



Microsoft Cloud for Sustainability **in a Day**

Lab 02: Data ingestion

Step-by-Step Lab

30 minutes

January 2023

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Overview

Background

In the previous lab, Wide World 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 Activity data ingestion 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 connectors in the Microsoft Sustainability Manager will be used to ingest the Activity data into the application.

Learning Objectives

In this lab, you will do the following:

- Use Microsoft Sustainability Manager connectors to ingest data
- Use Power Query to transform the data before ingestion
- Review the ingested data in the "Purchase Electricity Activity Data" Dataverse Table
- The newly ingested 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 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 connector functionality to import from the Excel spreadsheets, and reviews other connectors available for future purposes. Reed uses the built-in Power Query 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.



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.



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



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.



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.

Set up Organization and Reference Data

Ingest Emissions Activity Data

Design Calculation Models and Jobs

Build Reports and gather Insights

Create Carbon Reduction Goals and Scorecards

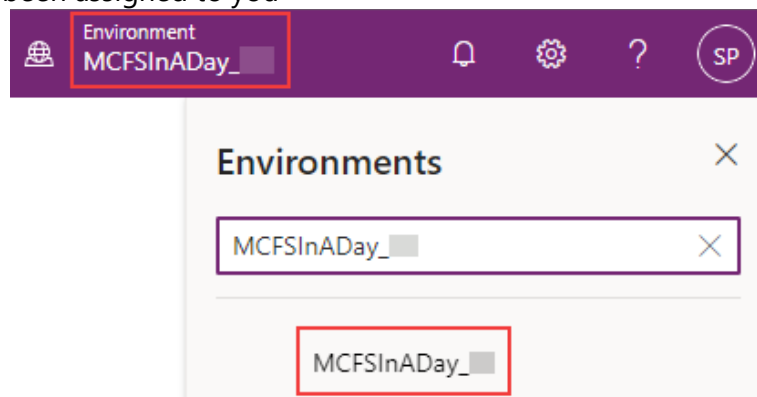
Exercise 1: Import Data

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](#).

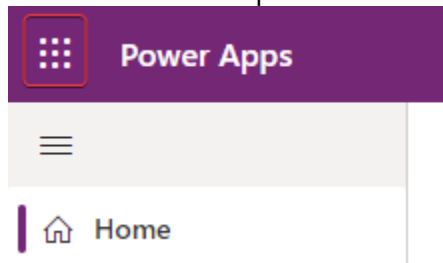
Important

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 mcfsiaduserXX@powerplatformopenhacks.onmicrosoft.com account that has been assigned to you.
- For our Instructor Lead Training, please use the environment selector to select the MCFSInADay_XX environment that has been assigned to you



- 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



Office →

Apps

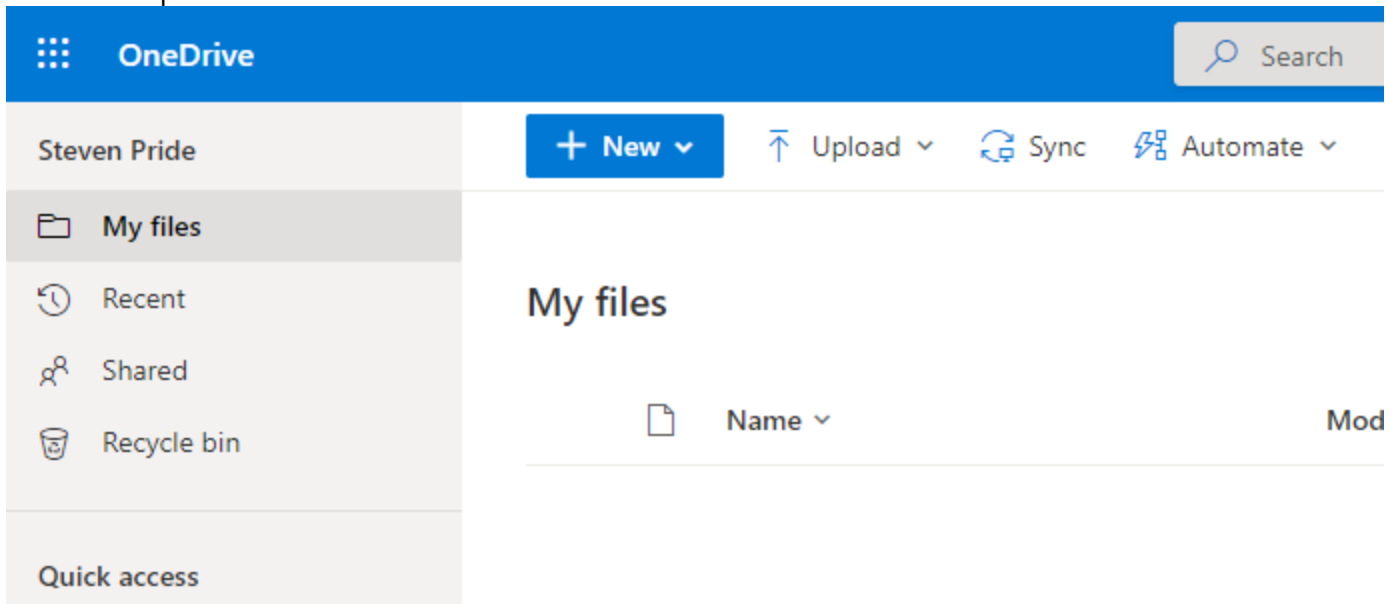


Outlook

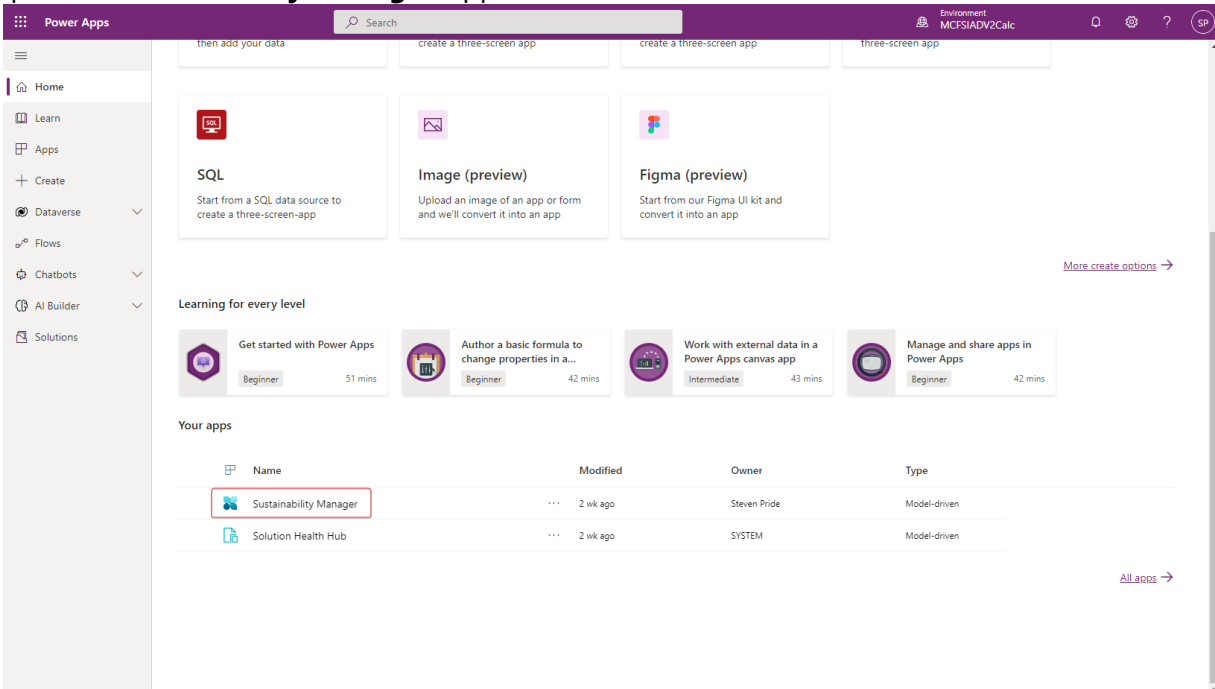


OneDrive

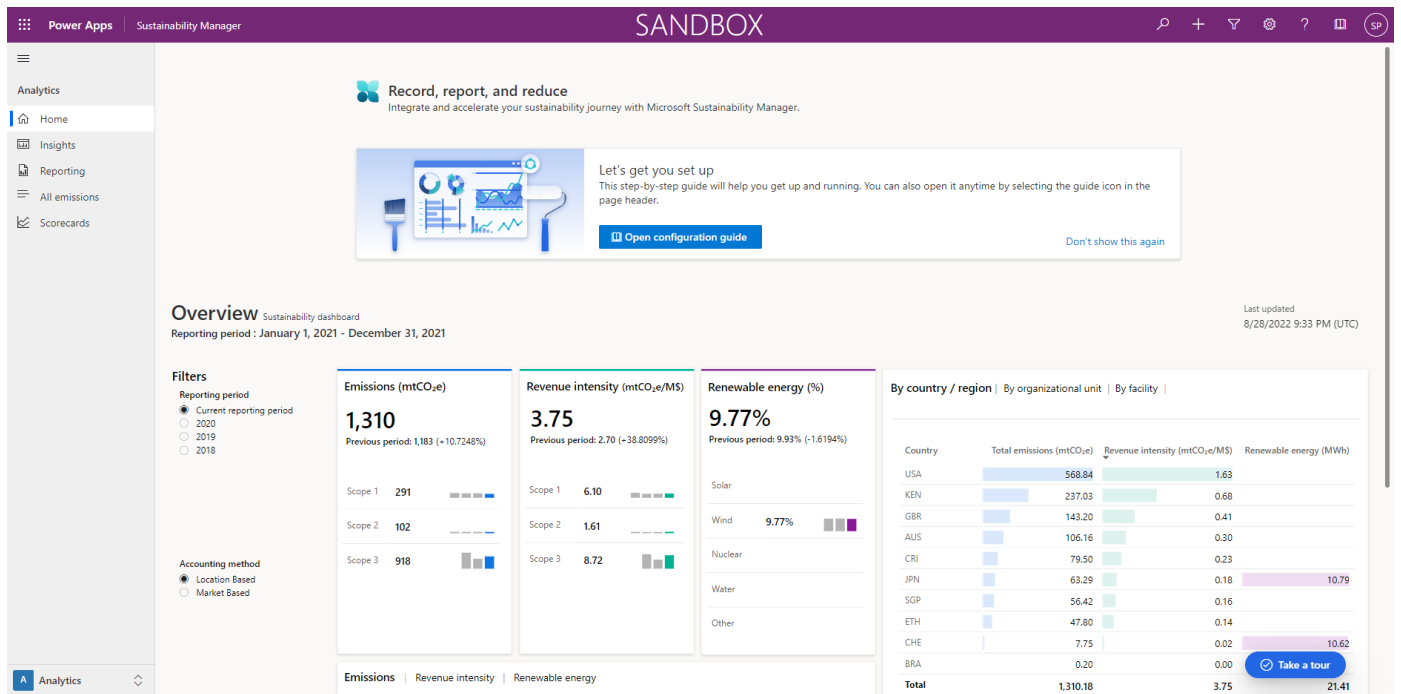
- This will open a new tab with your new OneDrive. You can close this tab and return to the Power Apps maker portal.



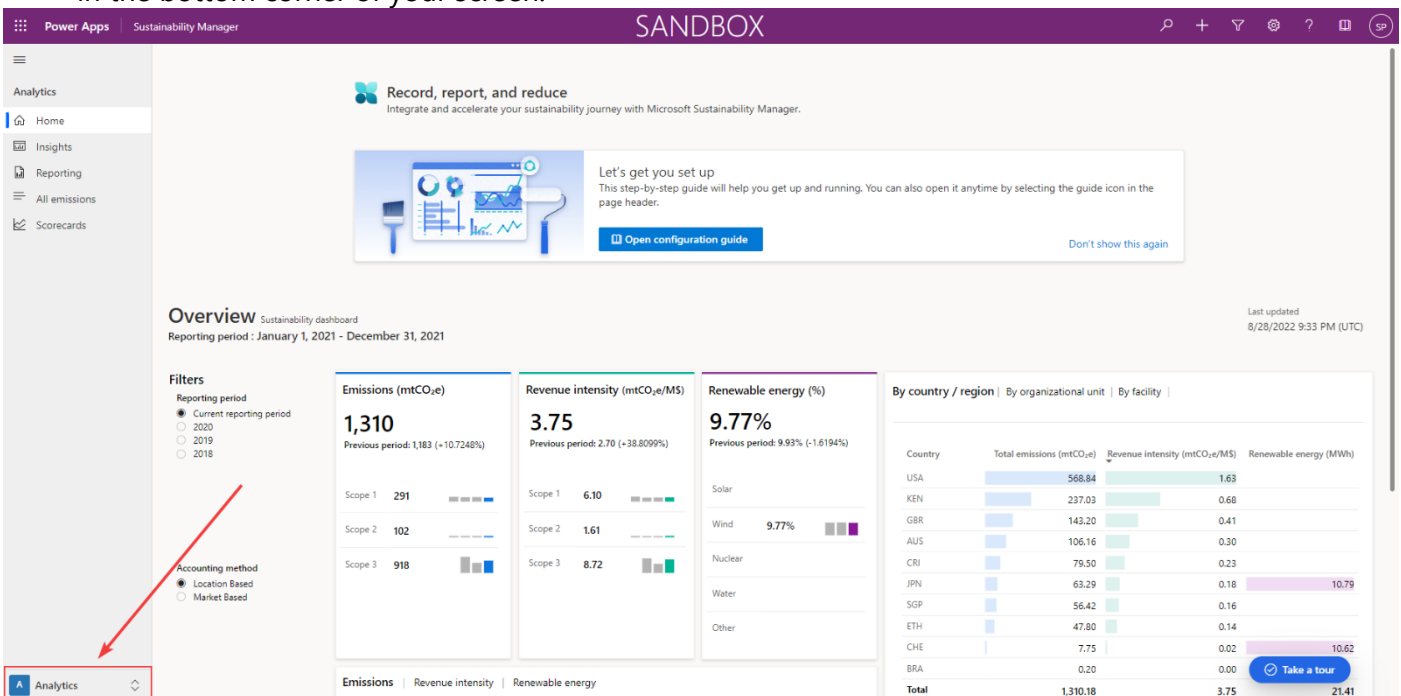
- Open the **Sustainability Manager** Application



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



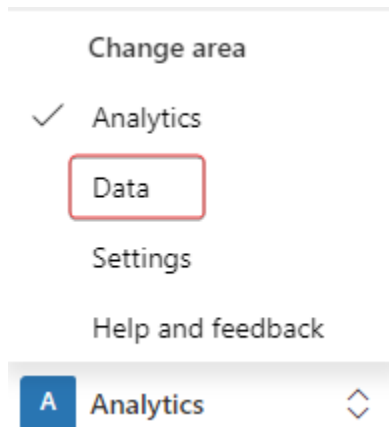
- Area navigation is a common first step in each lab and exercise. You can find the area navigation menu in the bottom corner of your screen.



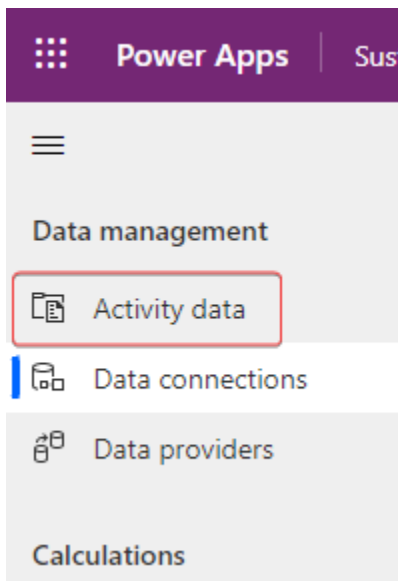
Task 1: Import 2022 data for “Purchased Electricity” for Facilities

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 “**Activity data**” on the left side of the page.

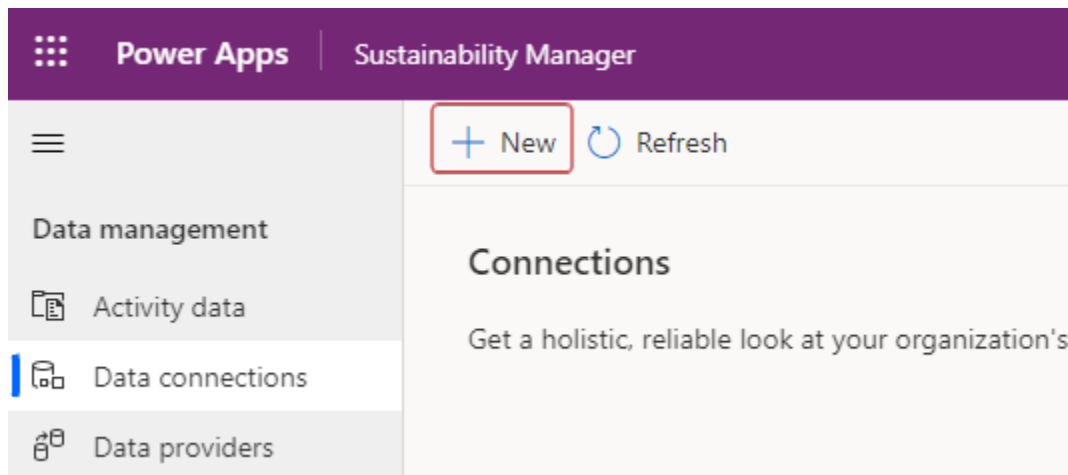


3. Find Purchased electricity in the **Scope 2: Indirect emissions** section, and click **Manage**

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

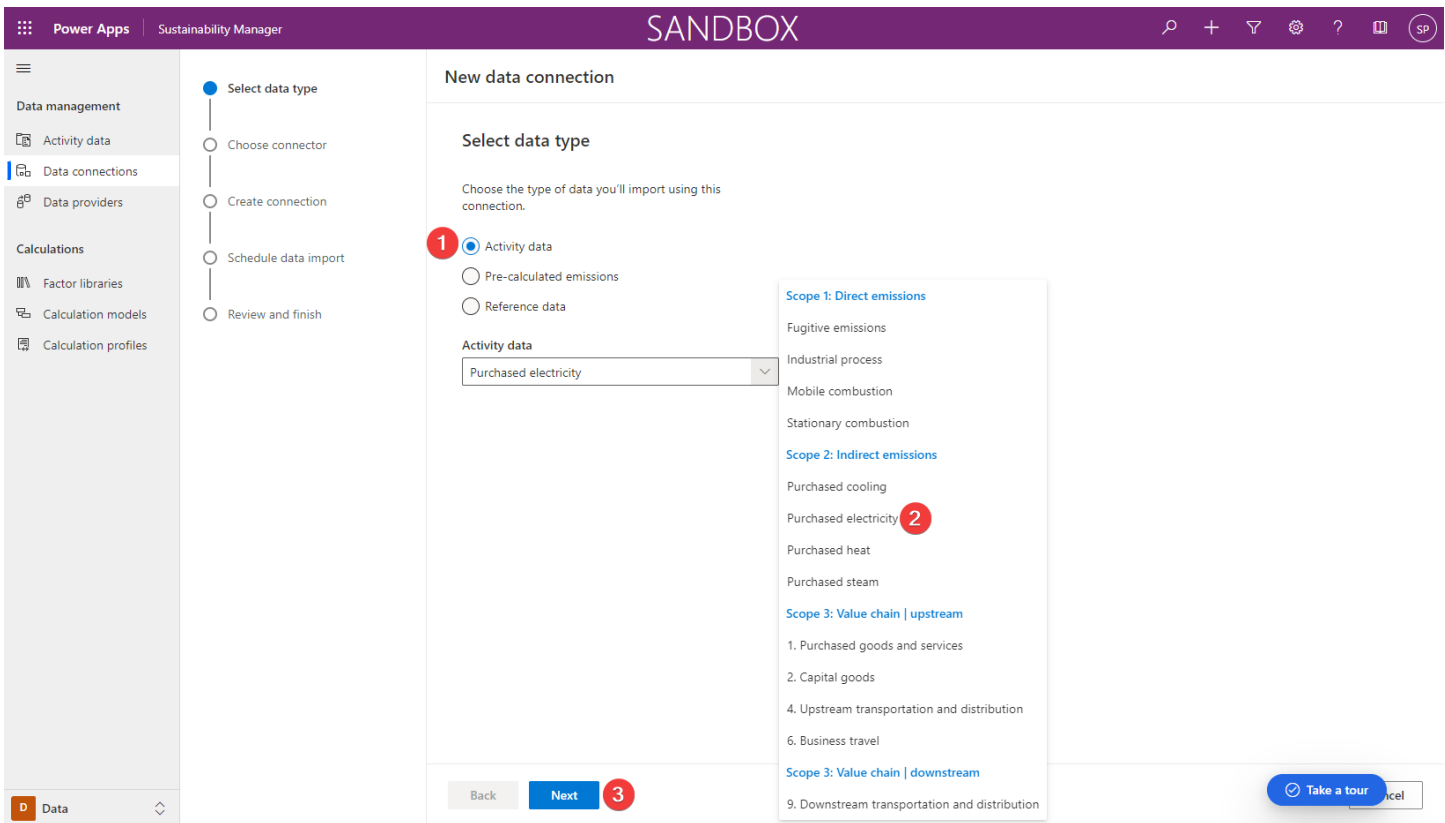
Scope 3: Value chain upstream			
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4. On the "Connections" view, click **+ New**



5. On the "New data connection" wizard:

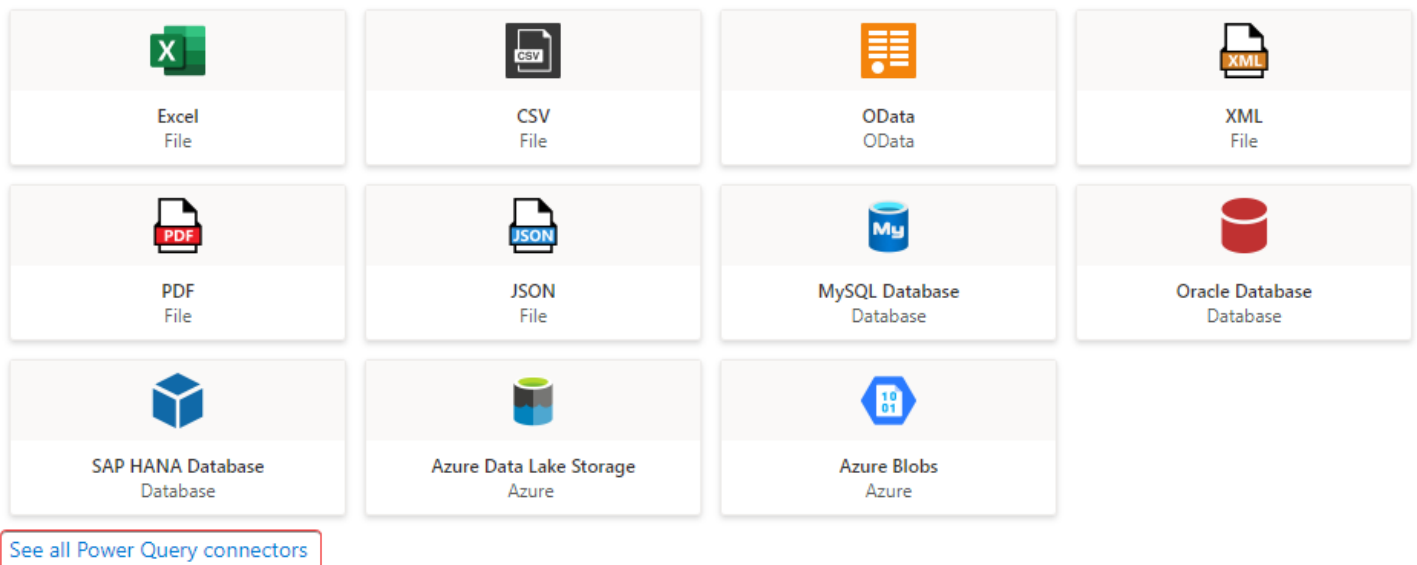
- 1) Select **Activity data** from data type screen
- 2) Choose **Purchased electricity** from the Activity data drop down list
- 3) Click **Next** when finished



6. Take a moment to review the large list of connectors by clicking the “See all Power Query connectors” link

Choose connector

Power Query



7. Microsoft Sustainability Manager utilizes Power Query for its data ingestion connectors, there is a broad list of connectors available in Power Query. Click Cancel or the X in the top right corner to close the Power Query dialog.



Choose data source

Select a connector or directly drag a file from your computer.

All categories File Database Power Platform Azure Online services Other

Search

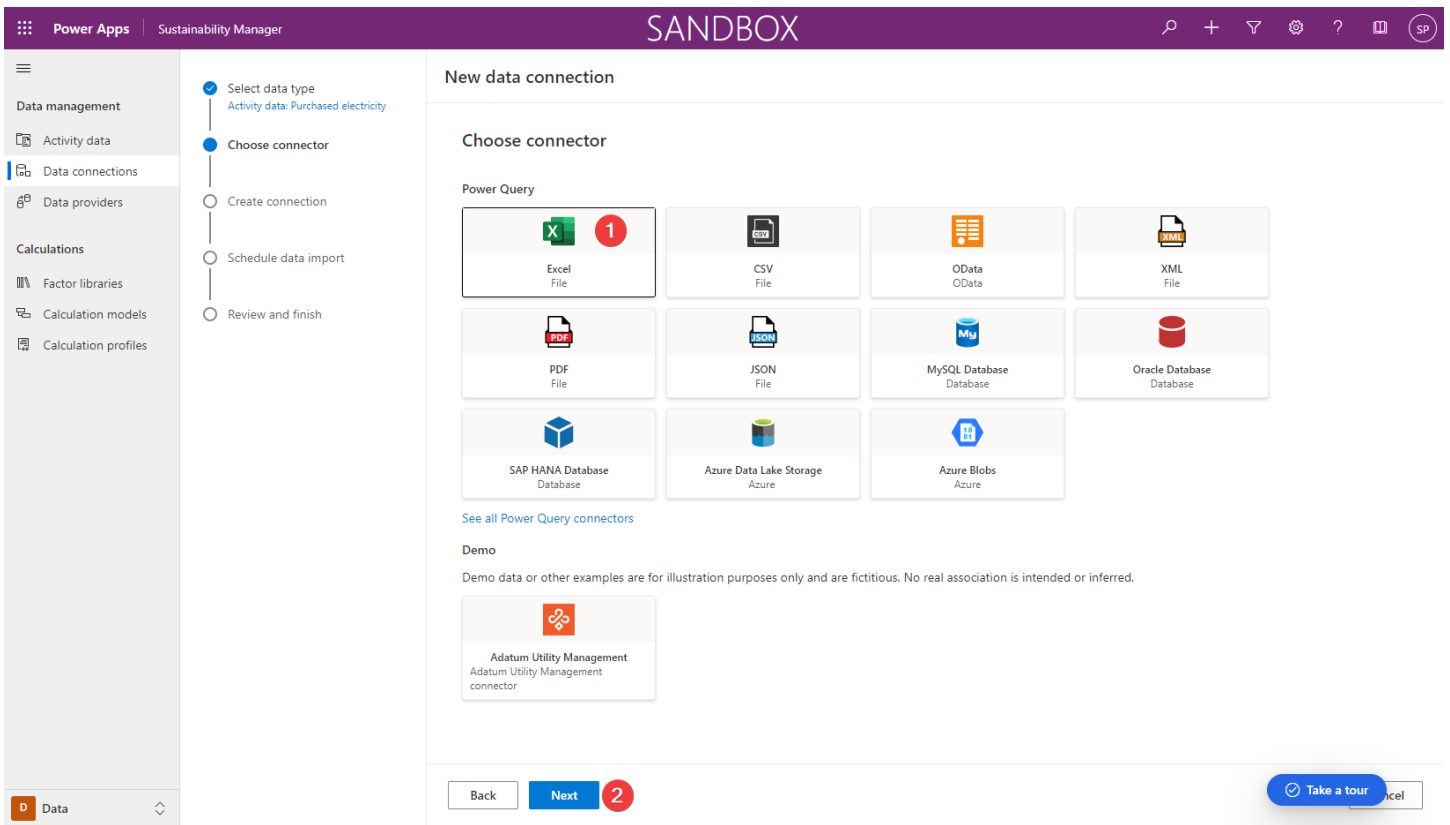
Excel workbook File	Text/CSV File	XML File	JSON File	Folder File
PDF File	Parquet File	SharePoint folder File	SQL Server database Database	Access Database
SQL Server Analysis Services Database	Oracle database Database	IBM Db2 database Database	MySQL database Database	PostgreSQL database Database
Teradata database Database	SAP HANA database Database	SAP BW Application Server Database	SAP BW Message Server Database	Snowflake Database
Google BigQuery Database	Amazon Redshift Database	Impala Database	Dataflows Power Platform	Dataverse Power Platform
Azure SQL database Azure	Azure Synapse Analytics (SQ... Azure	Azure Analysis Services Azure	Azure Blobs Azure	Azure Tables Azure
Azure Data Explorer (Kusto) Azure	Azure Data Lake Storage Gen2 Azure	Azure HDInsight Spark Azure	SharePoint Online list Online services	Microsoft Exchange Online Online services
Salesforce objects Online services	Salesforce reports Online services	Google Analytics Online services	Adobe Analytics Online services	Web API Other
Web page Other	SharePoint list Other	OData Other	Spark Other	Odbc Other

Cancel

8. On the "Choose connector" page:

- 1) Select **Excel**
- 2) Click **Next**

Note: Notice the Adatum Utility Management connector at the bottom. Data providers and Partners can create their own connectors to be available in Microsoft Sustainability Manager



9. A new dialog will open for Power Query. On the Power Query dialog:

- 1) Click **Upload file**
- 2) Click **Browse**

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

Power Query

Connect to data source

Excel workbook
File
[Learn more](#)

Connection settings

☐ Link to file ☒ Upload file (Preview) 1

Drag a file here to upload
or
[Browse...](#) 2

Connection credentials

Connection
Create new connection

Connection name
Connection

Data gateway
(none)

Authentication kind
Anonymous

Back Cancel Next

10. On the file selection window, browse to the location of the excel files that were downloaded.

- 1) Select the **Purchased electricity Wide World Importers 2022.xlsx** file
- 2) Click **Open**

← → ▾ ↑ > Downloads > Training ▾ ↻ Search Training

Organize ▾ New folder

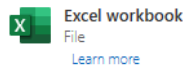
Name	Date modified	Type	Size
Today			
Purchased electricity Wide World Import...	1/8/2023 4:23 PM	Microsoft Excel W...	23 KB 1
Fleet Vehicles Miles Driven Wide World I...	1/8/2023 4:23 PM	Microsoft Excel W...	54 KB

File name: Purchased electricity Wide World Importers 2022.xlsx Custom files (*.xl;*.xls;*.xlsb;*.x 2

Open Cancel

11. 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**.

Connect to data source



Connection settings

☐ Link to file ☒ Upload file (Preview) ⓘ



Purchased electricity Wide World Importers 2022.xlsx

✓ Upload successful (22.7 KB)

Connection credentials

Connection

Create new connection



Connection name

Connection

Data gateway

(none)



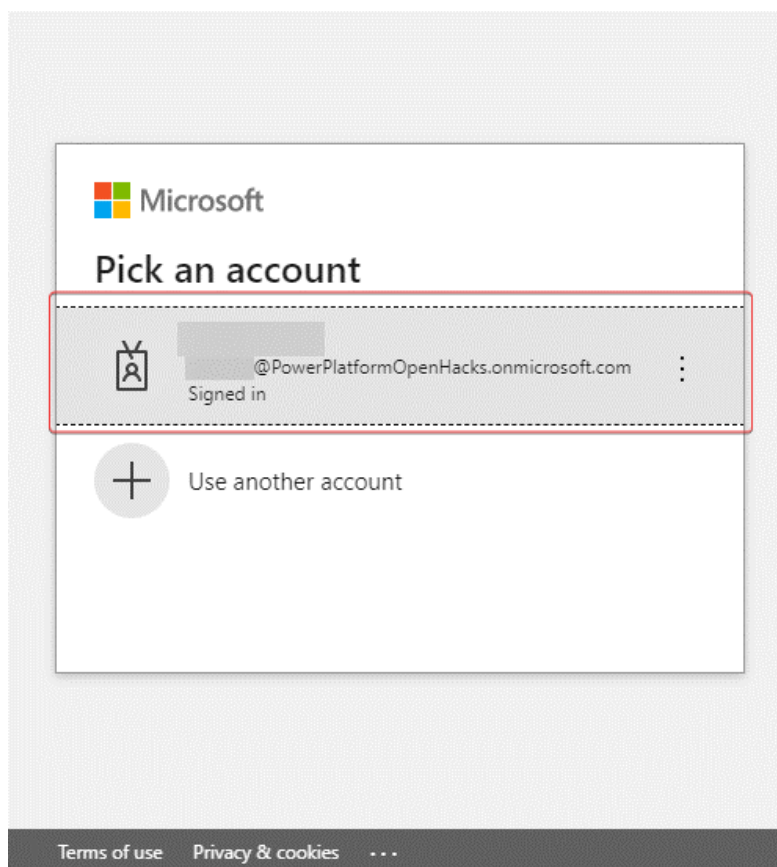
Authentication kind

Organizational account

You are not signed in. Please sign in.

Sign in

12. 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).



13. Once the sign in process is completed, the new connection is automatically selected. Click **Next**.

Connect to data source



Connection settings

☐ Link to file ☒ Upload file (Preview) ⓘ



Connection credentials

Connection

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

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

Back

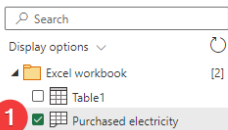
Cancel

Next

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

- 1) Select the **"Purchased electricity"** sheet
- 2) Click **Transform data**

Choose data



Purchased electricity

Table 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

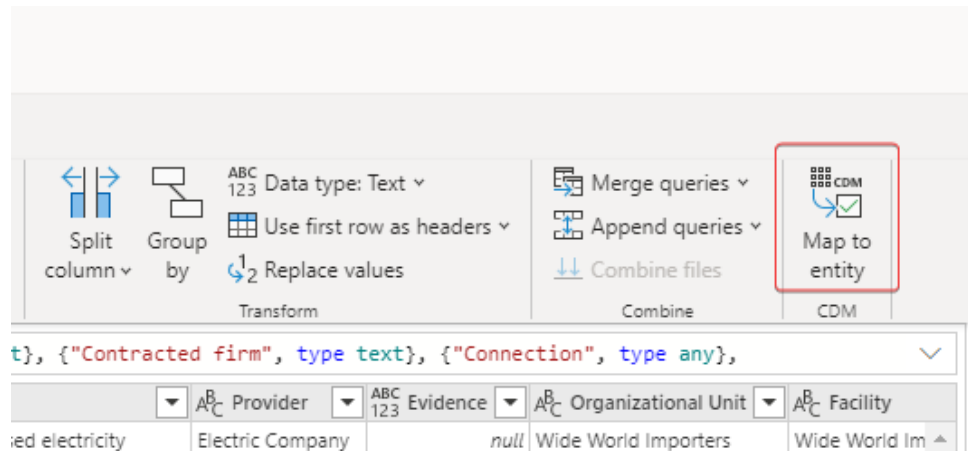
Back

Cancel

Transform data 2

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.

15. In this scenario, Reed will need to map the columns from the spreadsheet to the columns in Microsoft Sustainability Manager. To do this click on Map to entity in the upper right corner of the dialog window.



16. On the "Map to CDM entity" of the dialog window we need to:
- 1) Select the table name, "**Purchased energy**"
 - 2) Select "**Auto map**" to allow any automatic mappings to occur
 - 3) Contractual Instrument Type was "Not mapped", hence Reed selects "**Contracted firm**" from the list of options in the "Query output column"
 - 4) Energy Provider name was "Not mapped", select "**Provider**" from the list of options in the "Query output column"
 - 5) When finished, click "**OK**"

Map to CDM entity

Map the columns from your query output to attributes of a standard Common Data Model (CDM) entity.

[Learn more](#)

Purchased energy

2

Auto map

Clear all mappings

Entity description

Electric energy, measured in MWh, delivered by the utility to a customer in accordance with the signed agreement.

Query output column	Entity attribute ↑	Mapping type
Consumption End Date	Consumption End Date	Auto mapped
Consumption Start Date	Consumption Start Date	Auto mapped
Contracted firm	Contractual Instrument Type	Mapped
Cost	Cost	Auto mapped
Cost unit	Cost unit	Auto mapped
Data Quality Type	Data Quality Type	Auto mapped
Description	Description	Auto mapped
Provider	Energy Provider Name	Mapped
Evidence	Evidence	Auto mapped
Facility	Facility	Auto mapped
Is Renewable	Is Renewable	Auto mapped
(none)	Meter number	Not mapped

5

OK

Cancel

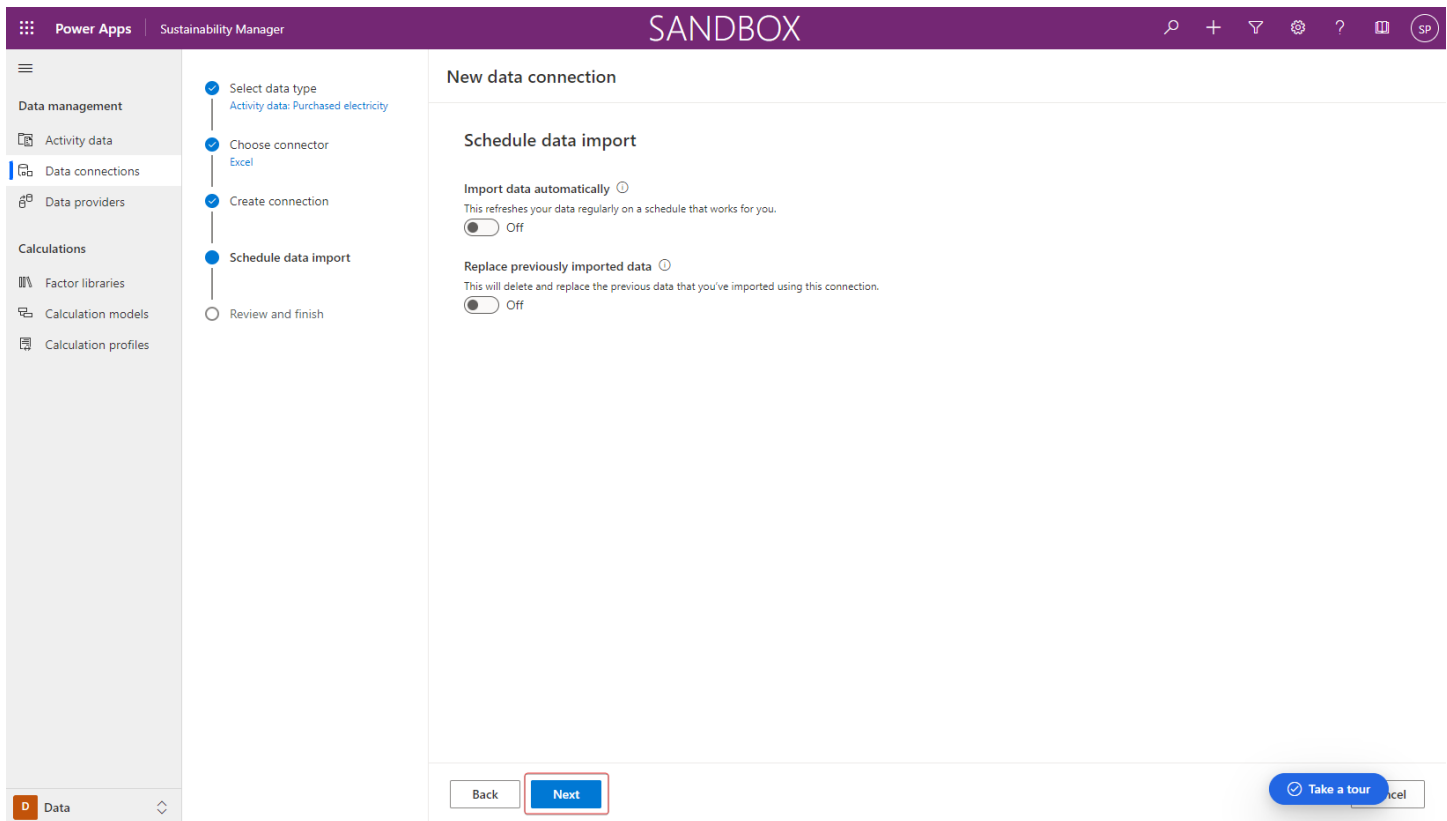
17. The “Transform data” page should now look like this

Note: Observe that the column names have changed to Contractual Instrument Type and Energy Provider Name.

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



20. On the “Review and finish” page:

- 1) Enter a name for the new connection, such as “**Wide World Importers Purchased Electricity 2022**”
- 2) Click “**Connect**”


- ✓ Select data type
Activity data: Purchased electricity
- ✓ Choose connector
Excel
- ✓ Create connection
- ✓ Schedule data import
- ✓ Review and finish

New data connection

Improve the quality of your data import by checking the quality of your data source. Remove records you've already imported. Provide required data. Make sure data your file refers to (for instance, a fuel source) can be found in your reference data.

Good job!

You've set up the following data connection:



Excel

File

Connection type	Activity data
Ingestion source	Purchased electricity
Owner	

Name *

Wide World Importers Purchased Electricity 2022

47/100

Back Done

23. The **"Connections"** view will now be visible, along with the status of the recently created connection. It should say **"Processing"**

Connections							
Get a holistic, reliable look at your organization's emissions by using data connections to import activity and reference data. Learn more about data connections							
Name	Connection type	Ingestion source	Owner	Last refresh	Next refresh	Inserted records	Status
Wide World Importers - Purc...	Activity data	Purchased electricity		8/11/2022 1:43 PM	—	24	Processing

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

New

Refresh

Connections

Clear all filters

Filters

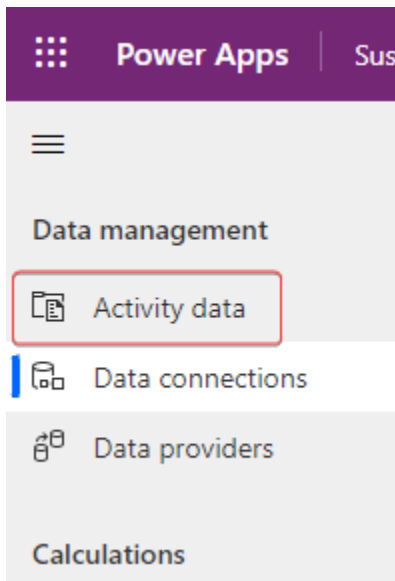
Search

List

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

Name	Connection type	Ingestion source	Owner	Last refresh	Next refresh	Inserted records	Status
Wide World Importers - Purc...	Activity data	Purchased electricity		8/11/2022 1:43 PM	—	24	<div><div></div>Complete</div>

25. Navigate to **"Activity data"** on the left side of the page.



26. 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

Scope 3: Value chain | upstream

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

Power Apps | Sustainability Manager | SANDBOX

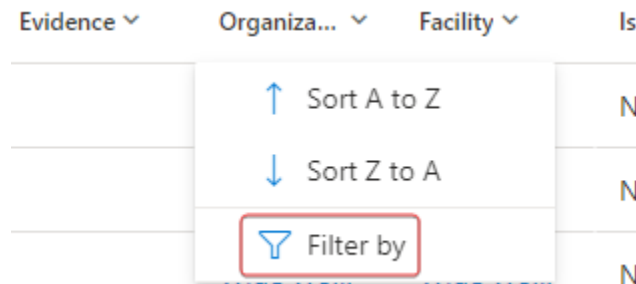
← Show Chart + New Refresh Visualize this view Email a Link | Flow Run Report Excel Templates Export to Excel

Purchased electricity* Edit columns Edit filters Filter by keyword

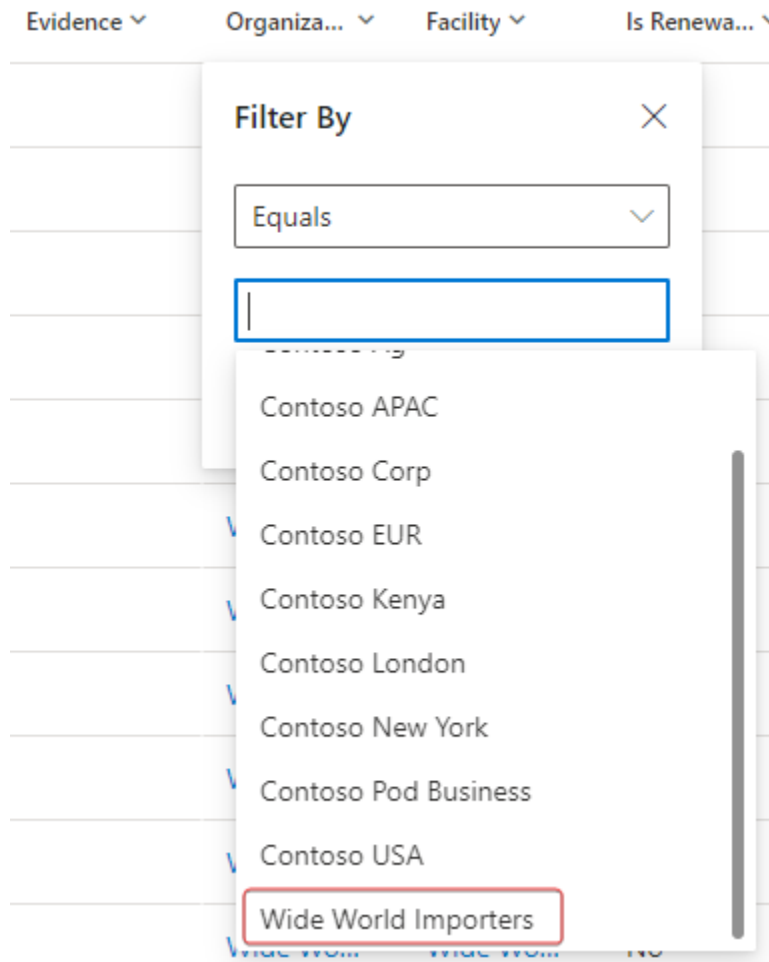
Name	Contracts...	Connection	Description	Energy Pr...	Evidence	Organiz...	Facility	Is Renewa...	Consump...	Consump...	Quantity	Quantity
PurchasedElectric...	Adatum ...	Wide Wo...	October ...	Electric C...		Wide Wo...	Wide Wo...	No	10/31/20...	10/1/2022	1,689.632...	kWh
PurchasedElectric...	Adatum ...	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

1 - 24 of 24 Page 1

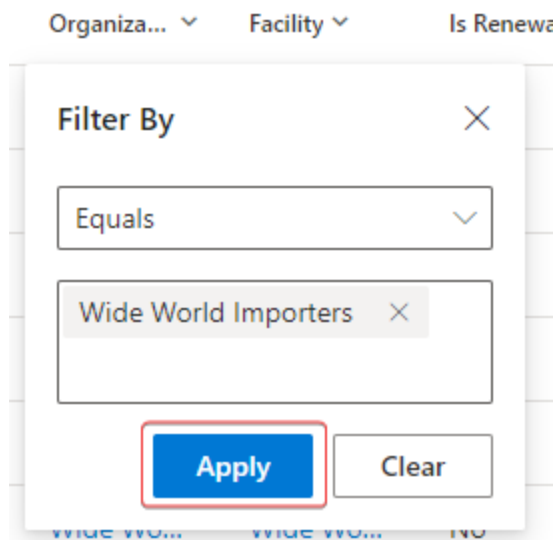
28. Filter the view by clicking the down arrow next to the **Organizational Unit** column, and selecting **Filter by**



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



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



31. 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	Organl...	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

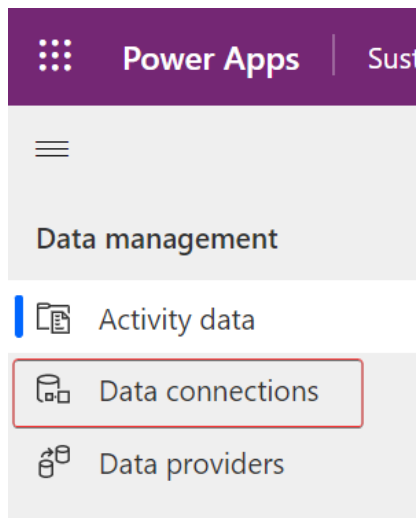
Data 1 - 24 of 24 Page 1

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.**

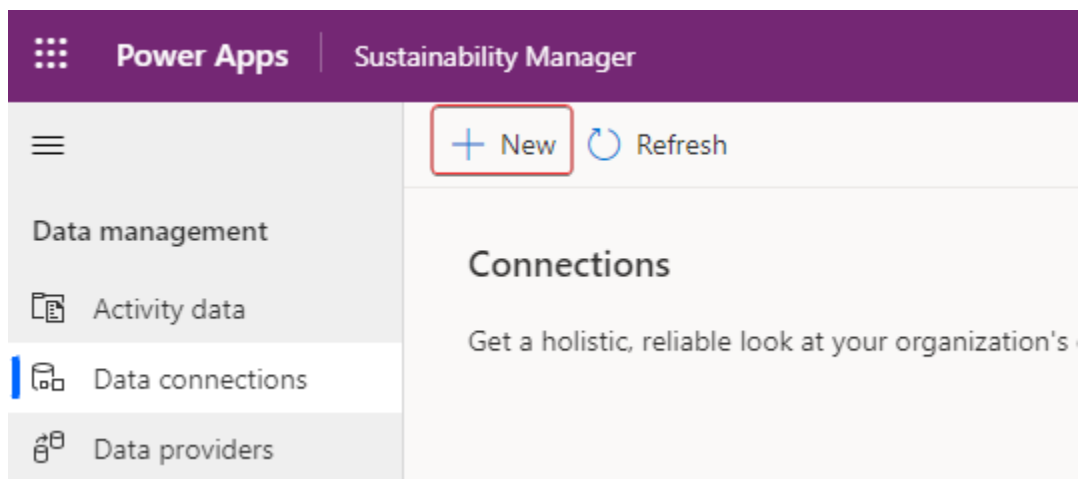
Task 2: Import 2022 data “Miles Driven” for Electric Trucks

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 activity data.

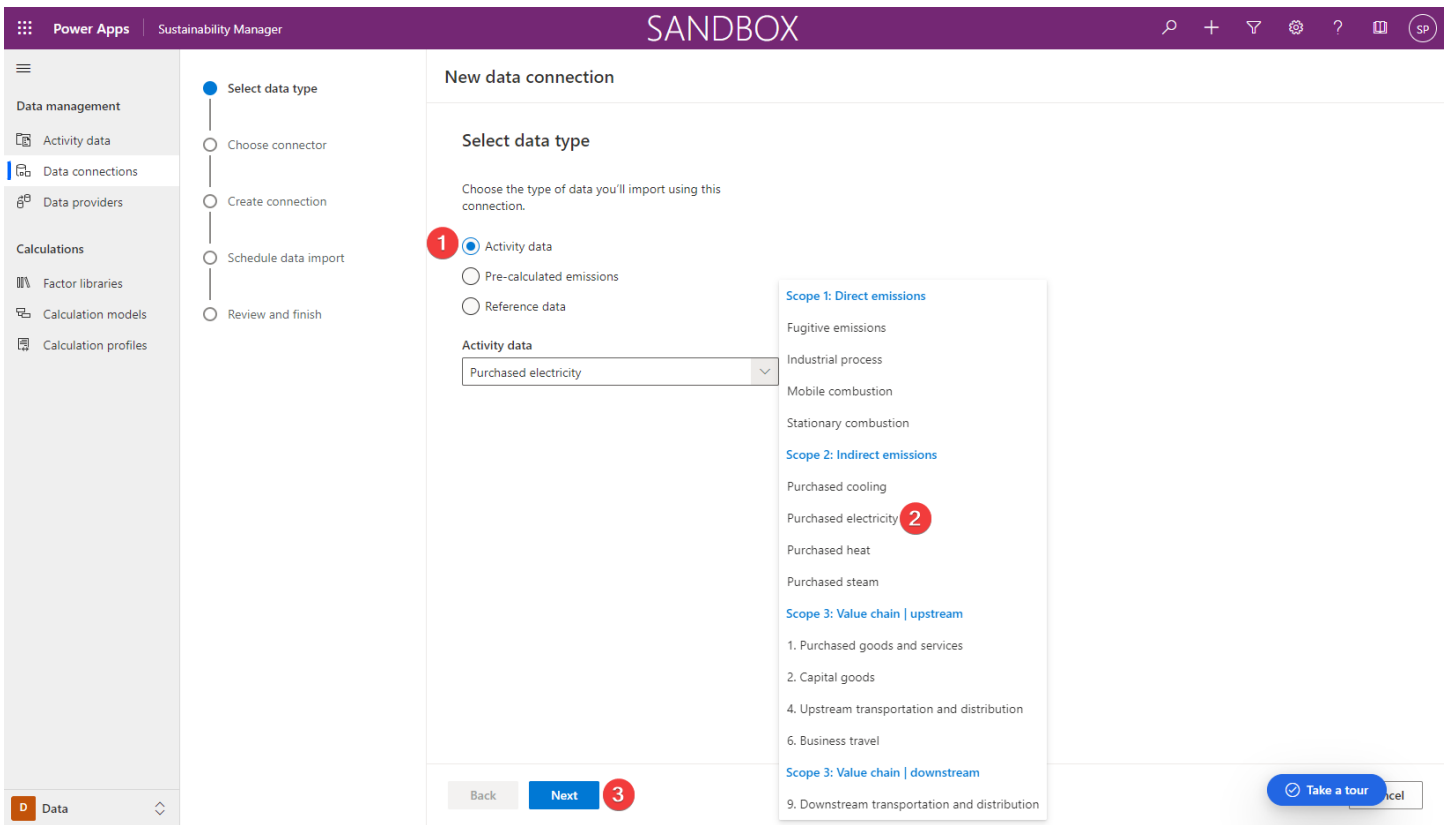
1. Navigate to “**Data connections**” on the left side of the page.



2. On the "Connections" view, click **+New**

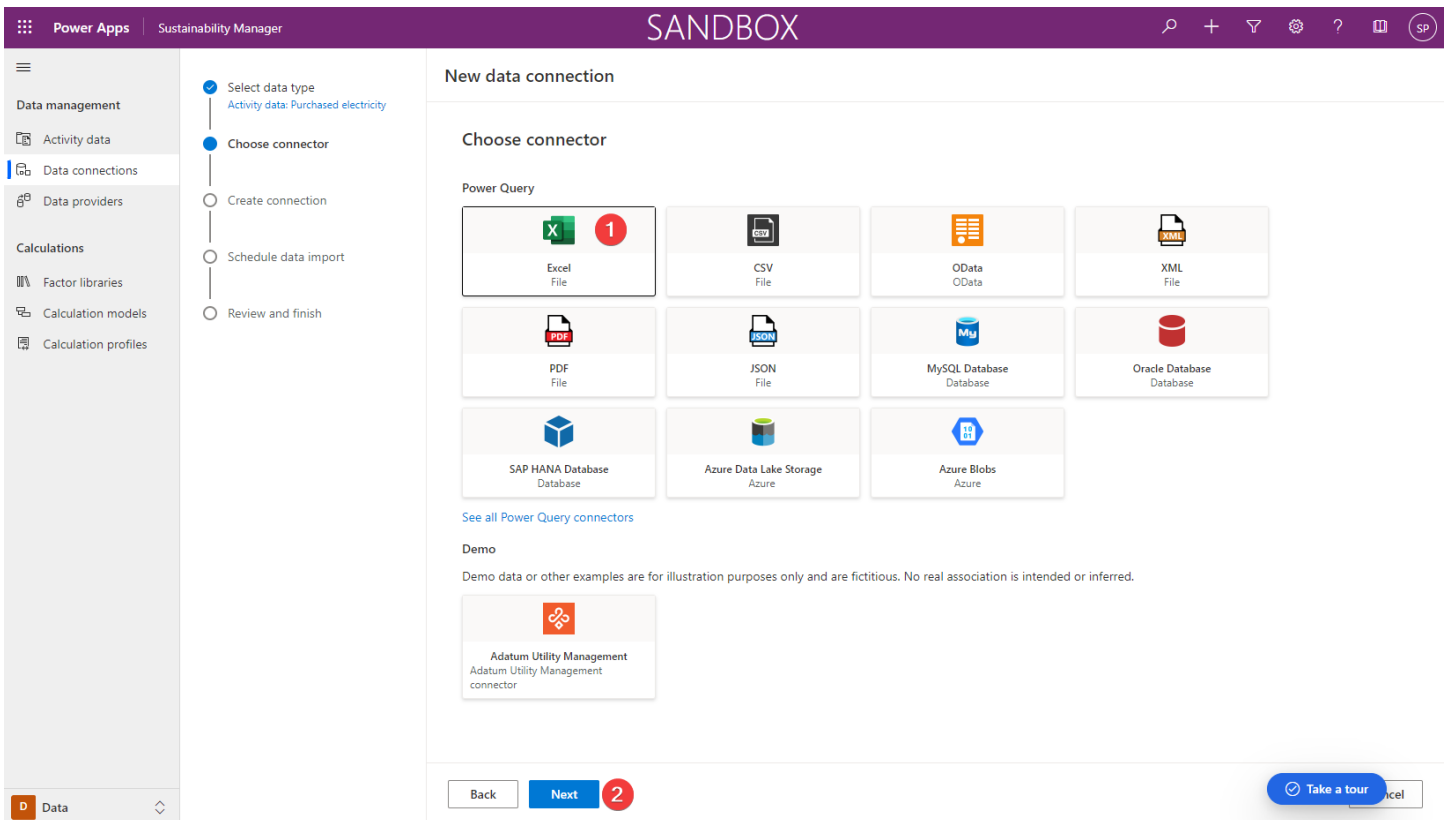


3. On the "New data connection" wizard:
 - 1) Select **Activity data** from data type screen
 - 2) Choose **Purchased electricity** from the Activity data drop down list
 - 3) Click **Next** when finished



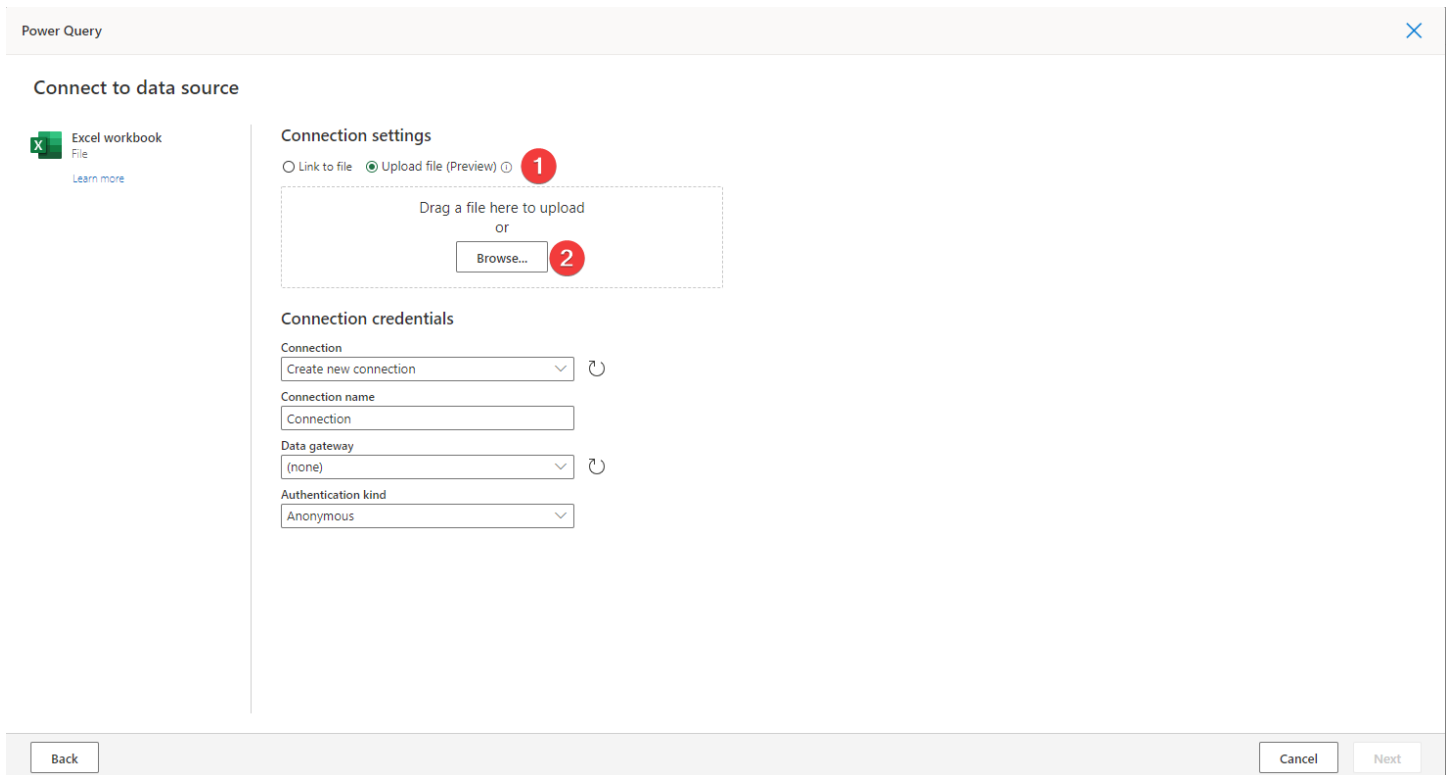
4. On the "Choose connector" page:

- 1) Select "**Excel**"
- 2) Click "**Next**" when finished



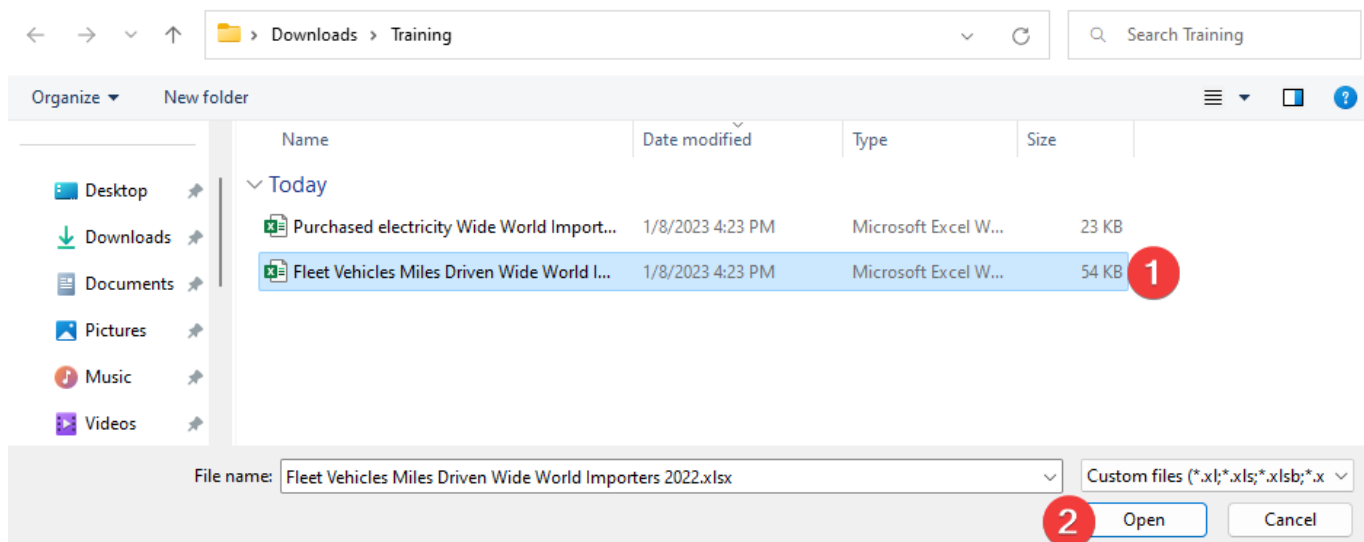
5. A new dialog will open for Power Query. On the Power Query dialog:

- 1) Click "**Upload file**"
- 2) Click "**Browse**"



6. 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**"




7. Once the file is uploaded, the Connection credentials automatically selects the previous connection for authentication. 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:
- 1) Select the **"Miles Driven"** sheet
 - 2) Click **"Transform data"**

Power Query

Choose data

Display options ▾ ⓘ
Excel workbook [2]
☐ Table1
1 ☒ Miles Driven

Miles Driven

ABC	123	Contracted firm	ABC	123	Connection	Description	Provider	ABC	123	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	

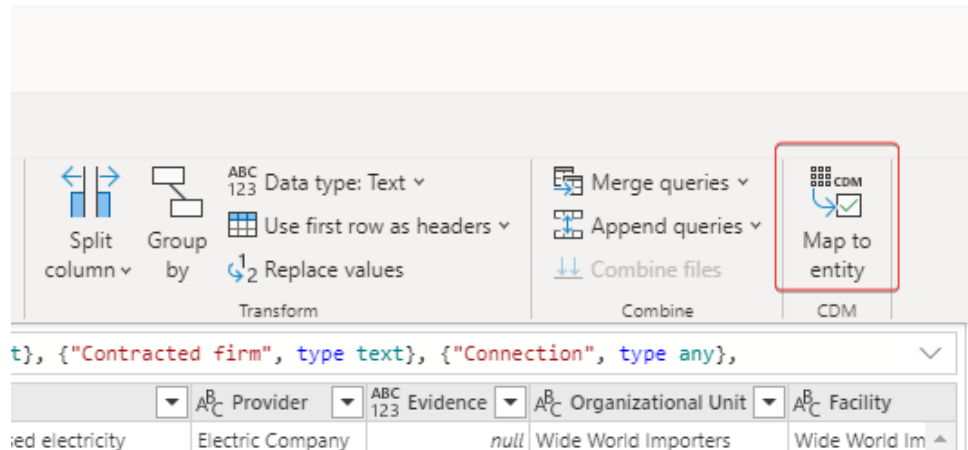
Back

Cancel

Transform data **2**

On the "Transform data" page of the Power Query wizard, various data and column transformations can be performed. This will allow the adjusting of data types, column mappings updates, and even perform advanced transformations familiar with in Power Platform Dataflows or Power BI Datasets.

9. In this scenario, Reed will need to map the columns from the spreadsheet to the columns in Microsoft Sustainability Manager. To do this click on Map to entity in the upper right corner of the dialog window.






10. On the "Map to CDM entity" dialog window we need to:
 - 1) Select the table name, "**Purchased energy**"
 - 2) Select "**Auto map**" to allow any automatic mappings to occur
 - 3) Contractual Instrument Type was "Not mapped", hence Reed selects "**Contracted firm**" from the list of options in the "Query output column"
 - 4) Energy Provider name was "Not mapped", select "**Provider**" from the list of options in the "Query output column"
 - 5) When finished, click "**OK**"

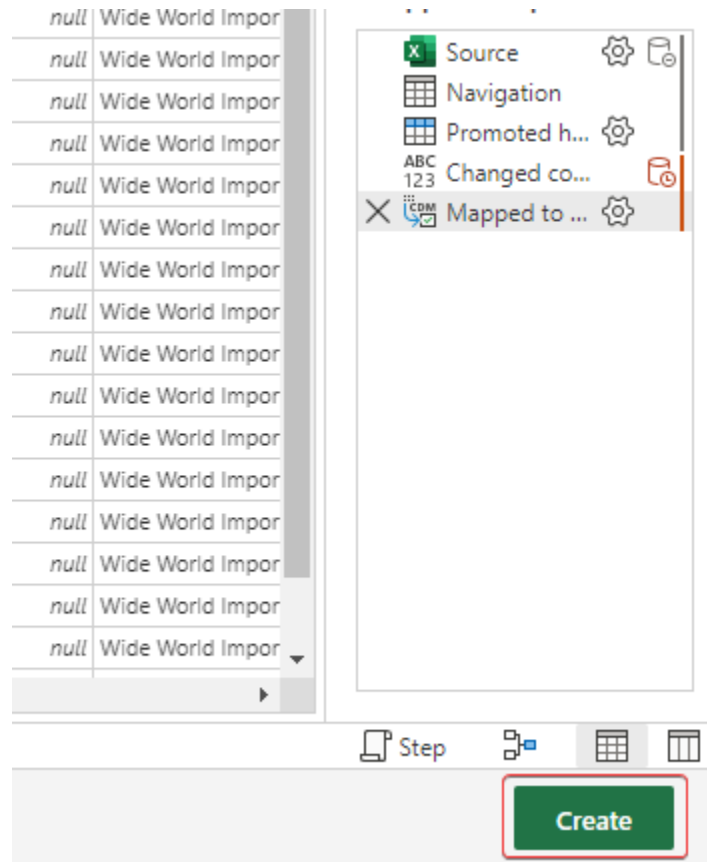
[Learn more](#)

Electric energy, measured in MWh, delivered by the utility to a customer in accordance with the signed agreement.

Note: Observe that the column names have changed to Contractual Instrument Type and Energy Provider Name.

 Step   

12. Click **Create** to start the data import process:

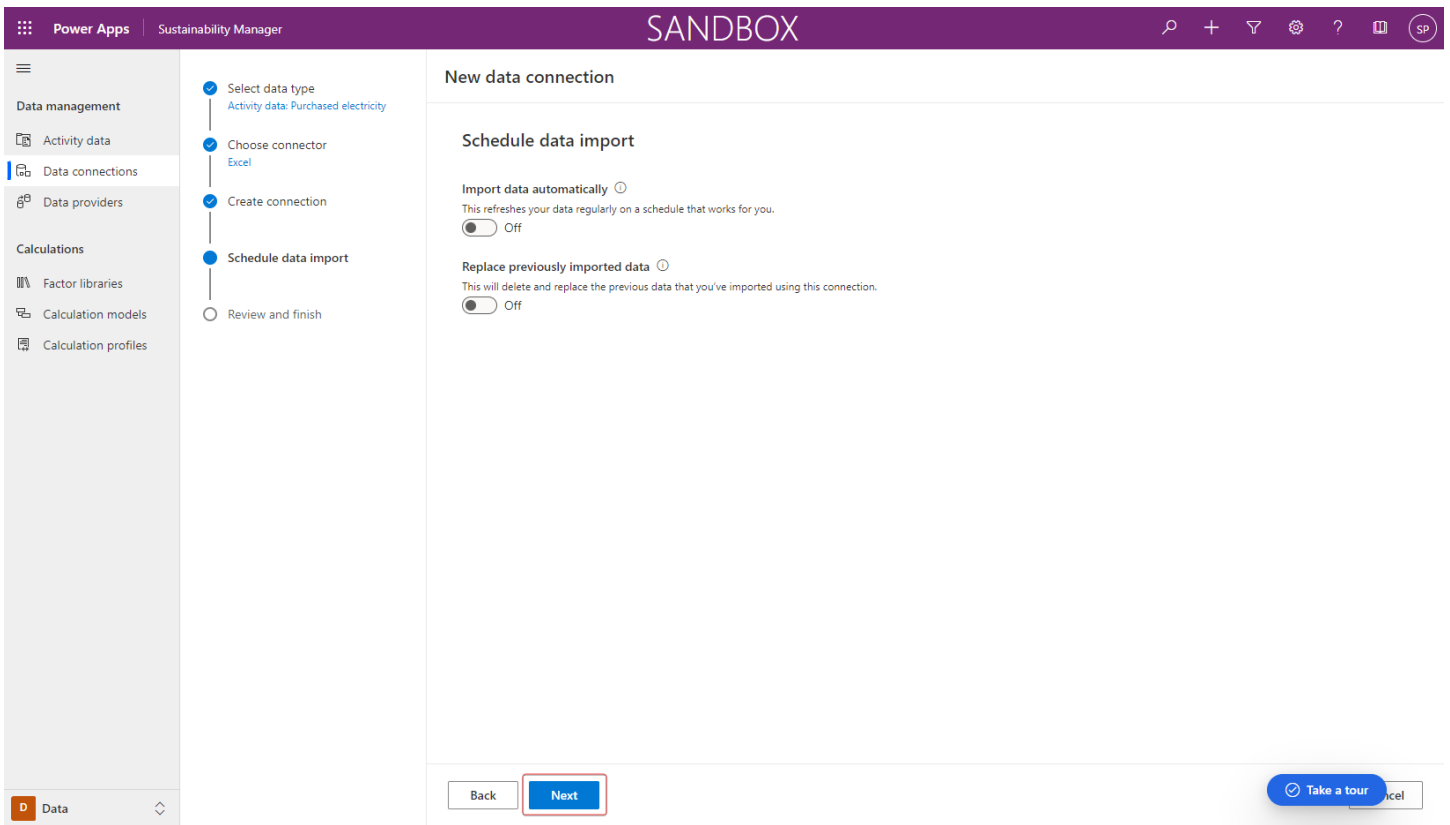


13. The "New data connection" wizard will now be on the Schedule data import page.

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.

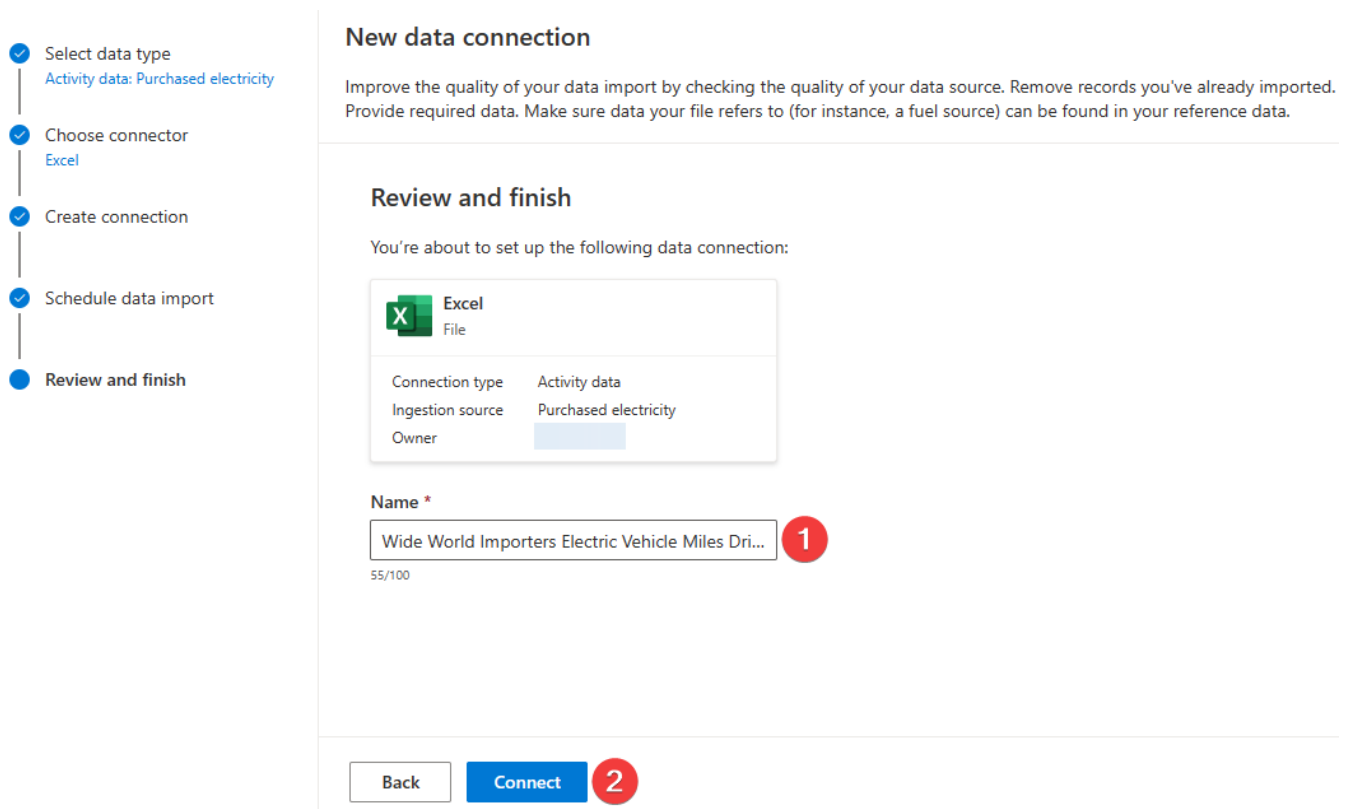
Turning on "Replace previously imported data" will remove all previously imported data and bring in the full data set that was retrieved, this may be a good option if the data source is not only providing data from the last import or always includes a full set of data. For this scenario of importing historical data, leave both options turned off.

Click **Next** when finished

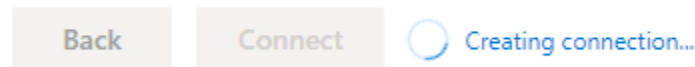


14. On the "Review and finish" page:

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



15. At the bottom of the window, there will be a message, **"Creating connection..."**



16. Once the connection is created, click **"Done"**

A screenshot of the 'New data connection' screen. On the left is a vertical progress bar with five steps: 'Select data type' (Purchased electricity), 'Choose connector' (Excel), 'Create connection', 'Schedule data import', and 'Review and finish'. The 'Create connection' step is currently active. The main area on the right has the heading 'New data connection' and a sub-heading 'Good job!'. Below this, it says 'You've set up the following data connection:'. A box displays the connection details: 'Excel File', 'Connection type: Activity data', 'Ingestion source: Purchased electricity', and 'Owner'. Below this is a text input field for 'Name' with the value 'Wide World Importers Electric Vehicle Miles Dri...' and a character count '55/100'. At the bottom are 'Back' and 'Done' buttons, with 'Done' highlighted by a red rectangle.

17. The **"Connections"** view will now be visible, along with the status of the recently created connection. It should say **"Processing"**

A screenshot of the 'Connections' view. It shows a table with two connections. The first connection is 'Wide World Importers - Elect...' with status 'Processing'. The second connection is 'Wide World Importers - Purc...' with status 'Complete'. The 'Processing' status is highlighted with a red rectangle. Above the table are filters and a search bar. Below the table is a 'Refresh' button.

Name	Connection type	Ingestion source	Owner	Last refresh	Next refresh	Inserted records	Status
Wide World Importers - Elect...	Activity data	Purchased electricity			—	—	Processing
Wide World Importers - Purc...	Activity data	Purchased electricity		8/11/2022 9:43 AM	—	24	Complete

18. 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.

Note: In case if you have more duplicate records than below screenshot, due to an issue with the following the correct data import steps, you must delete the activity data and redo the process. Reach out to the lab instructor for support.

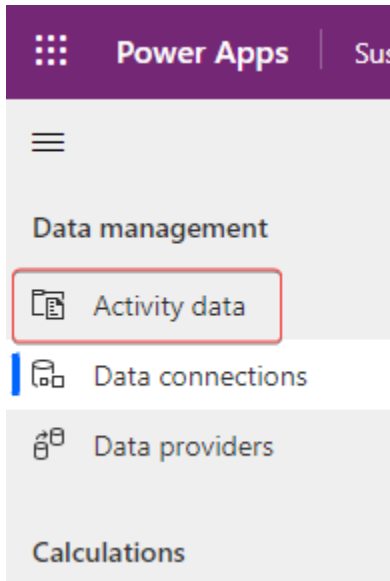
+ New Refresh

Connections [Clear all filters](#) [Filters](#) [List](#) ▼

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

Name	Connection type	Ingestion source	Owner	Last refresh	Next refresh	Inserted records	Status
Wide World Importers - Elect...	Activity data	Purchased electricity		9/7/2022 4:25 PM	—	480	● Complete
Wide World Importers - Purc...	Activity data	Purchased electricity		8/11/2022 9:43 AM	—	24	● Complete

19. Navigate to “**Activity data**” on the left side of the page.



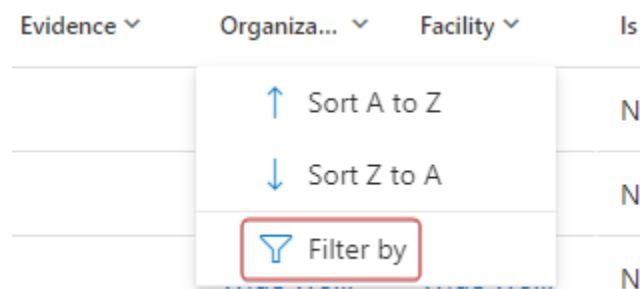
20. Find Purchased electricity in the Scope 2: Indirect emissions section, and click **View**

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	

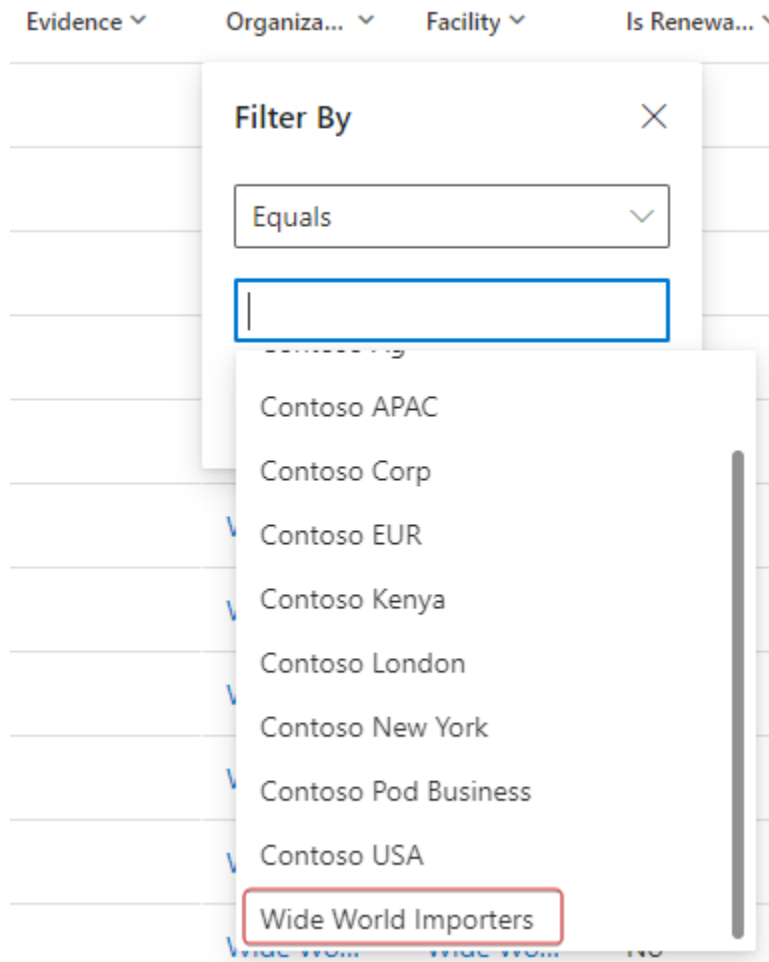
Scope 3: Value chain upstream ▼				
--	--	--	--	--

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

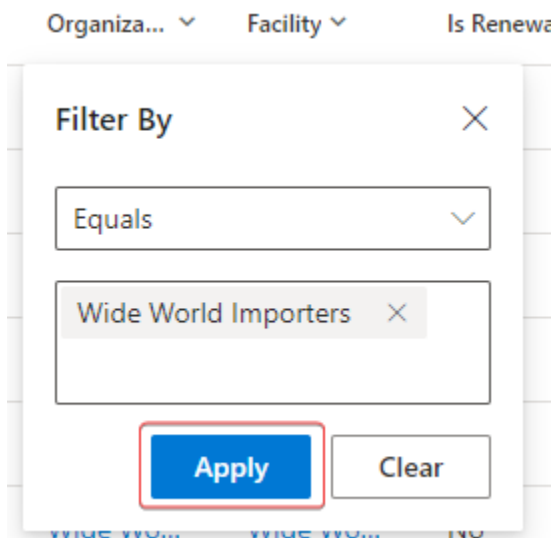
22. Filter the view by clicking the down arrow next to the **Organizational Unit** column, and selecting **Filter by**



23. Select **“Wide World Importers”** from the Filter By dialog



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



25. 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

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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.