Reheat Furnace Case Study
- Example Pump
- Fan Example

EXTRA CASE STUDIES

- Electric Arc Furnace
- Pusher Furnace
- Reheat Furnace
- Coal Dryer
- HVAC Fan
- Cooling Pump 1

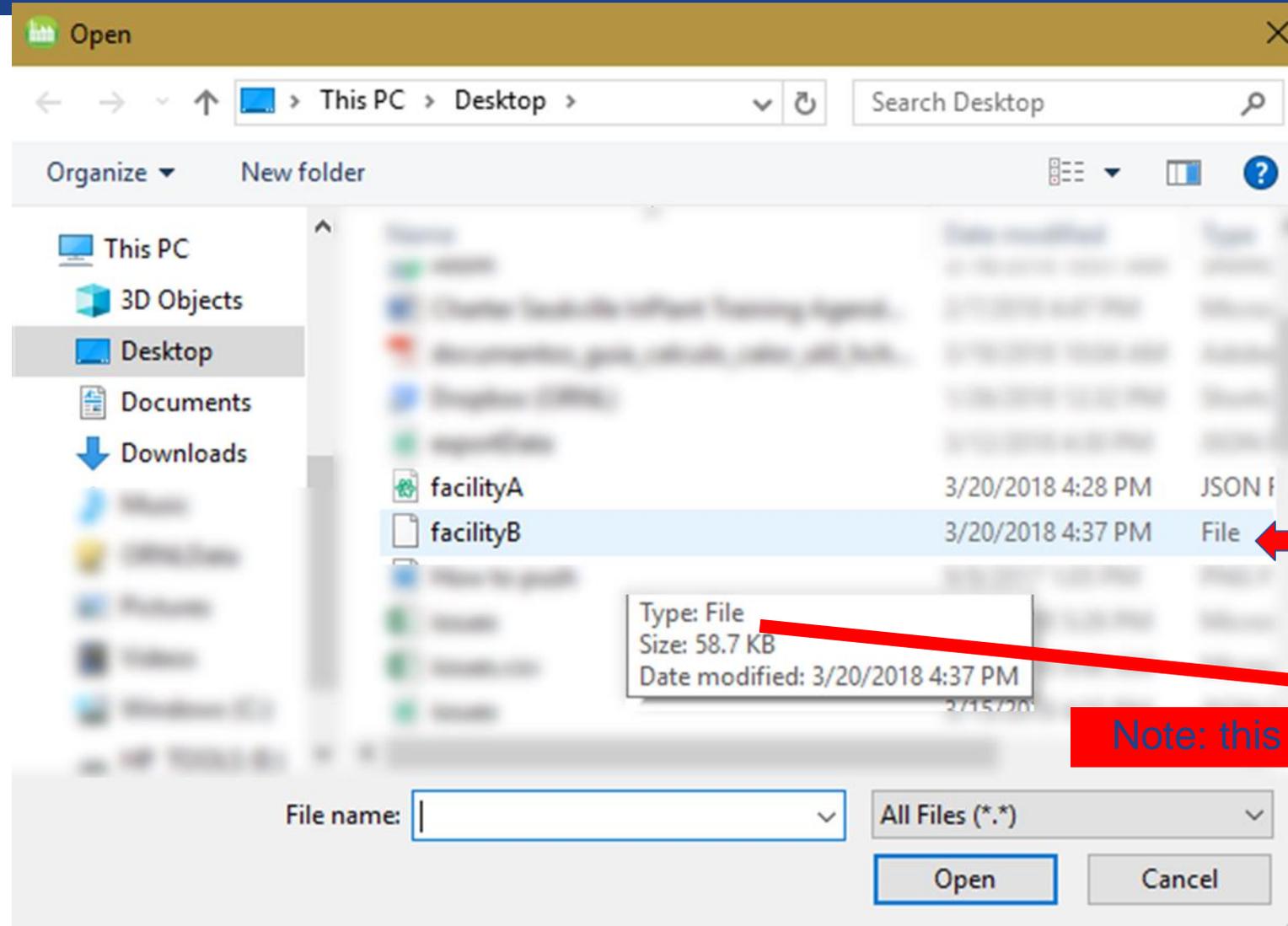
Importing: Sending & Backing up Data

Click “Import” link, then click “Choose File”
Choose the .json files you wish to import
Click the “Import” button



Note: if you hover over the file you wish to import it should say Type: JSON File

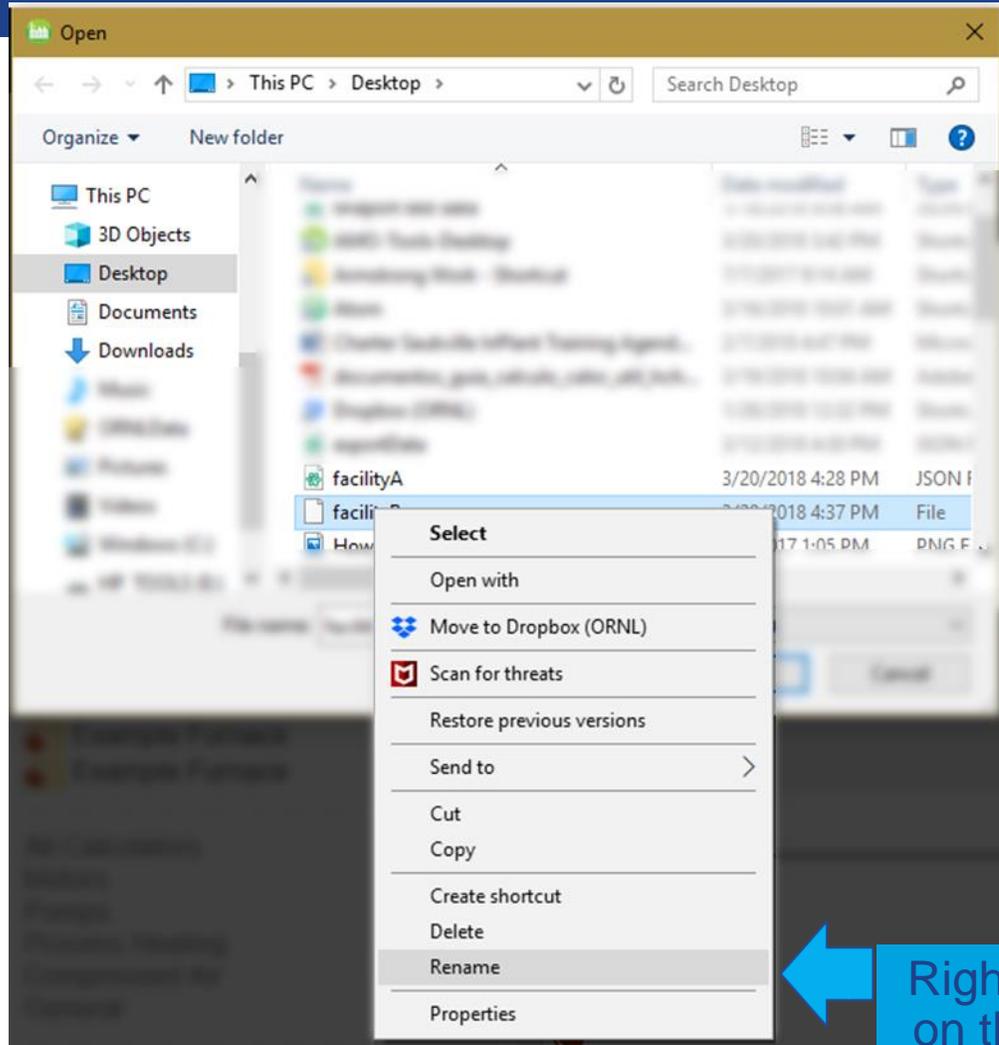
Importing: Invalid File Type Error



If you get an "Invalid File Type" Error...

Note: this is not a .json file

Importing: Invalid File Type Error



Right click on the file and select "Rename"

