



Microsoft Cloud for Sustainability **in a Day**

Lab 02: Data ingestion

Step-by-Step Lab

30 minutes

April 2023

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Overview

Background

In the previous lab, Wide Word Importers' company profile, facilities, and reference data such as Contractual instrument types were created to lay the Master data foundation for Emissions calculations and Reporting. In this lab - we will perform the Carbon Activity data import for the Purchased Electricity of the two newly acquired Florida facilities. In addition, we will also ingest emission data related to the charging of the fleet of 50 Fabrikam Electric trucks. The built-in power query connectors in the Microsoft Sustainability Manager will be used to import the Carbon Activity data into the application.

Learning Objectives

In this lab, you will do the following:

- Use Microsoft Sustainability Manager Power Query connectors to import data
- Map source fields to destination fields of the data before import
- Review the imported data in the "Purchase Electricity Carbon Activity Data" Dataverse Table
- The newly imported activity data during this lab exercise will be utilized in the remaining scenarios (calculations and reporting) in the upcoming lab exercises.

Prerequisites

- Microsoft Sustainability manager environment is set up with sample data
- Lab 01 organization and reference data is entered.

Solution Focus Area

In this lab, the focus is on the "Data Ingestion" aspect of the Solution Focus Area. It follows the "Organization and Reference data Set up" and forms the basis for the emission calculations and the reporting thereafter. The Microsoft Sustainability Manager is flexible with multiple automated options to ingest data – such as the connectors as well as manual inputs. For scenarios that may require complex data transformation and/or ETL, tools like Azure Data Factory are recommended. You can explore this functionality in deeper detail on Microsoft Docs, please visit [Overview of Microsoft Cloud for Sustainability Data Import](#)



Personas and Scenarios

In this lab, Reed Flores – IT Admin for Wide World Importers utilizes the carbon activity data Excel spreadsheets sourced by Alex Serra – Emissions Analyst. The Activity data spreadsheets contain Electricity Purchased for the year 2022 and Miles driven by the fleet of Fabrikam Electric Trucks for the calendar year 2022. Reed utilizes Microsoft Sustainability Manager's power query connector functionality to import from the Excel spreadsheets, and reviews other connectors available for future purposes. Reed uses the built-in field mapping functionality to transform the data to match Microsoft Sustainability Manager's data schema and looks for other potential issues such as case-sensitive data fields.



Sustainability Lead

"I provide the requested data from my department to our sustainability team partners"

Jessie Irwin
Contoso Corp



Sustainability Specialist

"I am responsible for all emissions reporting tasks at my company"

Amber Rodriguez
Contoso Corp



Emissions Analyst

"I analyze emissions data & send results of analyses to other stakeholders"

Alex Serra
Wide World Importers



IT Admin

"I'm involved in collecting emissions data and inputting it into our database."

Reed Flores
Wide World Importers

In this lab exercise, we will focus on the Lab 2 scenario illustrated below:

Lab 2



Amber & Jessie introduce Sustainability Manager to Alex and then asks them to fill out the Inventory Plan. Alex does the scoping and with Reed's help, starts setting up the Wide World Importers Organization data and Reference Data.

Set up Organization and Reference Data



Reed uses the data connectors to import the excel spreadsheet Alex gave them for 1) Electricity Purchased for all of Year 2021 2) Miles driven by Fabrikam Electric Trucks.

Ingest Emissions Activity Data



Alex sets up the Factor Mappings for Purchased electricity and a Factor Library for Miles driven by Electric Vehicles including the Calculations. They then set up calculation profiles for Purchased electricity for facilities, and Miles driven by Electric Vehicles

Design Calculation Models and Jobs



Amber validates and reviews the data in the Insights section and tells Jessie that the Wide world data is available for them to review. Jessie opens the Reporting section to create a new Emissions report.

Build Reports and gather Insights



Amber goes into the Scorecards section to set up goals for Wide World Importers to reduce their carbon emissions to 600 mtCO2e by end of 2025.

Create Carbon Reduction Goals and Scorecards

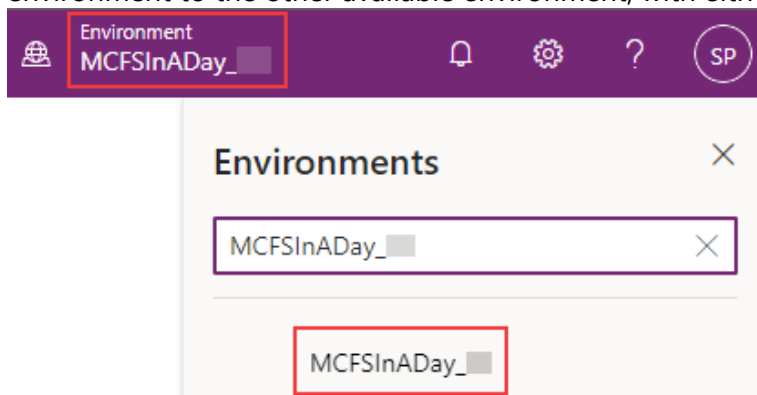
Exercise 1: Import Data

In this exercise, you will learn about the steps that Reed takes to ingest the spreadsheets given by Alex. Data import is a vital task to bringing large volumes of data into Microsoft Sustainability Manager. Excel is utilized in this lab; however, many pre-built connectors are available, and Partners can build custom connectors to integrate with additional data sources. You can explore this functionality in deeper detail on Microsoft Docs, please visit [Overview of data connectors](#).

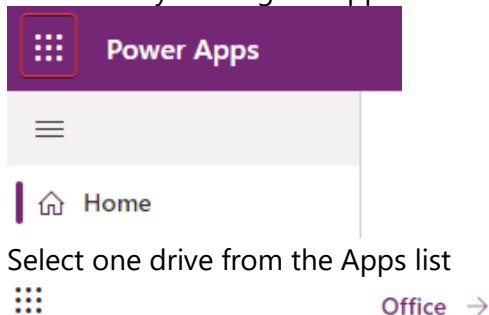
Important

Please ensure you have completed the previous lab to create Reference Data. The data import process requires all Reference Data to exist, and the process is case sensitive, so please ensure the Reference data that was added has the exact same case formatting as what is found in the lab. Failure to do so will result in errors during the data import process

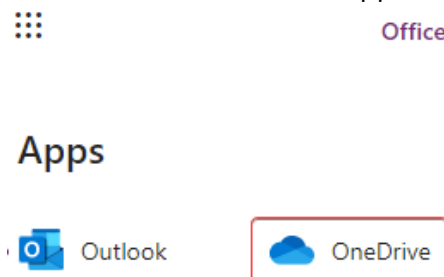
- For our Instructor Lead Training, we suggest using In-private browsing, or a new browser profile.
- For our Instructor Lead Training, log in to <https://make.powerapps.com> using the user account that has been assigned to you.
- For our Instructor Lead Training, please use the environment selector to switch from the default environment to the other available environment, with either MCfS or Sustainability in its name.



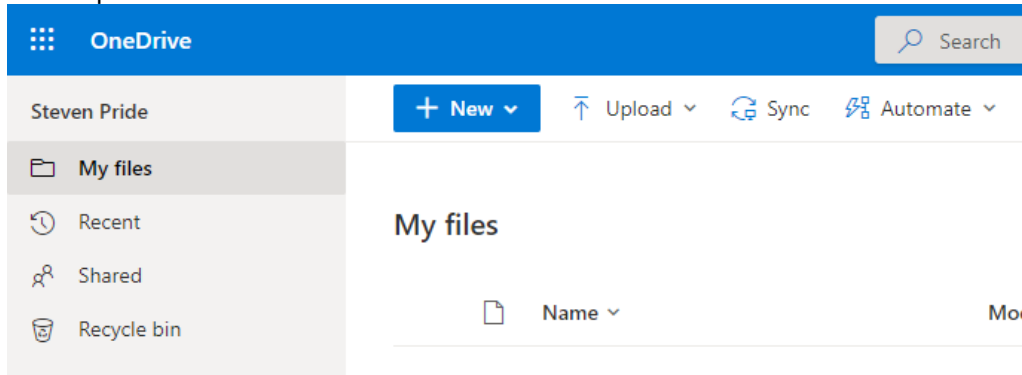
- For this lab, you will be utilizing OneDrive. Please ensure that your personal one drive has been initialized by clicking the app selector button in the top left corner of the screen.



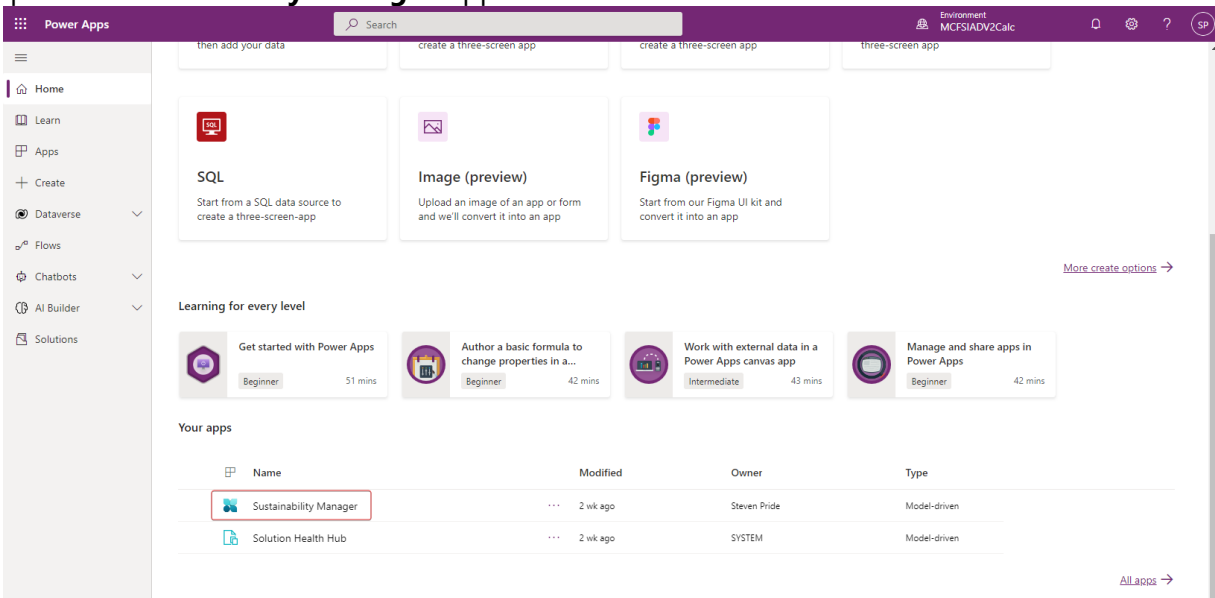
- Select one drive from the Apps list



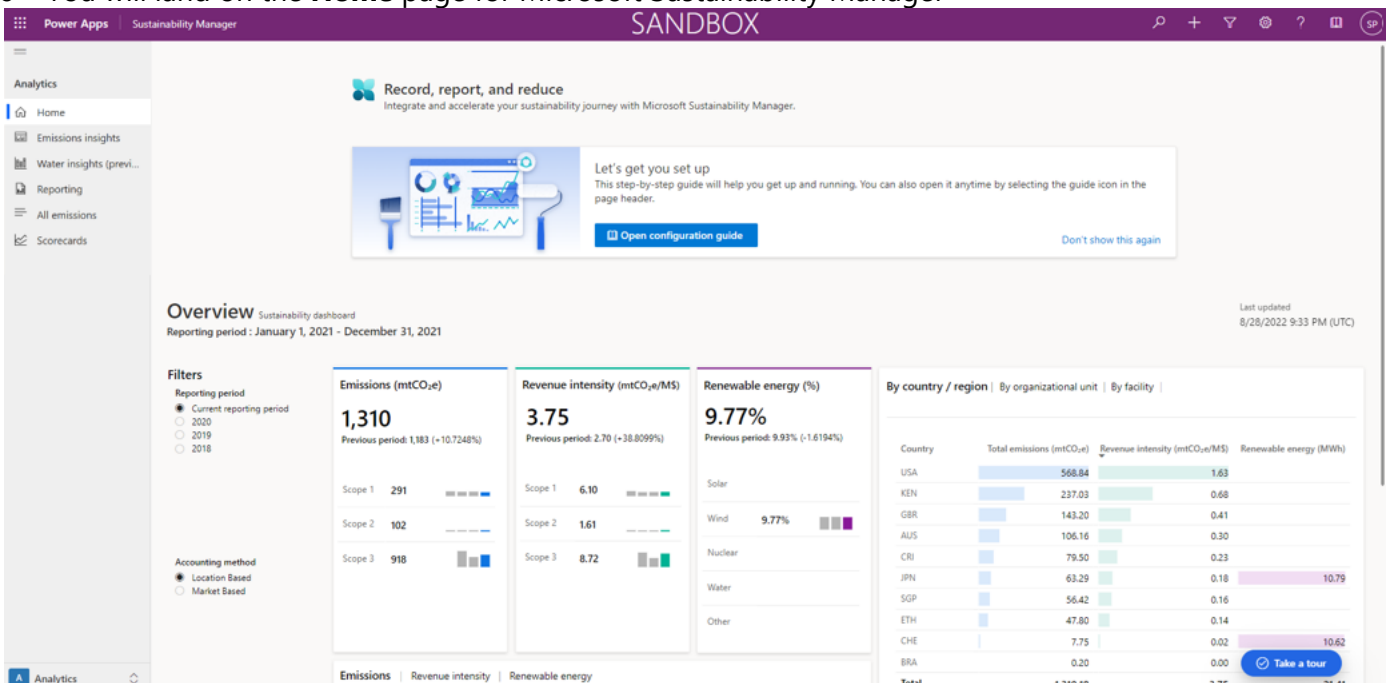
- This will open a new tab with your new OneDrive. You can close this tab and return to the Power Apps maker portal.



- Open the **Sustainability Manager** Application



- You will land on the **Home** page for Microsoft Sustainability Manager



- Area navigation is a common first step in each lab and exercise. You can find the area navigation menu in the bottom corner of your screen.

Power Apps Sustainability Manager **SANDBOX**

Record, report, and reduce
Integrate and accelerate your sustainability journey with Microsoft Sustainability Manager.

Let's get you set up
This step-by-step guide will help you get up and running. You can also open it anytime by selecting the guide icon in the page header.
[Open configuration guide](#) [Don't show this again](#)

Overview Sustainability dashboard
Reporting period : January 1, 2021 - December 31, 2021
Last updated 8/28/2022 9:33 PM (UTC)

Filters
Reporting period
☒ Current reporting period
☐ 2020
☐ 2019
☐ 2018
 Accounting method
☒ Location Based
☐ Market Based

Emissions (mtCO₂e)
1,310
 Previous period: 1,183 (+10.7248%)
 Scope 1: 291
 Scope 2: 102
 Scope 3: 918

Revenue intensity (mtCO₂e/MS)
3.75
 Previous period: 2.70 (+38.8099%)
 Scope 1: 6.10
 Scope 2: 1.61
 Scope 3: 8.72

Renewable energy (%)
9.77%
 Previous period: 9.93% (-1.6194%)
 Solar
 Wind: 9.77%
 Nuclear
 Water
 Other

By country / region | By organizational unit | By facility

Country	Total emissions (mtCO ₂ e)	Revenue intensity (mtCO ₂ e/MS)	Renewable energy (MWh)
USA	568.84	1.63	
KEN	237.03	0.68	
GBR	143.20	0.41	
AUS	106.16	0.30	
CRI	79.50	0.23	
JPN	63.29	0.18	10.79
SOP	56.42	0.16	
ETH	47.80	0.14	
CHE	7.75	0.02	10.62
BRA	0.20	0.00	
Total	1,310.18	3.75	21.41

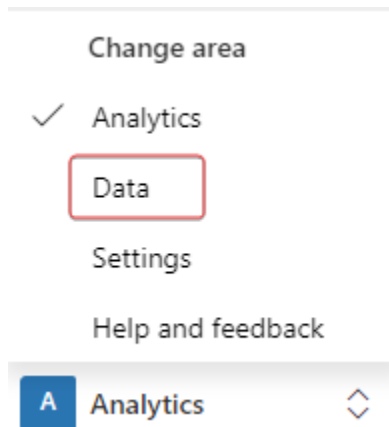
[Take a tour](#)

Analytics

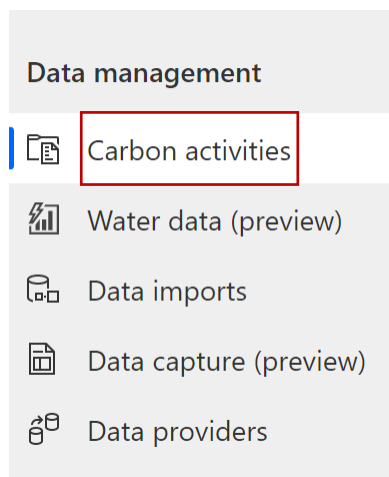
Task 1: Import 2022 data for “Purchased Electricity” for Facilities

In this task, Reed imports the first excel spreadsheet provided by Alex, Purchased electricity Wide World Importers 2022.xlsx. This brings in the Electricity Purchased by Wide World Importers facilities for the year 2022 into the Purchased electricity activity data.

1. In the bottom left corner, change the Area to **Data**



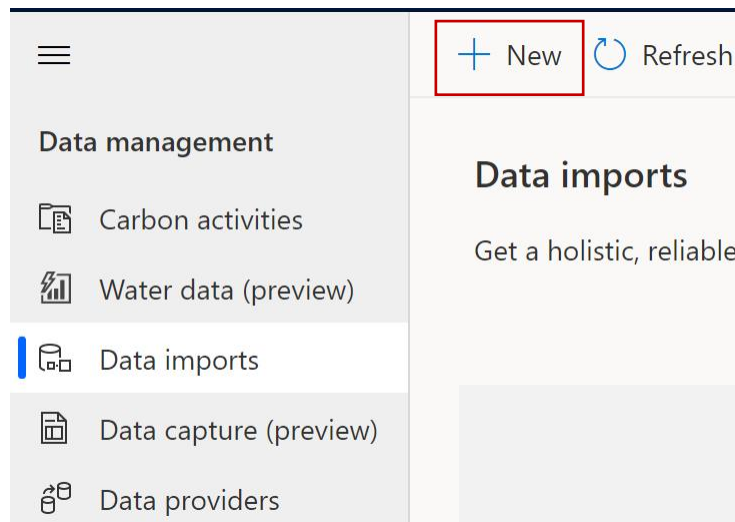
2. Navigate to “**Carbon activities**” on the left side of the page.



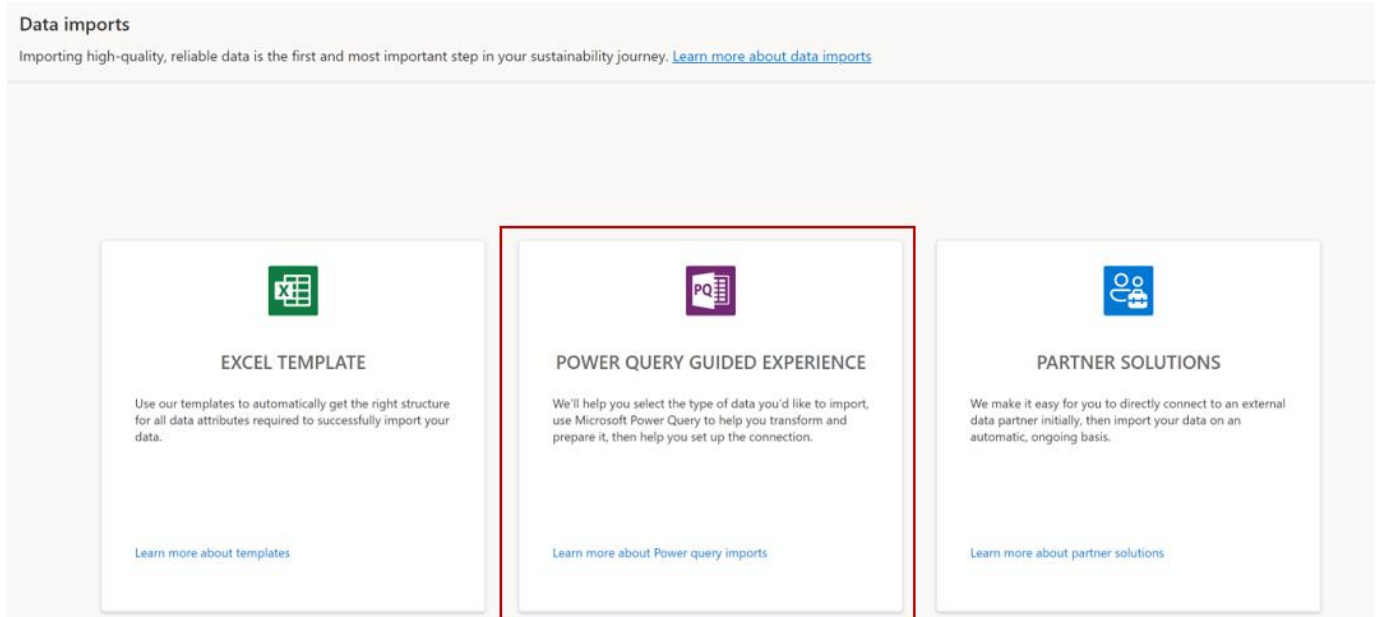
3. Find Purchased electricity in the **Scope 2: Indirect emissions** section, and click **Manage**

Scope 2: Indirect emissions				
Source	Data	Connections	Number of connections	
Purchased cooling	View	Manage	0	
Purchased electricity	View	Manage	0	
Purchased heat	View	Manage	0	
Purchased steam	View	Manage	0	

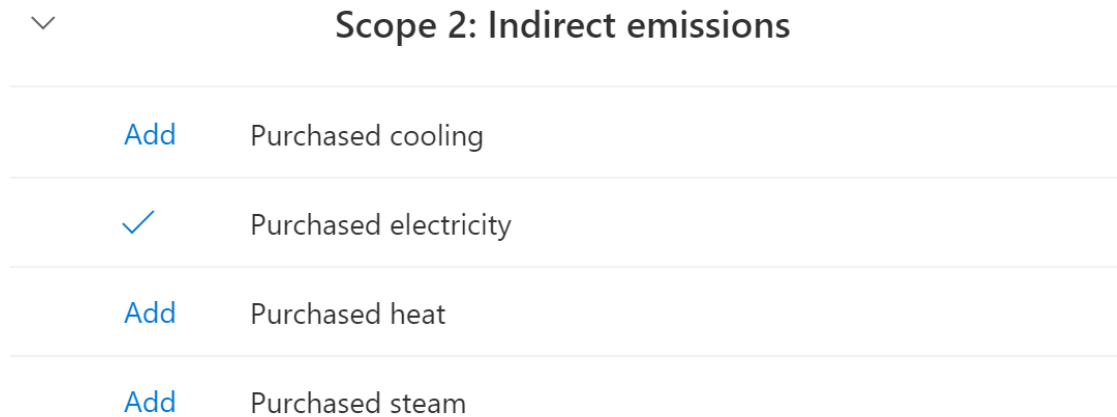
4. On the "Data Imports" view, click **+New**



5. On the "Data imports", select **"POWER QUERY GUIDED EXPERIENCE"**:

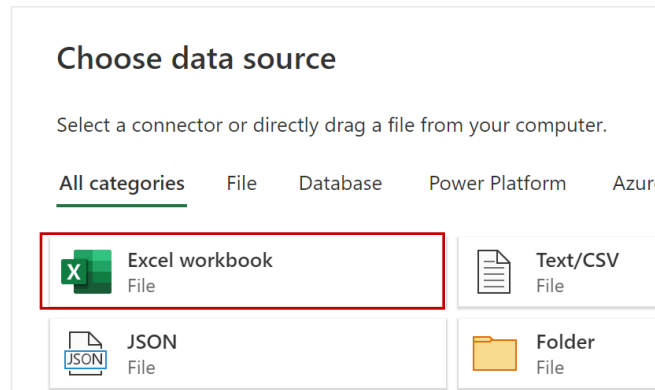


- a. Select **Add, next to Purchased Electricity**



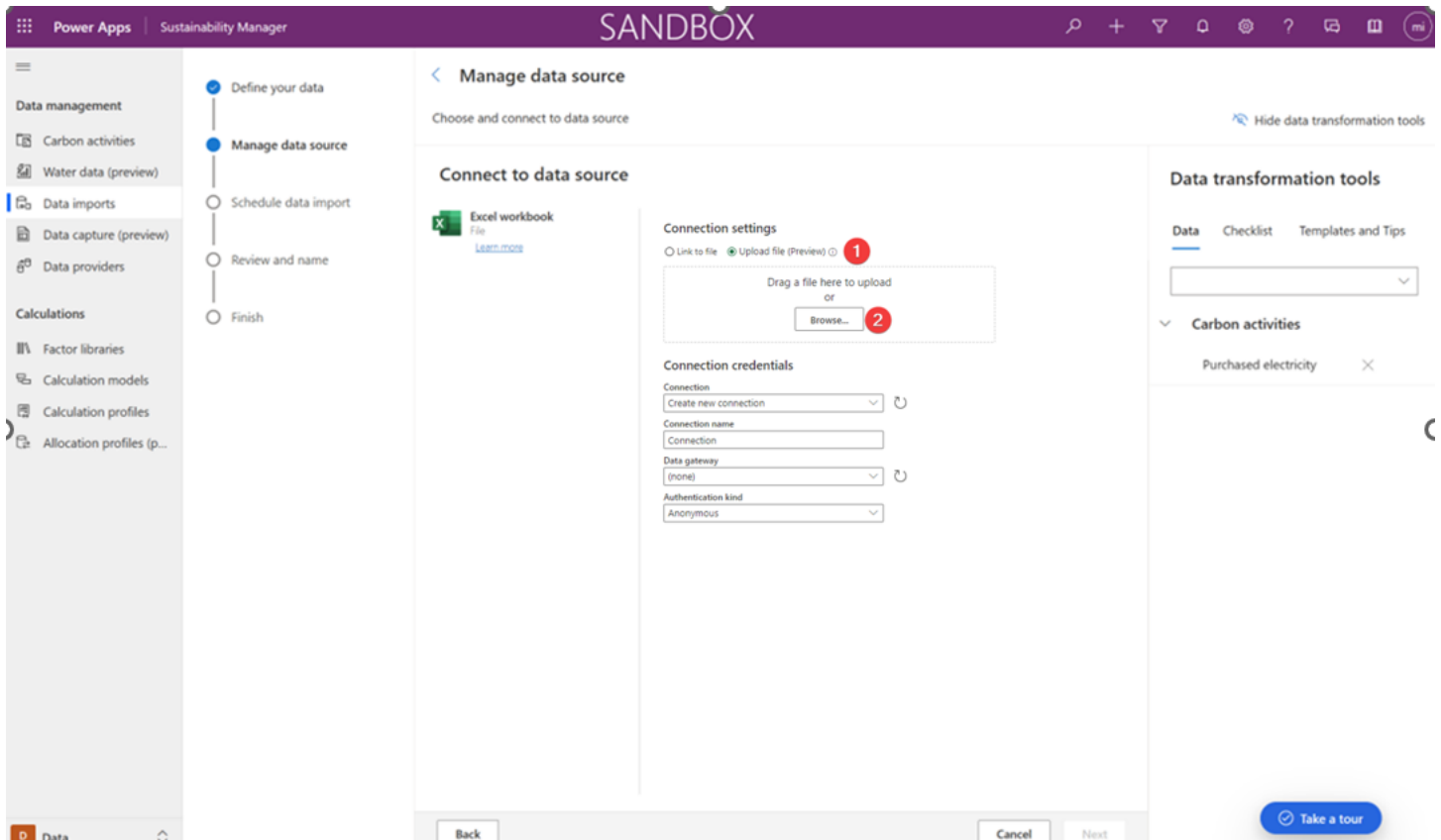
- b. Choose **Next**

6. Take a moment to review the large list of connectors. Click **Excel Workbook**, as the Data Connector

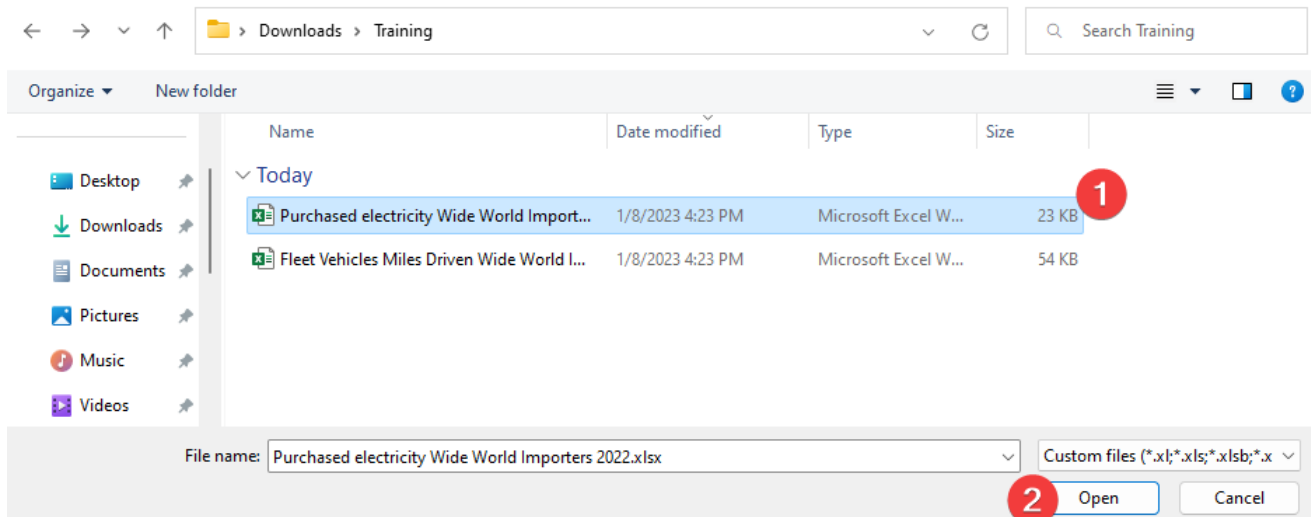


7. A new dialog will open for Power Query. On the Power Query dialog:
- Click **Upload file**
 - Click **Browse**

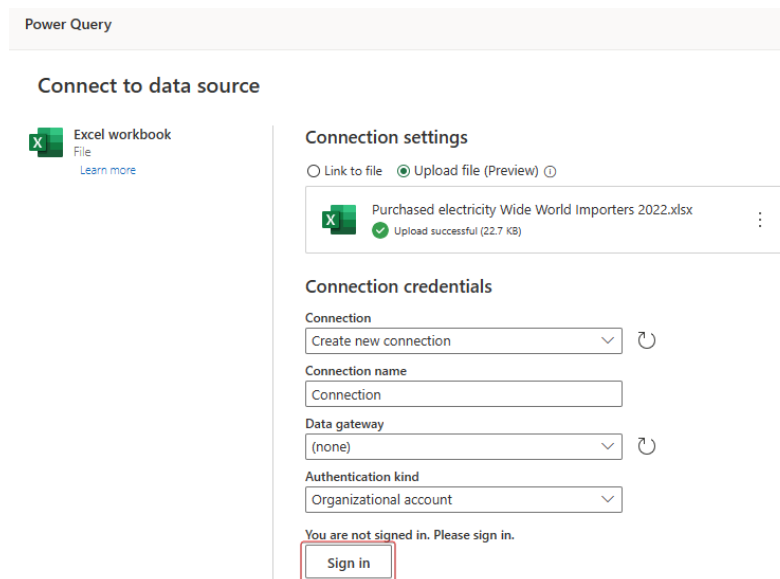
Note: You can also import an existing file located in OneDrive. For simplicity of this lab, we are using the Upload file functionality.



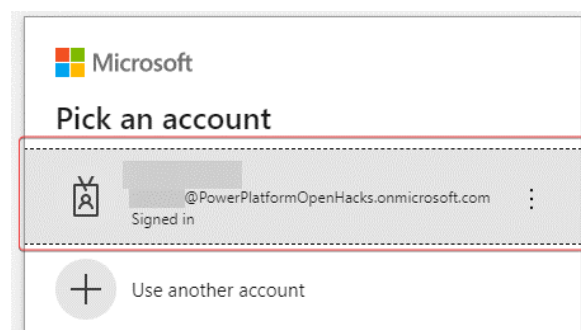
8. On the file selection window, browse to the location of the excel files that were downloaded.
 - a. Select the **Purchased electricity Wide World Importers 2022.xlsx** file
 - b. Click **Open**



9. Once the file is successfully uploaded, it may be required to click the sign in button below to create a new Connection credential, this is done by clicking **Sign in**.



- a. An Office 365 Sign in dialog will appear. Reed selects their user from the list. (For the purposes of this lab, select your "In a Day" user account from the list).



10. If signed in, the new connection is automatically selected. Click **Next**.

Power Query

Connect to data source

Excel workbook

File

Learn more

Connection settings

Link to file

Upload file (Preview)

Purchased electricity Wide World Importers 2022.xlsx

Upload successful (22.7 KB)

Connection credentials

Connection

https://powerplatformopenhacks-my.sharep...

Authentication kind: Organizational account

Edit connection

Back

Cancel

Next

11. On the "Choose data" page of the Power Query wizard:

- Select the **"Purchased electricity"** sheet
- Click **Transform data**

Power Query

Choose data

Search

Display options

Excel workbook

Table1

Purchased electricity

Purchased electricity

Name	Contracted firm	Connection	Description	Provider	Evidence	Organizational Unit	Facility	Is Renewable
PurchasedElectricity	VanArsdel Ltd	null	January activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	February activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	March activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	April activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	May activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	June activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	July activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	August activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	September activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	October activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	November activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	VanArsdel Ltd	null	December activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Miami Office	No
PurchasedElectricity	Adatum Corp	null	January activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	February activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	March activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	April activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	May activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	June activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	July activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	August activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	September activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	October activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	November activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No
PurchasedElectricity	Adatum Corp	null	December activity data from purchased electricity	Electric Company	null	Wide World Importers	Wide World Importers - Tampa Office	No

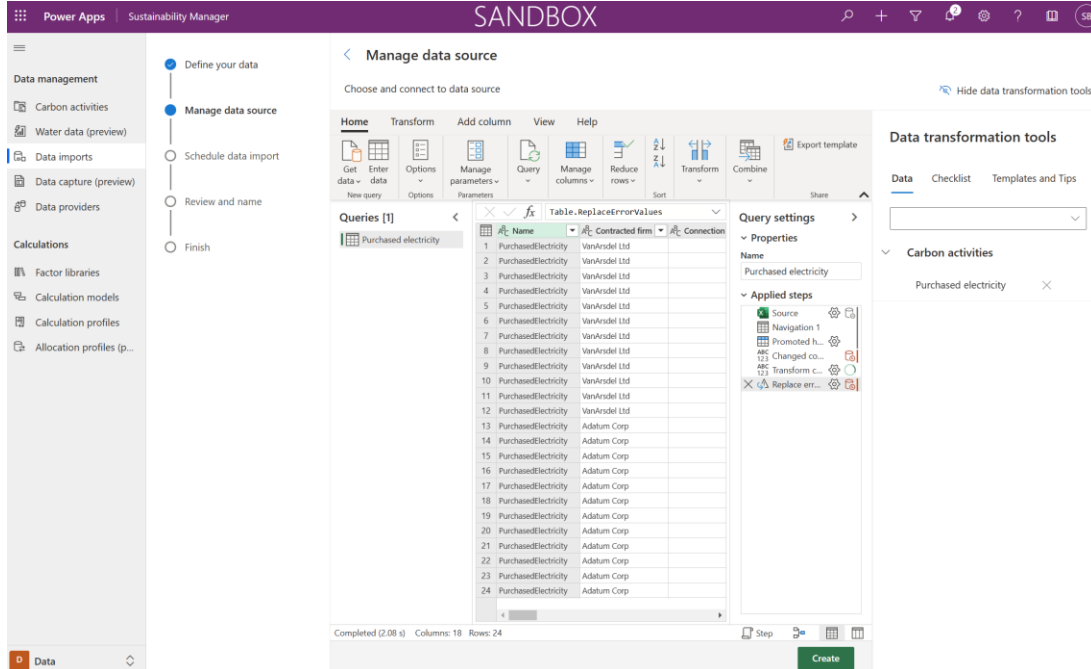
Back

Cancel

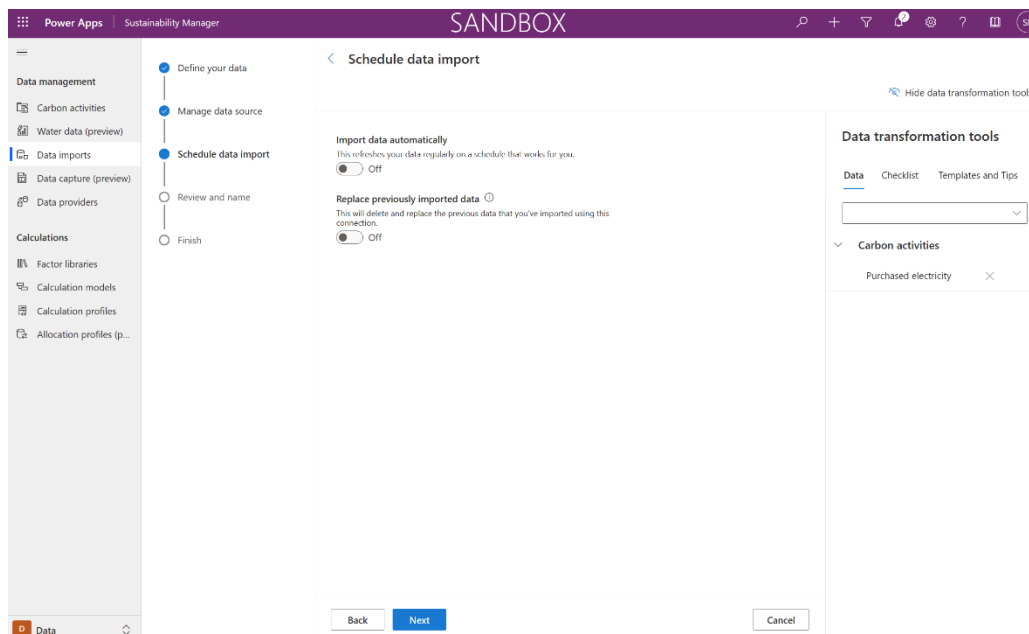
Transform data

12

12. On the “Transform data” page of the Power Query wizard, various data and column transformations can be performed. This will allow for the adjusting of data types, update column mappings, and even perform advanced transformations familiar with in Power Platform Dataflows or Power BI Datasets. **For the purpose of this lab you do not need to apply any transformations, click create.**



13. The “New data connection” wizard will now be on the Schedule data import page.
- Turning on “Import data automatically” will give the option to set a schedule to have the data imported automatically, this may be a good option if the connector will be used in a scenario where the data will change frequently such as a web API or FTP server.
 - Turning on “Replace previously imported data” will remove all previously imported data and bring in the full data set that was retrieved, this may be a good option if the data source is not only providing data from the last import or always includes a full set of data.
- For this scenario of importing historical data, leave both options turned off. **Click “Next”** when finished



14. On the "Review and finish" page:

- Enter a name for the new connection, such as **"Wide World Importers Purchased Electricity 2022"**
- Click **"Connect"**

The screenshot shows the 'Review and name' page in a data management application. On the left is a sidebar with a menu. Under 'Data management', 'Data imports' is selected. Under 'Calculations', 'Allocation profiles (p...' is visible. A progress bar in the center shows five steps: 'Define your data' (checked), 'Manage data source' (checked), 'Schedule data import' (checked), 'Review and name' (active), and 'Finish' (unchecked). The main content area is titled 'Review and name' and contains the text 'You're about to set up the following data connection:'. Below this, under 'Data types', 'Carbon activities' and 'Purchased electricity' are listed. A 'Name *' field contains the text 'Wide World Importers Purchased Electricity 2022' with a red '1' icon. Below the name field is a 'Description' field. At the bottom, there are 'Back' and 'Connect' buttons, with a red '2' icon next to the 'Connect' button.

15. Next, you'll need to map your source data to the data model. Data will not appear until this step is complete. Click on **Map fields**.

The screenshot shows the 'Map fields' page in a data management application. On the left is a sidebar with a menu. Under 'Data management', 'Data imports' is selected. Under 'Calculations', 'Allocation profiles (p...' is visible. A progress bar in the center shows five steps: 'Define your data' (checked), 'Manage data source' (checked), 'Schedule data import' (checked), 'Review and name' (checked), and 'Finish' (checked). The main content area features a large blue circular icon with a document and a checkmark. Below the icon, the text reads 'You've completed the initial data setup'. Further down, it says 'Next, you'll need to map your source data to the data model. Data will not appear until this step is complete.' Below this text are two buttons: 'Map fields' and 'skip for now'. At the bottom of the page, there are 'Back', 'Done', and 'Cancel' buttons.

16. Select the **Data source** to map, in this lab that is **Purchased electricity** under **Carbon Activities**

Destination fields	Source fields	Data type
Consumption end date *	<input type="text"/>	datetime
Consumption start date *	<input type="text"/>	datetime
Data Quality Type *	<input type="text"/>	pick list
Energy Provider Name *	<input type="text"/>	string
Facility *	<input type="text"/>	lookup
Is Renewable *	<input type="text"/>	boolean

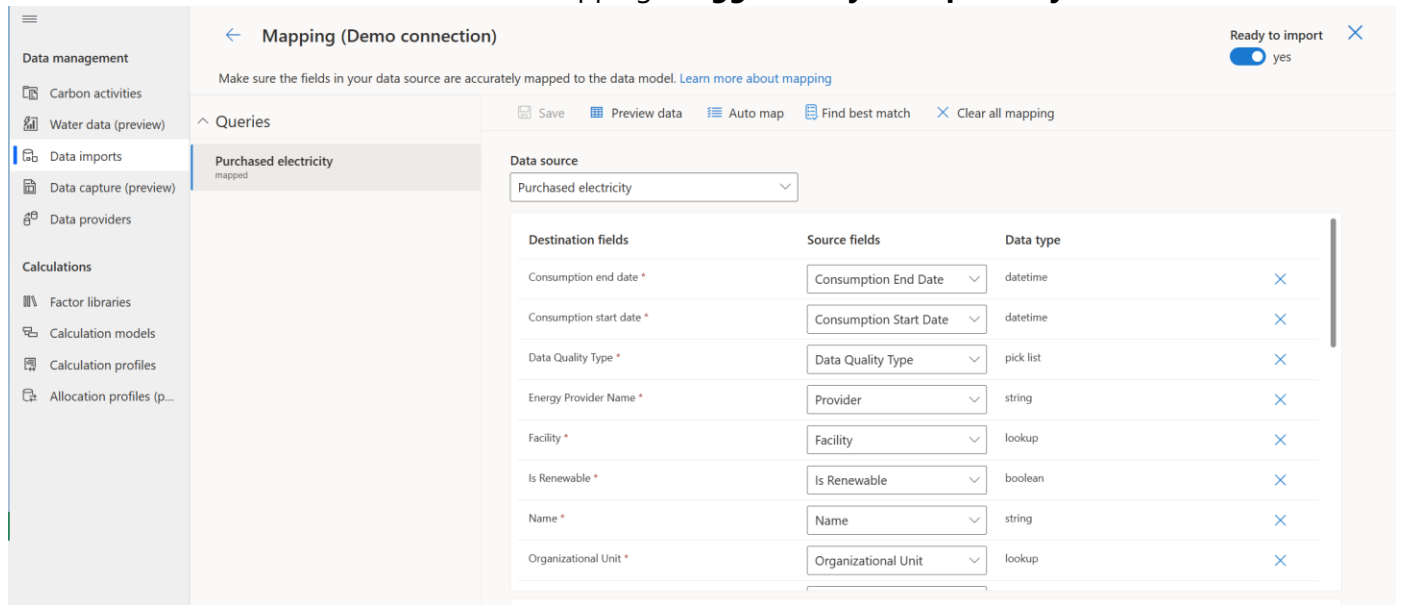
17. In this scenario, Reed will need to map the columns from the spreadsheet to the columns in Microsoft Sustainability Manager. **Select Auto Map** for the solution to automatically map the file's source fields with the destination fields, for any field that is not an exact match the best match will be found and highlight the field blue, make sure to review them. When you are done with the mapping, **Click Save**.

Destination fields	Source fields	Data type
Consumption end date *	Consumption End Date	datetime
Consumption start date *	Consumption Start Date	datetime
Data Quality Type *	Data Quality Type	pick list
Energy Provider Name *	Provider	string
Facility *	Facility	lookup
Is Renewable *	Is Renewable	boolean
Name *	Name	string
Organizational Unit *	Organizational Unit	lookup

Destination fields	Source fields	Data type
<input type="text"/>	<input type="text"/>	<input type="text"/>

Add

18. Now that we have reviewed our field mappings, **toggle Ready to Import as yes**.



Mapping (Demo connection)

Make sure the fields in your data source are accurately mapped to the data model. [Learn more about mapping](#)

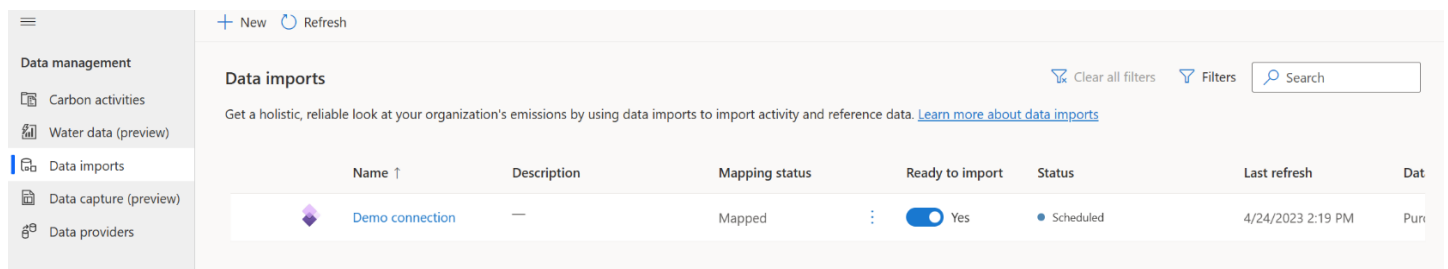
Save Preview data Auto map Find best match Clear all mapping

Data source: Purchased electricity

Destination fields	Source fields	Data type
Consumption end date *	Consumption End Date	datetime
Consumption start date *	Consumption Start Date	datetime
Data Quality Type *	Data Quality Type	pick list
Energy Provider Name *	Provider	string
Facility *	Facility	lookup
Is Renewable *	Is Renewable	boolean
Name *	Name	string
Organizational Unit *	Organizational Unit	lookup

19. Navigate back to Data imports where you can see the import you created just now.

20. The **"Data Import"** job will be run, it should say **"Scheduled"** then in a moment switch to **"Processing"** you might need to refresh your page to see the change.



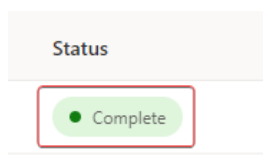
Data imports

Get a holistic, reliable look at your organization's emissions by using data imports to import activity and reference data. [Learn more about data imports](#)

Clear all filters Filters Search

Name ↑	Description	Mapping status	Ready to import	Status	Last refresh	Date
Demo connection	—	Mapped	Yes	Scheduled	4/24/2023 2:19 PM	Pur...

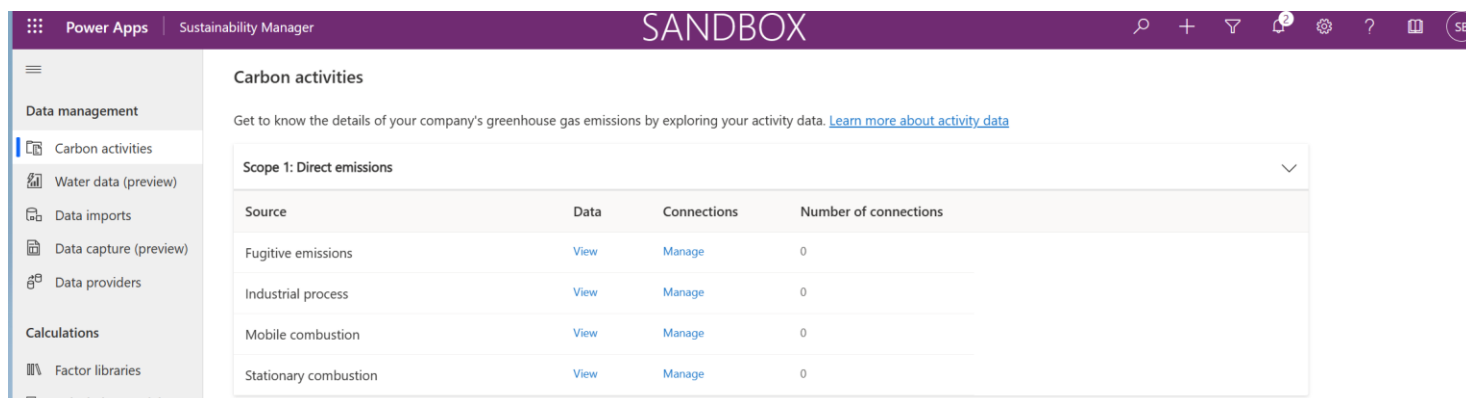
21. After a minute or two click the **"Refresh"** button above the list to see the updated status, which should be **"Completed"**



Status

Complete

22. Navigate to **"Carbon Activities"** on the left side of the page.



Power Apps Sustainability Manager

SANDBOX

Carbon activities

Get to know the details of your company's greenhouse gas emissions by exploring your activity data. [Learn more about activity data](#)

Scope 1: Direct emissions

Source	Data	Connections	Number of connections
Fugitive emissions	View	Manage	0
Industrial process	View	Manage	0
Mobile combustion	View	Manage	0
Stationary combustion	View	Manage	0

23. Find Purchased electricity in the Scope 2: Indirect emissions section and **click View**.

Scope 2: Indirect emissions			
Source	Data	Connections	Number of connections
Purchased cooling	View	Manage	0
Purchased electricity	View	Manage	2
Purchased heat	View	Manage	0
Purchased steam	View	Manage	0

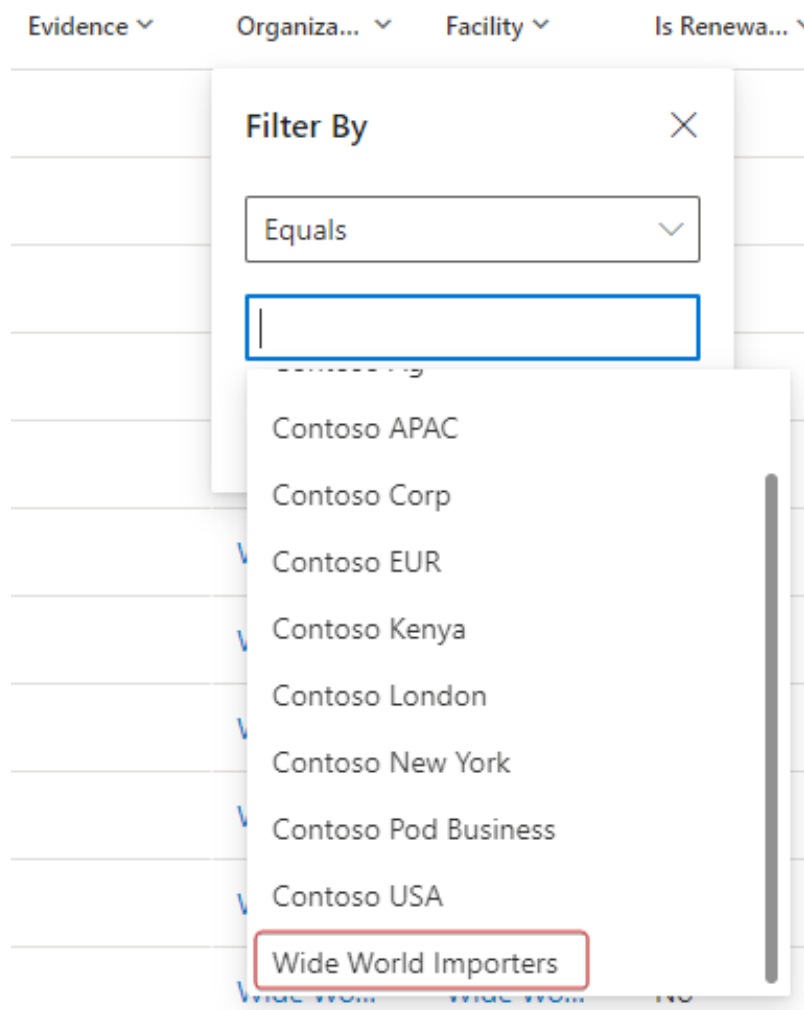
24. The Purchased electricity view shows all purchased electricity activity data that has been imported

SANDBOX											
Purchased electricity											
Name	Contractu...	Connection	Description	Energy Pr...	Evidence	Organizat...	Facility	Is Renewa...	Consump...	Consump...	Quantity
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	11/30/2019	11/1/2019	845.8370...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	8/31/2022	8/1/2022	652.0882...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	1/31/2019	1/1/2019	1,021.302...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	2/28/2019	2/1/2019	1,004.981...
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	5/31/2020	5/1/2020	759.1877...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	4/30/2020	4/1/2020	994.6748...
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	10/31/2021	10/1/2021	809.0000...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	4/30/2020	4/1/2020	904.6287...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	3/31/2019	3/1/2019	909.2351...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	8/31/2018	8/1/2018	903.5241...
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	1/31/2019	1/1/2019	1,018.242...
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	9/30/2019	9/1/2019	989.9255...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	11/30/2021	11/1/2021	990.0000...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	2/28/2021	2/1/2021	796.4716...

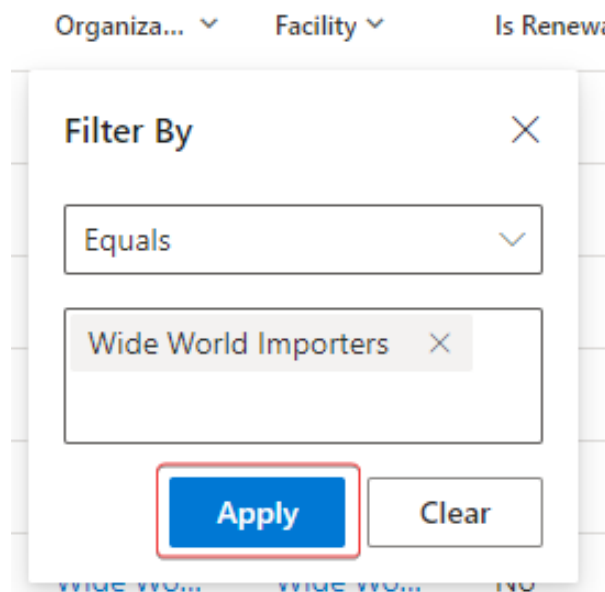
25. Filter the view by clicking the down arrow next to the **Organizational Unit** column, and selecting **Filter by**

Evidence	Organiza...	Facility	Is
	↑ Sort A to Z		N
	↓ Sort Z to A		N
	Filter by		N

26. Select "**Wide World Importers**" from the Filter By dialog



27. Click **Apply** to apply the filter to the column



28. After a few moments, the view will refresh, and the activity data records that were imported during this lab will be displayed.

Power Apps | Sustainability Manager

SANDBOX

← Show Chart + New Refresh Visualize this view Email a Link Flow Run Report Excel Templates Export to Excel

Purchased electricity*

Edit columns Edit filters Filter by keyword

Name	Contractu...	Connection	Description	Energy Pr...	Evidence	Organi...	Facility	Is Renewa...	Consump...	Consump...	Quantity	Quantity
PurchasedElectric...	Adatum ...	Wide Wo...	October ...	Electric C...		Wide Wo...	Wide Wo...	No	10/31/20...	10/1/2022	1,689.632...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	Septemb...	Electric C...		Wide Wo...	Wide Wo...	No	9/30/2022	9/1/2022	2,494.647...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	March ac...	Electric C...		Wide Wo...	Wide Wo...	No	3/31/2022	3/1/2022	1,817.976...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	Novembe...	Electric C...		Wide Wo...	Wide Wo...	No	11/30/20...	11/1/2022	3,882.752...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	October ...	Electric C...		Wide Wo...	Wide Wo...	No	10/31/20...	10/1/2022	2,428.723...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	July activ...	Electric C...		Wide Wo...	Wide Wo...	No	7/31/2022	7/1/2022	2,894.133...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	August a...	Electric C...		Wide Wo...	Wide Wo...	No	8/31/2022	8/1/2022	1,504.602...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	Novembe...	Electric C...		Wide Wo...	Wide Wo...	No	11/30/20...	11/1/2022	2,370.869...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	Decembe...	Electric C...		Wide Wo...	Wide Wo...	No	12/31/20...	12/1/2022	3,002.299...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	January a...	Electric C...		Wide Wo...	Wide Wo...	No	1/31/2022	1/1/2022	4,022.151...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	June activ...	Electric C...		Wide Wo...	Wide Wo...	No	6/30/2022	6/1/2022	3,387.645...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	May activ...	Electric C...		Wide Wo...	Wide Wo...	No	5/31/2022	5/1/2022	2,744.943...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	Decembe...	Electric C...		Wide Wo...	Wide Wo...	No	12/31/20...	12/1/2022	4,006.636...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	August a...	Electric C...		Wide Wo...	Wide Wo...	No	8/31/2022	8/1/2022	1,503.367...	kWh
PurchasedElectric...	Adatum ...	Wide Wo...	April acti...	Electric C...		Wide Wo...	Wide Wo...	No	4/30/2022	4/1/2022	2,831.273...	kWh
PurchasedElectric...	VanArsde...	Wide Wo...	June activ...	Electric C...		Wide Wo...	Wide Wo...	No	6/30/2022	6/1/2022	1,695.275...	kWh

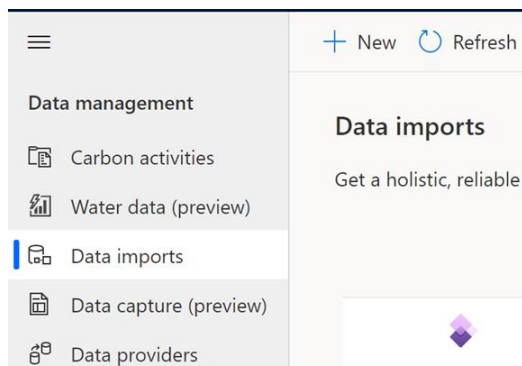
Data 1 - 24 of 24 Page 1

Great job, you have just completed the data import of 2022 Purchased Electricity for Wide World Importers. This is an important step to realizing the goal of recording, reporting, and reducing carbon emissions. Next, we will import the 2022 Miles Driven for Wide World Importers fleet of electric vehicles. **Please continue to the next task.**

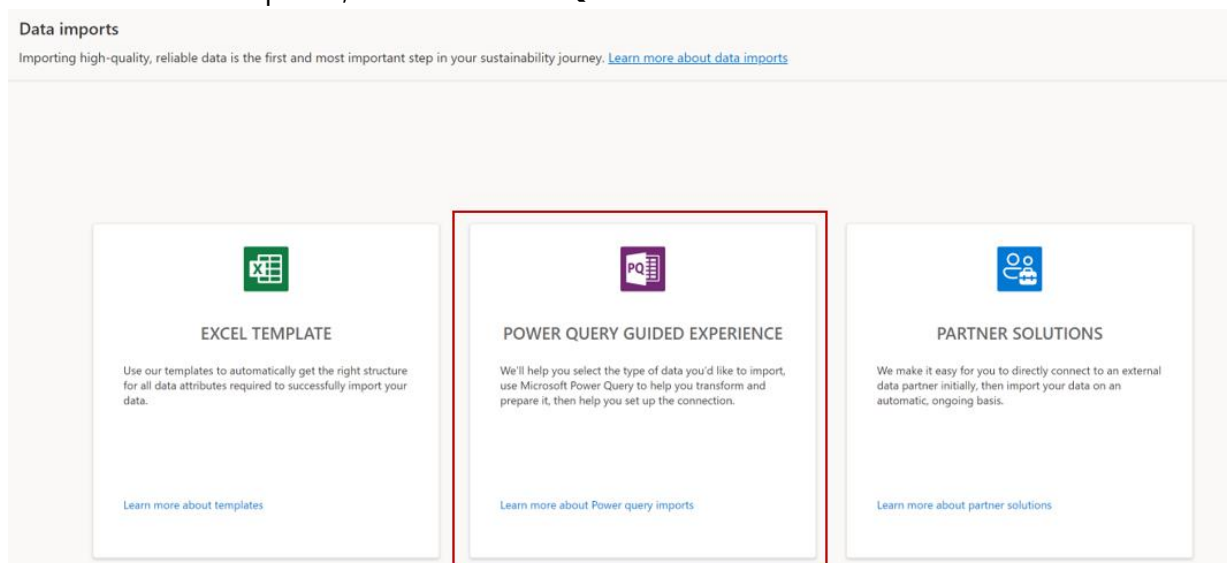
Task 2: Import 2022 data “Miles Driven” for Electric Trucks

In this task, Reed imports the second excel spreadsheet provided by Alex - “Fleet Vehicles Miles Driven Wide World Importers 2022.xlsx”. While electric vehicles do not produce direct tailpipe emissions, they do produce “Scope 2: Purchased electricity from charging”. This brings in the Miles driven by Wide World Importers fleet of electric trucks for the year 2022 into the Purchased electricity carbon activity data.

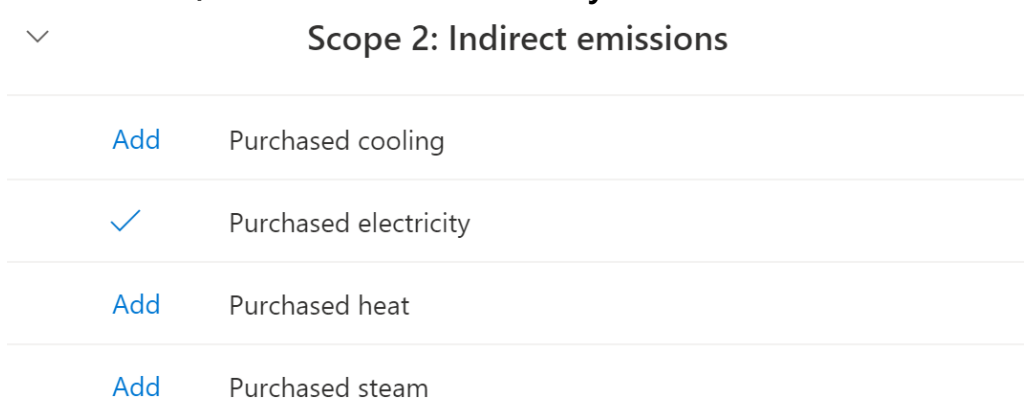
1. Navigate to “**Data imports**” on the left side of the page, **click +New**.



2. On the “Data imports”, select “**POWER QUERY GUIDED EXPERIENCE**”:

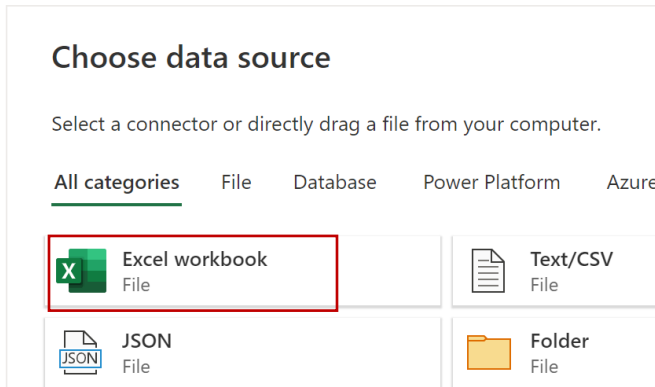


- a. Select **Add**, next to **Purchased Electricity**



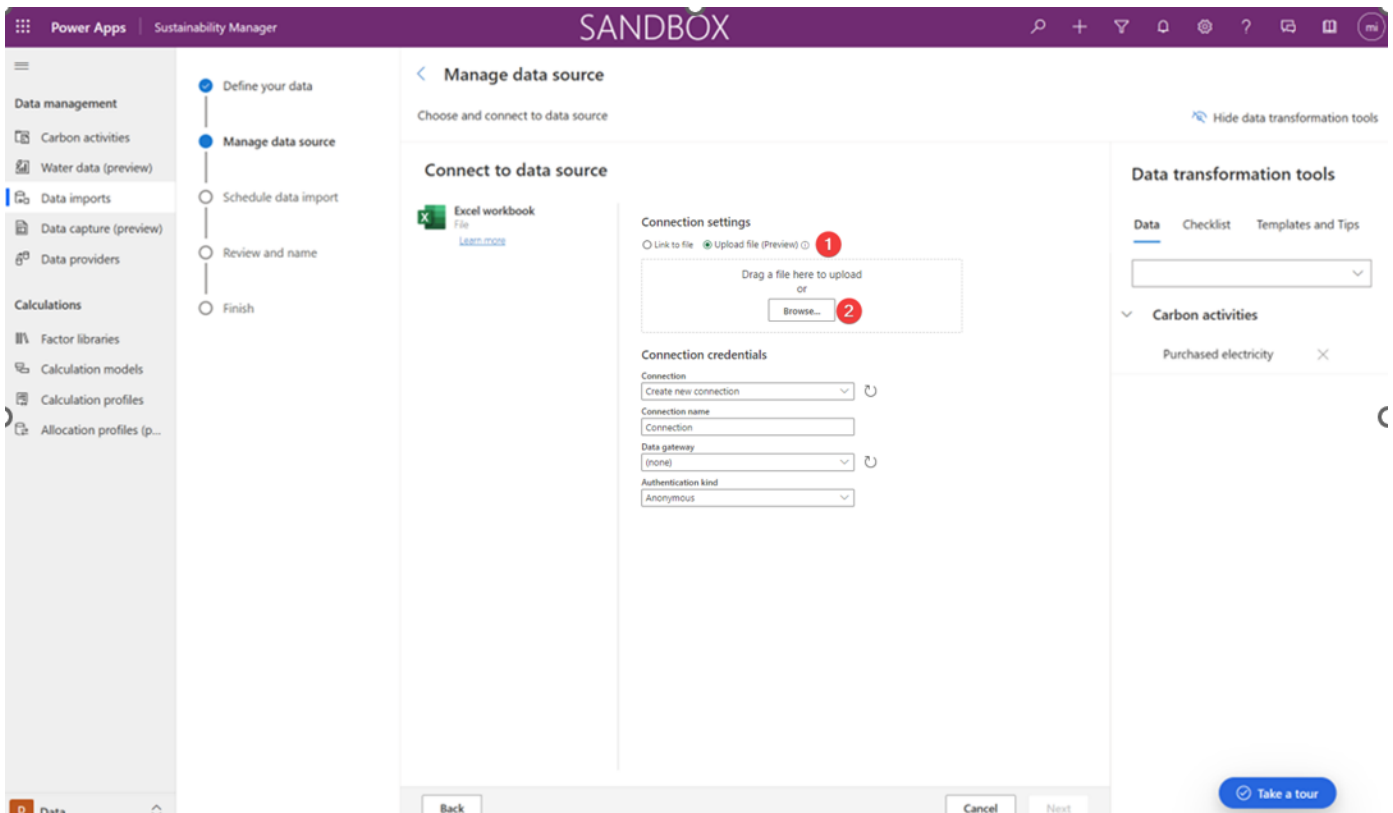
- b. Choose **Next**

- On the list of connectors. **Click Excel Workbook**, as the Data Connector

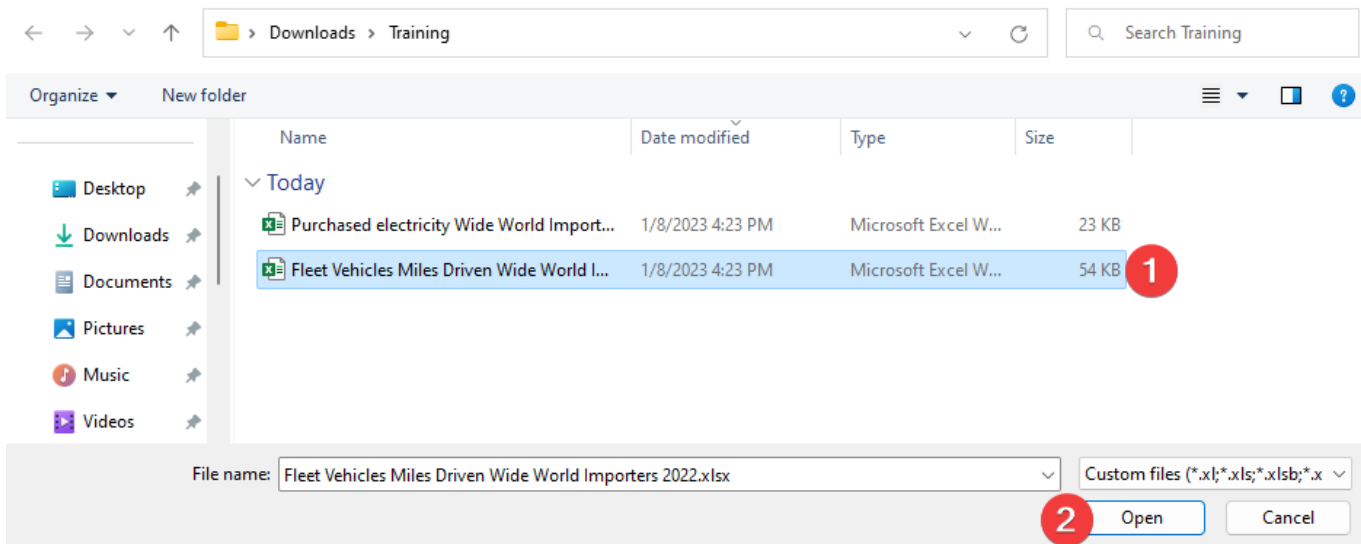


- A new dialog will open for Power Query. On the Power Query dialog:
 - Click **Upload file (Preview)**
 - Click **Browse**

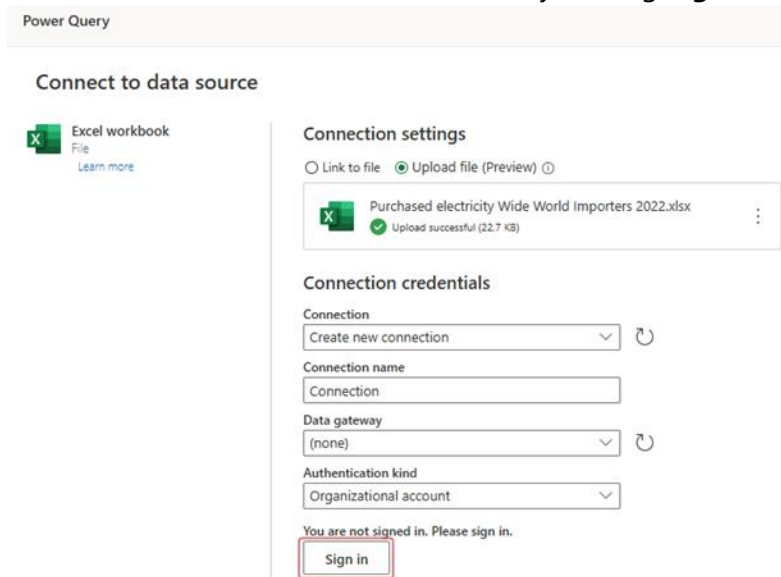
Note: You can also import an existing file located in OneDrive. For simplicity of this lab, we are using the Upload file functionality.



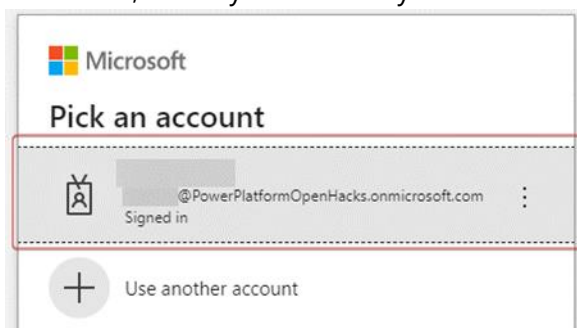
5. On the file selection window, browse to the location of the excel files the downloaded.
 - 1) Select the **"Fleet Vehicles Miles Driven Wide World Importers 2022.xlsx"** file
 - 2) Click **"Open"**



6. Once the file is successfully uploaded, it may be required to click the sign in button below to create a new Connection credential, this is done by clicking **Sign in**.



- a. An Office 365 Sign in dialog will appear. Reed selects their user from the list. (For the purposes of this lab, select your "In a Day" user account from the list).



7. If signed in, the new connection is automatically selected. **Click Next.**


Power Query

Connect to data source

Excel workbook
File
[Learn more](#)

Connection settings

☐ Link to file ☒ Upload file (Preview) ⓘ

 Fleet Vehicles Miles Driven Wide World Importers 2022.xlsx
Upload successful (53.5 KB)

Connection credentials

Connection
@PowerPlatformOpenHacks.onmicr... ↻

Authentication kind: Organizational account [Edit connection](#)

Back Cancel Next

8. On “Choose data” page of the Power Query wizard:
- Select the **“Miles Driven”** sheet
 - Click **“Transform data”**

Power Query

Choose data

Search

Display options

Excel workbook [2]

Table1

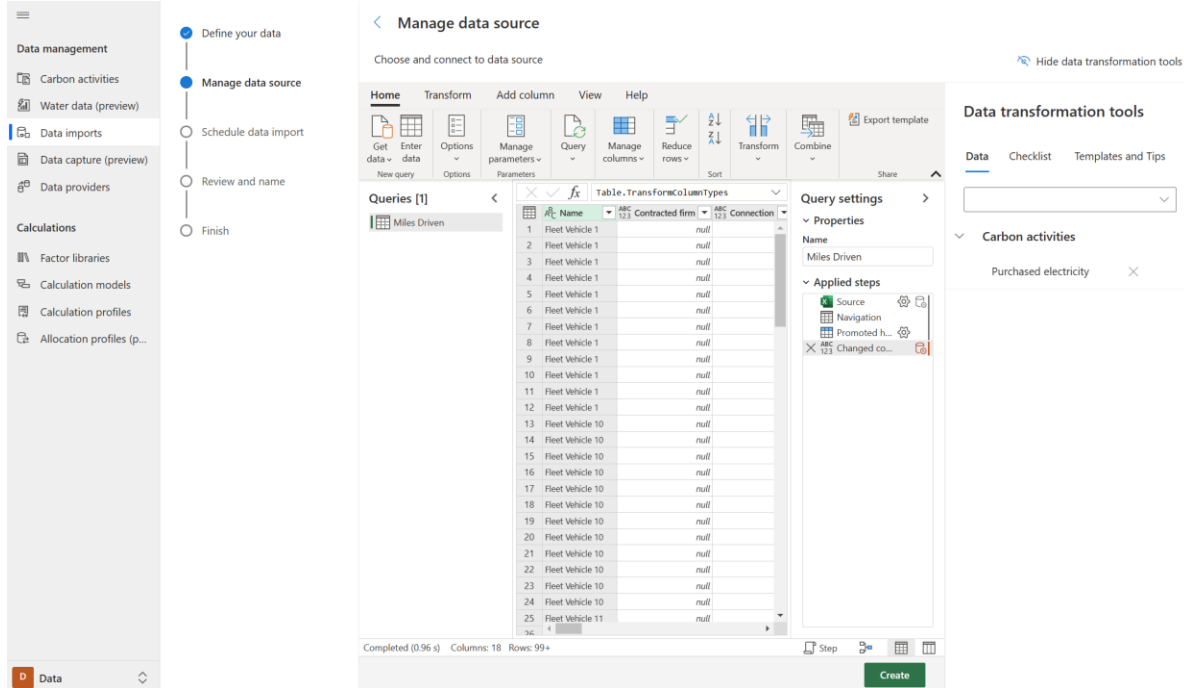
1 Miles Driven

Miles Driven

Name	Contracted firm	Connection	Description	Provider	Evidence	Organizational Unit	Facility	Is Renewable
Fleet Vehicle 1	null	null	January activity data from Fleet Vehicle 1	Fabrikam Electric Truck 1	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 2	null	null	January activity data from Fleet Vehicle 2	Fabrikam Electric Truck 2	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 3	null	null	January activity data from Fleet Vehicle 3	Fabrikam Electric Truck 3	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 4	null	null	January activity data from Fleet Vehicle 4	Fabrikam Electric Truck 4	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 5	null	null	January activity data from Fleet Vehicle 5	Fabrikam Electric Truck 5	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 6	null	null	January activity data from Fleet Vehicle 6	Fabrikam Electric Truck 6	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 7	null	null	January activity data from Fleet Vehicle 7	Fabrikam Electric Truck 7	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 8	null	null	January activity data from Fleet Vehicle 8	Fabrikam Electric Truck 8	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 9	null	null	January activity data from Fleet Vehicle 9	Fabrikam Electric Truck 9	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 10	null	null	January activity data from Fleet Vehicle 10	Fabrikam Electric Truck 10	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 11	null	null	January activity data from Fleet Vehicle 11	Fabrikam Electric Truck 11	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 12	null	null	January activity data from Fleet Vehicle 12	Fabrikam Electric Truck 12	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 13	null	null	January activity data from Fleet Vehicle 13	Fabrikam Electric Truck 13	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 14	null	null	January activity data from Fleet Vehicle 14	Fabrikam Electric Truck 14	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 15	null	null	January activity data from Fleet Vehicle 15	Fabrikam Electric Truck 15	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 16	null	null	January activity data from Fleet Vehicle 16	Fabrikam Electric Truck 16	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 17	null	null	January activity data from Fleet Vehicle 17	Fabrikam Electric Truck 17	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 18	null	null	January activity data from Fleet Vehicle 18	Fabrikam Electric Truck 18	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 19	null	null	January activity data from Fleet Vehicle 19	Fabrikam Electric Truck 19	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 20	null	null	January activity data from Fleet Vehicle 20	Fabrikam Electric Truck 20	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 21	null	null	January activity data from Fleet Vehicle 21	Fabrikam Electric Truck 21	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 22	null	null	January activity data from Fleet Vehicle 22	Fabrikam Electric Truck 22	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 23	null	null	January activity data from Fleet Vehicle 23	Fabrikam Electric Truck 23	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 24	null	null	January activity data from Fleet Vehicle 24	Fabrikam Electric Truck 24	null	Wide World Importers	Wide World Importers - Miami Office	No
Fleet Vehicle 25	null	null	January activity data from Fleet Vehicle 25	Fabrikam Electric Truck 25	null	Wide World Importers	Wide World Importers - Tampa Office	No
Fleet Vehicle 26	null	null	January activity data from Fleet Vehicle 26	Fabrikam Electric Truck 26	null	Wide World Importers	Wide World Importers - Tampa Office	No

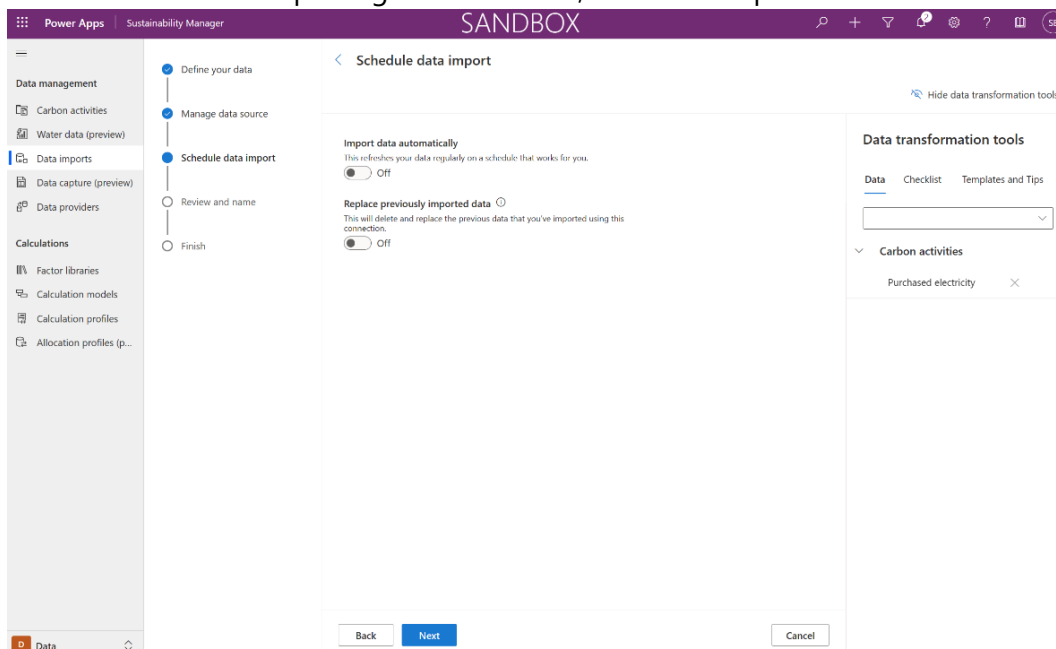
Back Cancel Transform data 2

9. On the “Transform data” page of the Power Query wizard, various data and column transformations can be performed. This will allow for the adjusting of data types, update column mappings, and even perform advanced transformations familiar with Power Platform Dataflows or Power BI Datasets. **For the purpose of this lab, you do not need to apply any transformations, click create.**



10. The “New data connection” wizard will now be on the Schedule data import page.
- Turning on “Import data automatically” will give the option to set a schedule to have the data imported automatically, this may be a good option if the connector will be used in a scenario where the data will change frequently such as a web API or FTP server.
 - Turning on “Replace previously imported data” will remove all previously imported data and bring in the full data set that was retrieved, this may be a good option if the data source is not only providing data from the last import or always includes a full set of data.

For this scenario of importing historical data, leave both options turned off. **Click “Next”** when finished.



11. On the "Review and finish" page:

- Enter a name for the new connection, such as **"Wide World Importers Electric Vehicle Miles Driven 2022."**
- Click **"Connect"**

Power Apps | Sustainability Manager | SANDBOX

Define your data
Manage data source
Schedule data import
Review and name
Finish

You're about to set up the following data connection:

Data types
Carbon activities
Purchased electricity

Name *
Wide World Importers Electric Vehicle Miles Driven 2022
35/100

Description

Data transformation tools
Data Checklist Templates and Tips
Carbon activities
Purchased electricity

Back Connect Cancel

12. Next, you'll need to map your source data to the data model. Data will not appear until this step is complete. **Click on Map fields.**

Define your data
Manage data source
Schedule data import
Review and name
Finish

You've completed the initial data setup
Next, you'll need to map your source data to the data model.
Data will not appear until this step is complete.

Map fields
skip for now

Back Done Cancel

13. Select the data source to map, in this lab that is **Purchased electricity** under Carbon Activities

The screenshot shows the 'Mapping (Wide World Importers Electric Vehicle Miles Driven 2022)' interface. On the left, the 'Data imports' section is active, showing 'Miles Driven' as the selected query. The 'Data source' dropdown is set to 'Purchased electricity'. The 'Ready to import' toggle is currently set to 'no'. The main table lists destination fields and their corresponding source fields and data types.

Destination fields	Source fields	Data type
Consumption end date *		datetime
Consumption start date *		datetime
Data Quality Type *		pick list
Energy Provider Name *		string
Facility *		lookup
Is Renewable *		boolean
Name *		string
Organizational Unit *		lookup

14. In this scenario, Reed will need to map the columns from the spreadsheet to the columns in Microsoft Sustainability Manager. **Select Auto Map** for the solution to automatically map the file's source fields with the destination fields, for any field that is not an exact match the best match will be found and highlight the field blue, make sure to review them. **When you are done, Click Save**

The screenshot shows the 'Mapping' interface with the 'Auto map' button selected. The 'Data source' is still 'Purchased electricity'. The 'Ready to import' toggle remains 'no'. The mapping table now shows source fields mapped to destination fields. The 'Provider' source field is highlighted in blue, indicating it is the best match for 'Energy Provider Name'.

Destination fields	Source fields	Data type
Consumption end date *	Consumption End Date	datetime
Consumption start date *	Consumption Start Date	datetime
Data Quality Type *	Data Quality Type	pick list
Energy Provider Name *	Provider	string
Facility *	Facility	lookup
Is Renewable *	Is Renewable	boolean
Name *	Name	string
Organizational Unit *	Organizational Unit	lookup

15. Now that we have reviewed our field mappings, **toggle Yes for ready to import.**

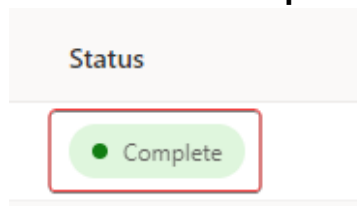
The screenshot shows the 'Mapping' interface with the 'Ready to import' toggle now set to 'yes'. The 'Auto map' button remains selected. The mapping table is the same as in the previous screenshot.

Destination fields	Source fields	Data type
Consumption end date *	Consumption End Date	datetime
Consumption start date *	Consumption Start Date	datetime
Data Quality Type *	Data Quality Type	pick list
Energy Provider Name *	Provider	string

16. The “**Data Import**” job will be run, it should say “**Scheduled**” then in a moment switch to “**Processing**” you might need to refresh your page to see the change.

Name ↑	Description	Mapping status	Ready to import	Status	Last refresh	Date
Demo connection	—	Mapped	Yes	Scheduled	4/24/2023 2:38 PM	Pur
Wide World Importers...	—	Mapped	Yes	Scheduled	4/24/2023 4:06 PM	—

17. After a minute or two click the “**Refresh**” button above the list to see the updated status, which should be “**Completed**”. Ensure you have the correct number of records as below and the status of the data connections are **Complete** before moving to next steps.



18. Navigate to “**Carbon activities data**” on the left side of the page.

Source	Data	Connections	Number of connections
Fugitive emissions	View	Manage	0
Industrial process	View	Manage	0
Mobile combustion	View	Manage	0
Stationary combustion	View	Manage	0

19. Find Purchased electricity in the Scope 2: Indirect emissions section, and click **View**

Source	Data	Connections	Number of connections
Purchased cooling	View	Manage	0
Purchased electricity	View	Manage	2
Purchased heat	View	Manage	0
Purchased steam	View	Manage	0

20. The Purchased electricity view shows all purchased electricity activity data that has been imported

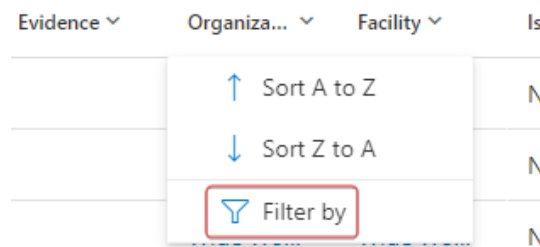
Power Apps | Sustainability Manager | **SANDBOX**

← Show Chart + New Refresh Visualize this view Email a Link Flow Run Report Excel Templates Export to Excel

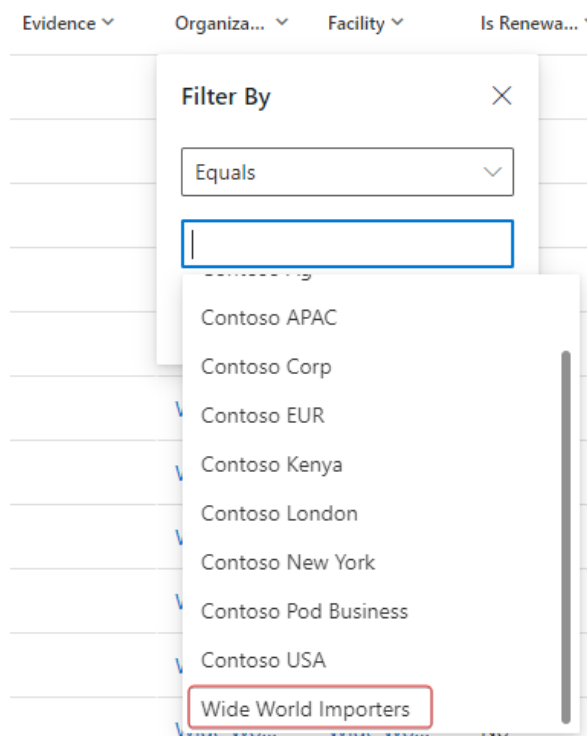
Purchased electricity Edit columns Edit filters Filter by keyword

Name	Contractu...	Connection	Description	Energy Pr...	Evidence	Organizat...	Facility	Is Renewa...	Consump...	Consump...	Quantity
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	11/30/2019	11/1/2019	845.8370...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	8/31/2022	8/1/2022	652.0882...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	1/31/2019	1/1/2019	1,021.302...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	2/28/2019	2/1/2019	1,004.981...
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	5/31/2020	5/1/2020	759.1877...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	4/30/2020	4/1/2020	994.6748...
Purchased Renew...	Green Re...		Demo dat...	Electric C...		Contoso ...	Contoso ...	Yes	10/31/2021	10/1/2021	809.0000...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	4/30/2020	4/1/2020	904.6287...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	3/31/2019	3/1/2019	909.2351...
Purchased Electric...	Utility Co...		Demo dat...	Electric C...		Contoso ...	Contoso ...	No	8/31/2018	8/1/2018	903.5241...

21. Filter the view by clicking the down arrow next to the **Organizational Unit** column, selecting **Filter by**



22. Select **Wide World Importers** from the Filter By dialog



23. Click **Apply** to apply the filter to the column

Organiza... Facility Is Renewa

Filter By

Equals

Wide World Importers

Apply

Clear

24. After a few moments, the view will refresh, and the activity data records that were imported during this lab will be displayed.

Purchased electricity* Edit columns Edit filters Filter by keyword

<input type="checkbox"/>	Name	Contractu...	Connection	Description	Energy Pr...	Evidence	Organi...	Facility	Is Renewa...	Consump...	Consump...	Quantity	Quantity ...
	Fleet Vehicle 16		Wide Wo...	January a...	Fabrikam ...		Wide Wo...	Wide Wo...	No	1/31/2022	1/1/2022	7,838.371...	mile
	Fleet Vehicle 17		Wide Wo...	May activ...	Fabrikam ...		Wide Wo...	Wide Wo...	No	5/31/2022	5/1/2022	10,409.83...	mile
	Fleet Vehicle 2		Wide Wo...	August a...	Fabrikam ...		Wide Wo...	Wide Wo...	No	8/31/2022	8/1/2022	5,310.195...	mile
	Fleet Vehicle 19		Wide Wo...	January a...	Fabrikam ...		Wide Wo...	Wide Wo...	No	1/31/2022	1/1/2022	13,751.60...	mile
	Fleet Vehicle 23		Wide Wo...	August a...	Fabrikam ...		Wide Wo...	Wide Wo...	No	8/31/2022	8/1/2022	13,823.27...	mile
	Fleet Vehicle 22		Wide Wo...	June activ...	Fabrikam ...		Wide Wo...	Wide Wo...	No	6/30/2022	6/1/2022	7,243.797...	mile
	Fleet Vehicle 26		Wide Wo...	August a...	Fabrikam ...		Wide Wo...	Wide Wo...	No	8/31/2022	8/1/2022	8,445.492...	mile
	Fleet Vehicle 28		Wide Wo...	July activ...	Fabrikam ...		Wide Wo...	Wide Wo...	No	7/31/2022	7/1/2022	9,651.377...	mile
	Fleet Vehicle 29		Wide Wo...	Septemb...	Fabrikam ...		Wide Wo...	Wide Wo...	No	9/30/2022	9/1/2022	5,834.966...	mile
	Fleet Vehicle 37		Wide Wo...	July activ...	Fabrikam ...		Wide Wo...	Wide Wo...	No	7/31/2022	7/1/2022	12,732.01...	mile
	Fleet Vehicle 40		Wide Wo...	April acti...	Fabrikam ...		Wide Wo...	Wide Wo...	No	4/30/2022	4/1/2022	10,668.74...	mile
	PurchasedElectric...	Adatum ...	Wide Wo...	October ...	Electric C...		Wide Wo...	Wide Wo...	No	10/31/20...	10/1/2022	1,689.632...	kWh
	Fleet Vehicle 10		Wide Wo...	July activ...	Fabrikam ...		Wide Wo...	Wide Wo...	No	7/31/2022	7/1/2022	9,461.426...	mile
	Fleet Vehicle 13		Wide Wo...	Septemb...	Fabrikam ...		Wide Wo...	Wide Wo...	No	9/30/2022	9/1/2022	9,213.889...	mile
	Fleet Vehicle 13		Wide Wo...	Novembe...	Fabrikam ...		Wide Wo...	Wide Wo...	No	11/30/20...	11/1/2022	16,251.61...	mile
	Fleet Vehicle 12		Wide Wo...	June activ...	Fabrikam ...		Wide Wo...	Wide Wo...	No	6/30/2022	6/1/2022	18,201.88...	mile

1 - 50 of 504 Page 1

Congratulations! You have just completed the data import for 2022 Miles Driven for Wide World Importers. This is an important step to realizing the goal of recording, reporting, and reducing carbon emissions. In the following labs we will calculate emissions, review insights and reporting, and define our reduction scorecards and goals.