Microsoft

SUS04T

Transform your data with the ESG Data Estate

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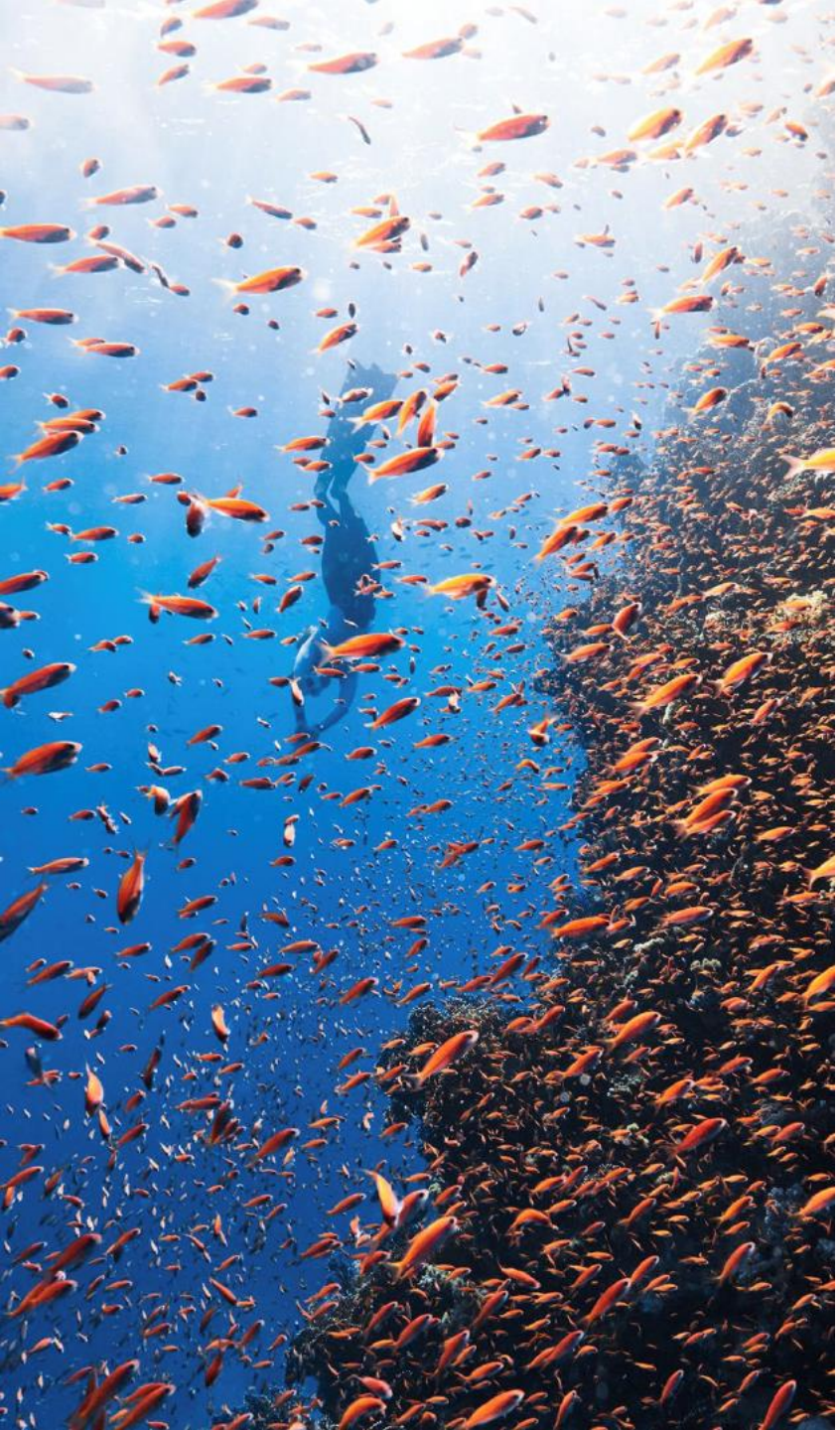


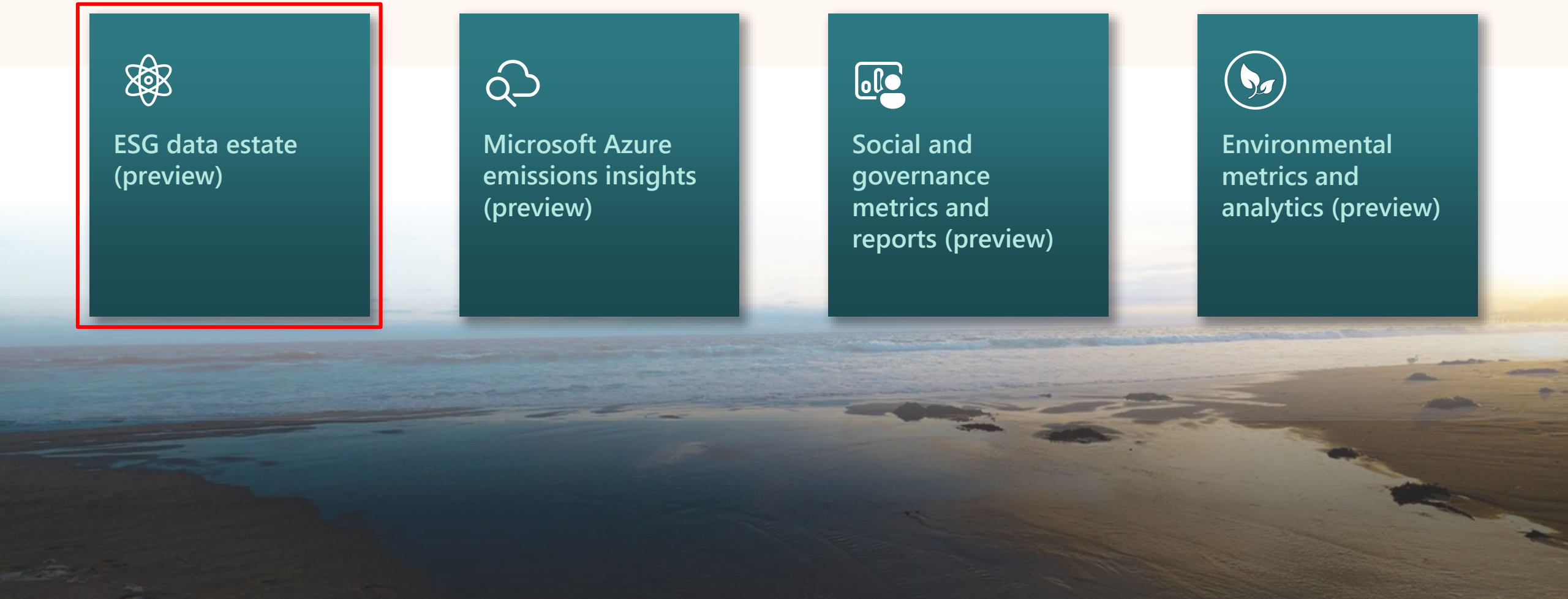
Agenda

- Introduction to ESG Data Estate
- Data ingestion in ESG Data Estate
- Understanding the ESG Data Estate schema
- Computing sustainability metrics
- Q&A

Introduction

Sustainability data solutions in Microsoft Fabric (preview)

Highly integrated, easy-to-use suite of services



ESG data estate (preview)

Ingest

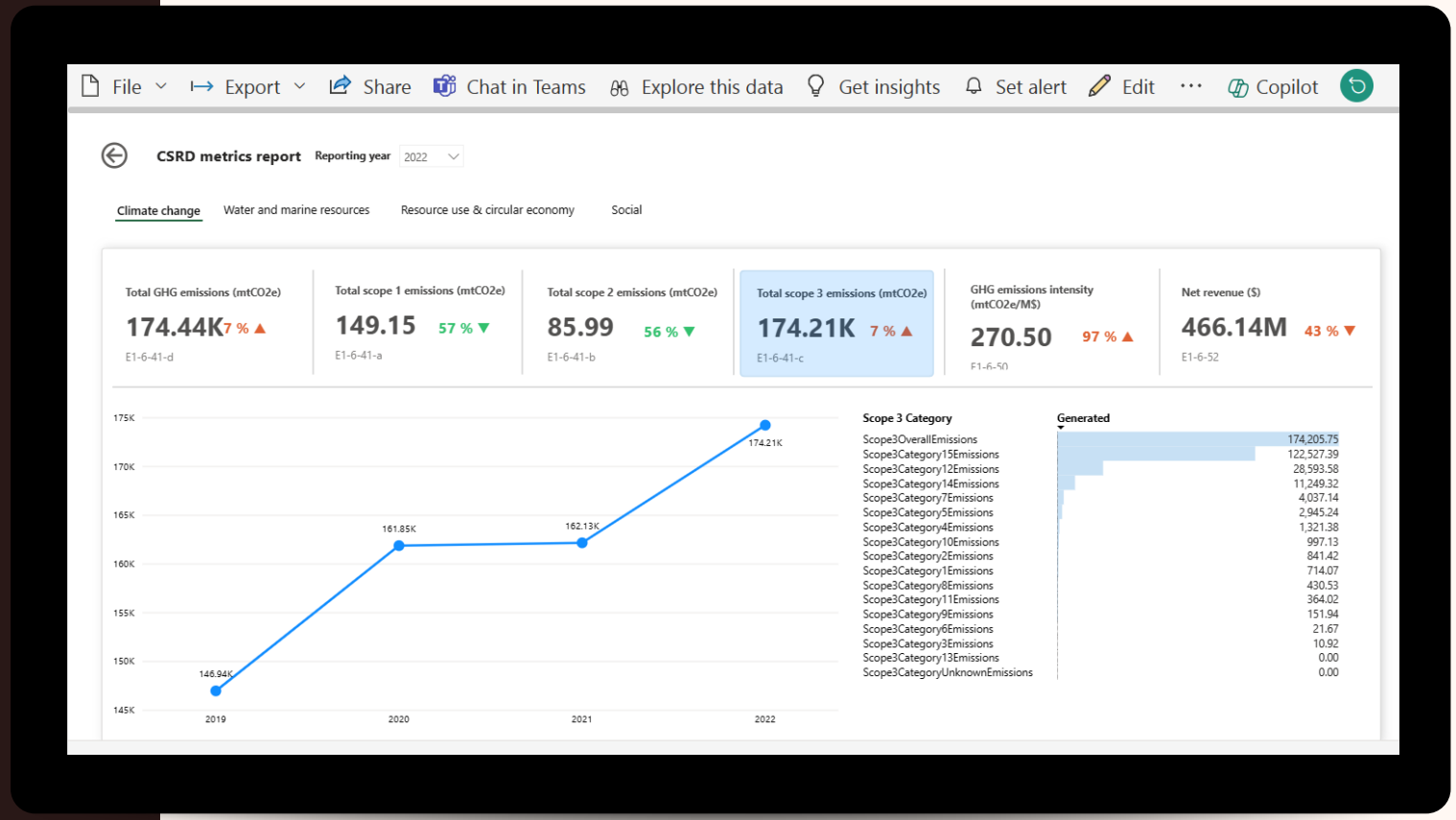
Ingest and standardize data from multiple source systems with the ESG data schema and lakehouses

Compute

Use pre-built or build custom data processing artifacts for consumption scenarios

Visualize

Visualize data analytics and insights with built-in and custom dashboards



ESG Data Estate (preview) overview

IngestedRawData
External data "as-is"

Industry data template

Unify and harmonize from data

Transform into industry data model

Enrich with enterprise and external datasets

ProcessedESGData
Standardized ESG data

Industry data rules

Aggregate into business-friendly

Prepare analytical datasets

CSRD metrics dashboards

ComputedESGMetrics
ESG metrics and datasets

Raw ESG data	**Standardized sustainability data**		**Computed sustainability metrics**	
Stores disparate data "as-is" from various data sources	Transforms raw data to a standardized ESG schema	Stores the standardized raw data in SQL tables based on the ESG schema	Aggregates standardized ESG data into analytical datasets Computes defined quant. ESG metrics	Stores aggregated datasets and computed metrics in SQL tables

Dashboards
Dashboards to explore ESG data

Data ingestion

Data sources and targets in ESG Data Estate

IngestedRawData
External data “as-is”

Extract raw ESG data

- Surface ESG data from external sources in the IngestRawData Lakehouse in Fabric
- An “as-is” representation of raw data

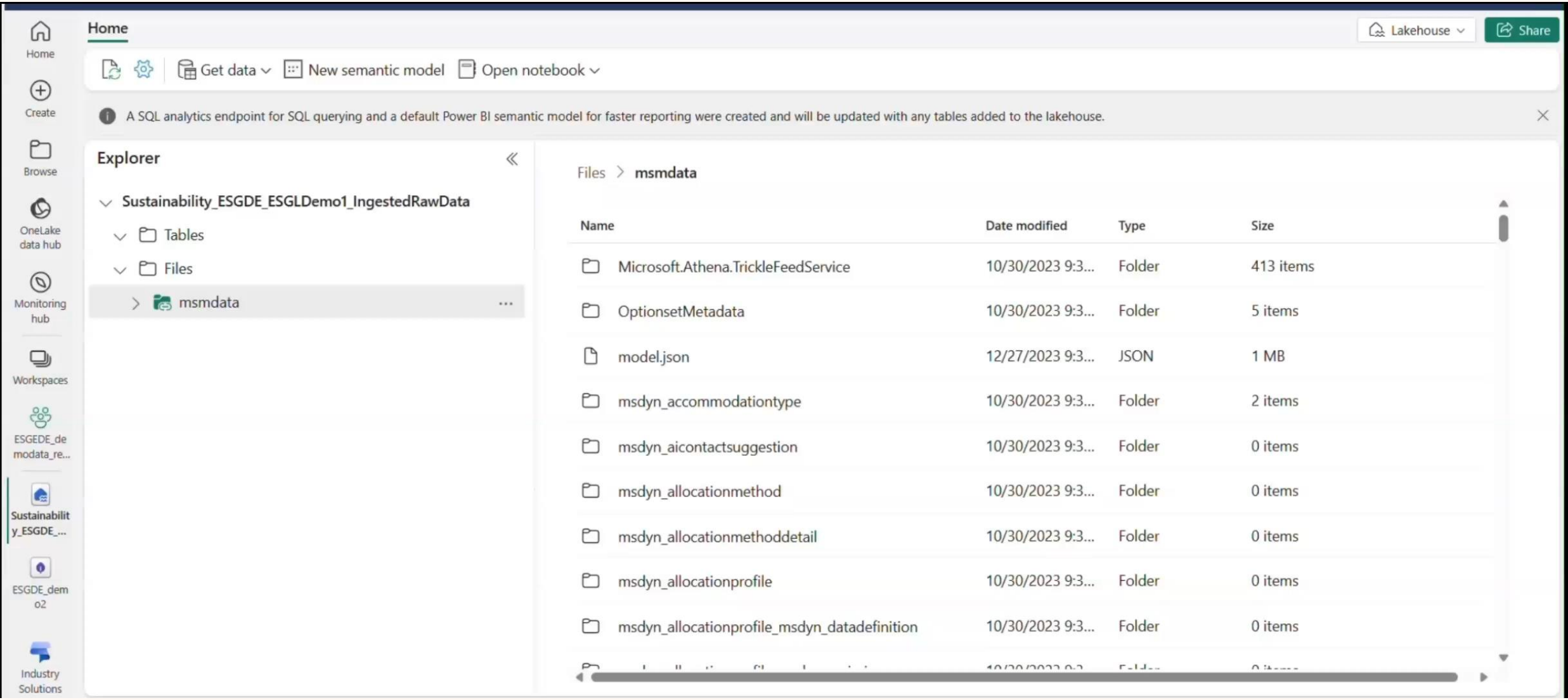
Methods

- Ingest data using Fabric Pipelines
- Connect data using Fabric Shortcuts

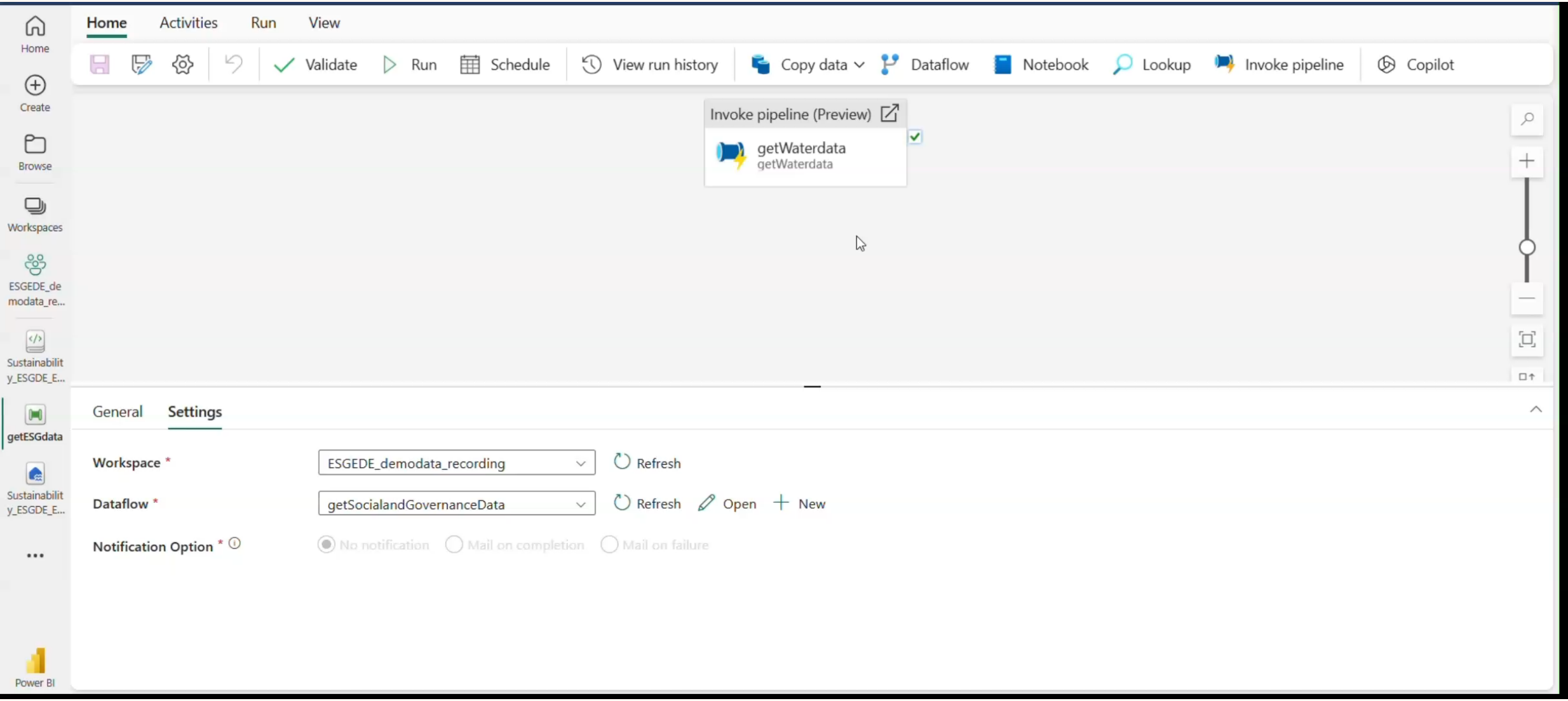
Considerations

- SDSF supports full loads

Demo – Connecting raw ESG data



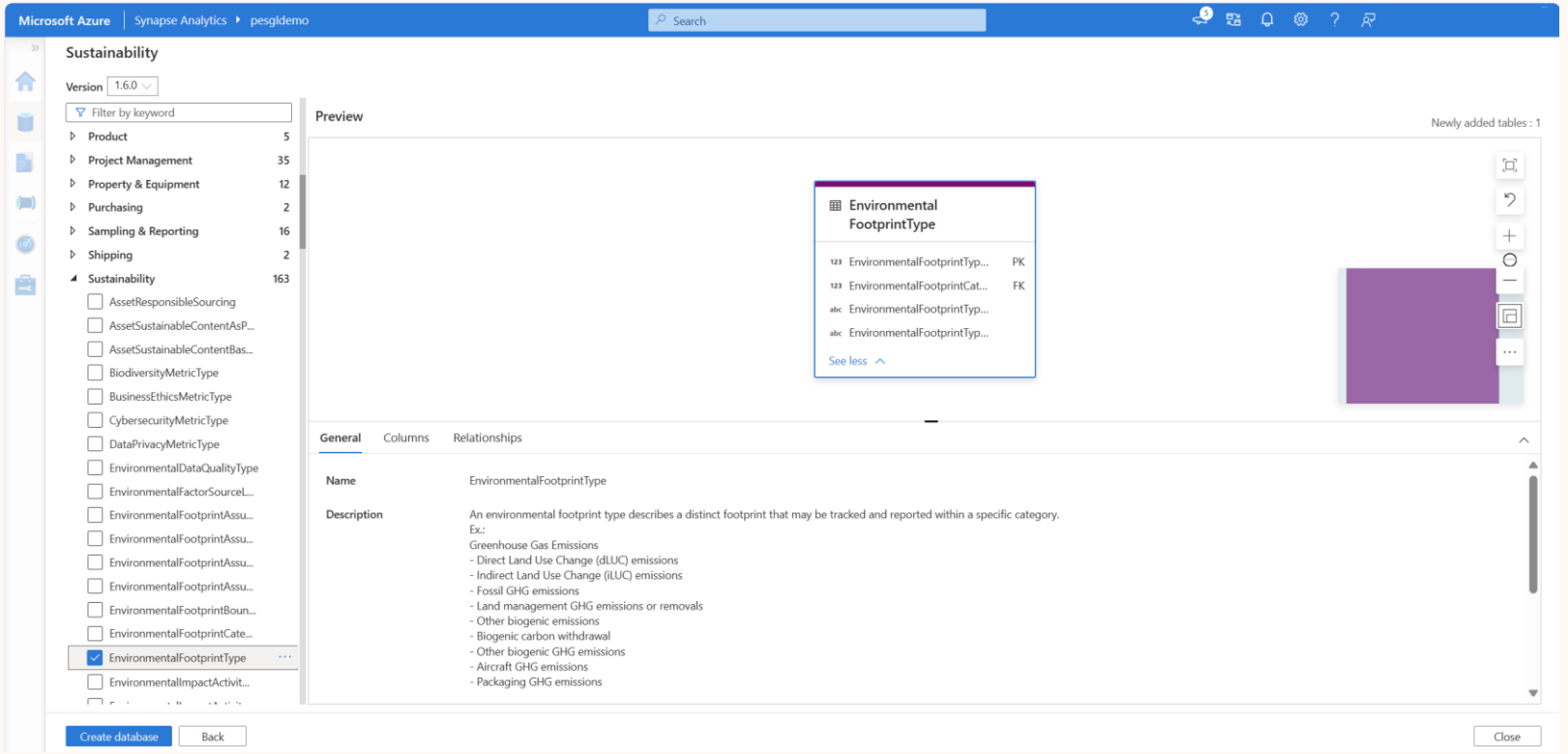
Demo – Ingesting raw ESG data



Exploring the SDSF schema

Using Azure Synapse Studio

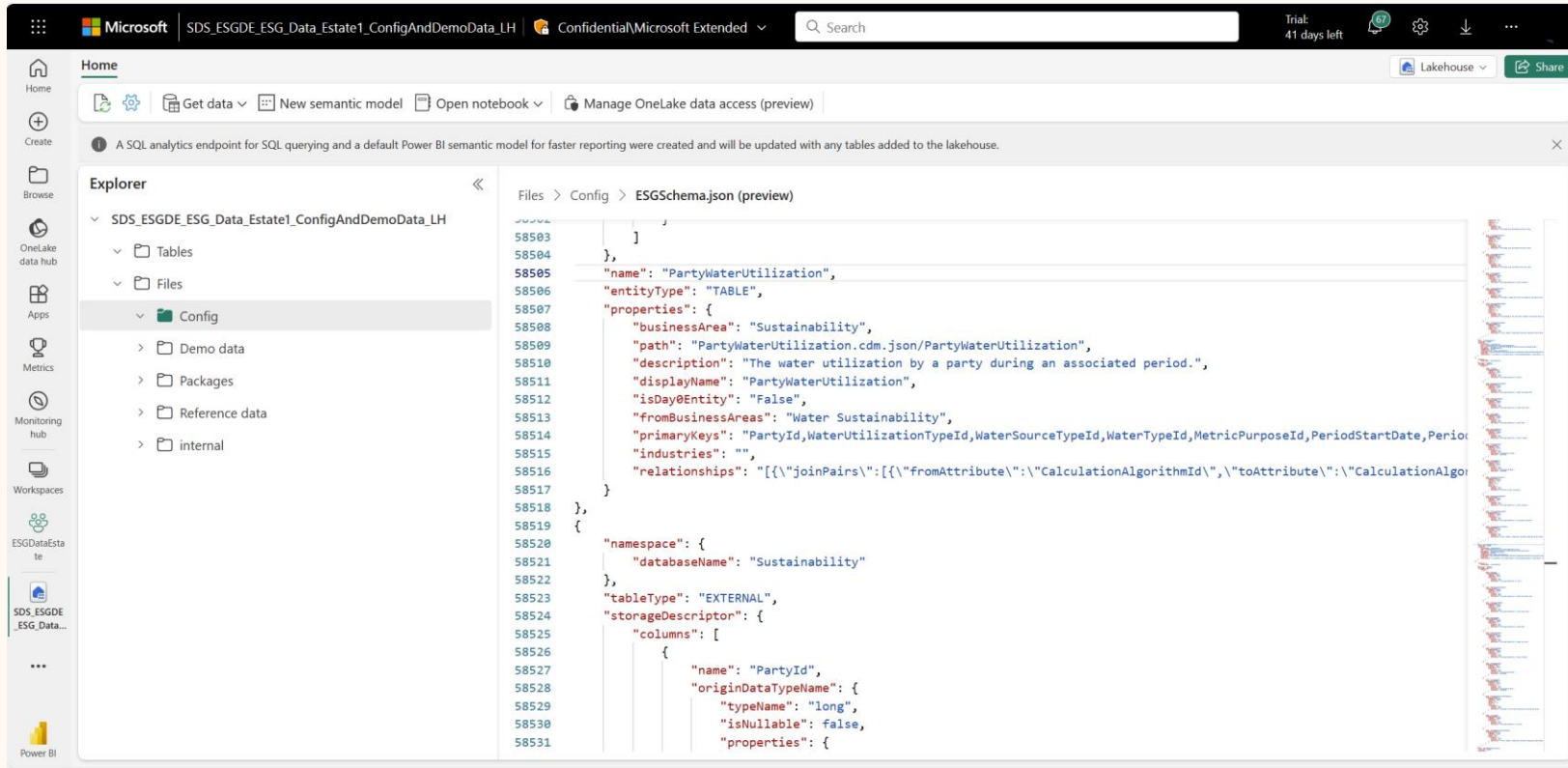
- Go to Synapse Workspace > Open Synapse Studio > Data > Gallery Database templates > Sustainability
- Search for the appropriate ESG table in the Sustainability data model
- Look at the description, fields and dependencies of the table



Exploring the SDSF schema

Using SDSF data dictionary

- Go to Fabric workspace (with SDSF) > SDS_ESGDE_xxx_ConfigAndDemoData_LH > Files> Config > ESGSchema.json
- Search the appropriate ESG table in the Sustainability data model
- Look at the description, fields and dependencies of the table



Data sources and targets in ESG Data Estate

ProcessedESGData
Standardized ESG data

Transform data to SDSF schema

- Explore the SDSF schema and select the right target tables to send data to
- Standardized sustainability data per SDSF schema

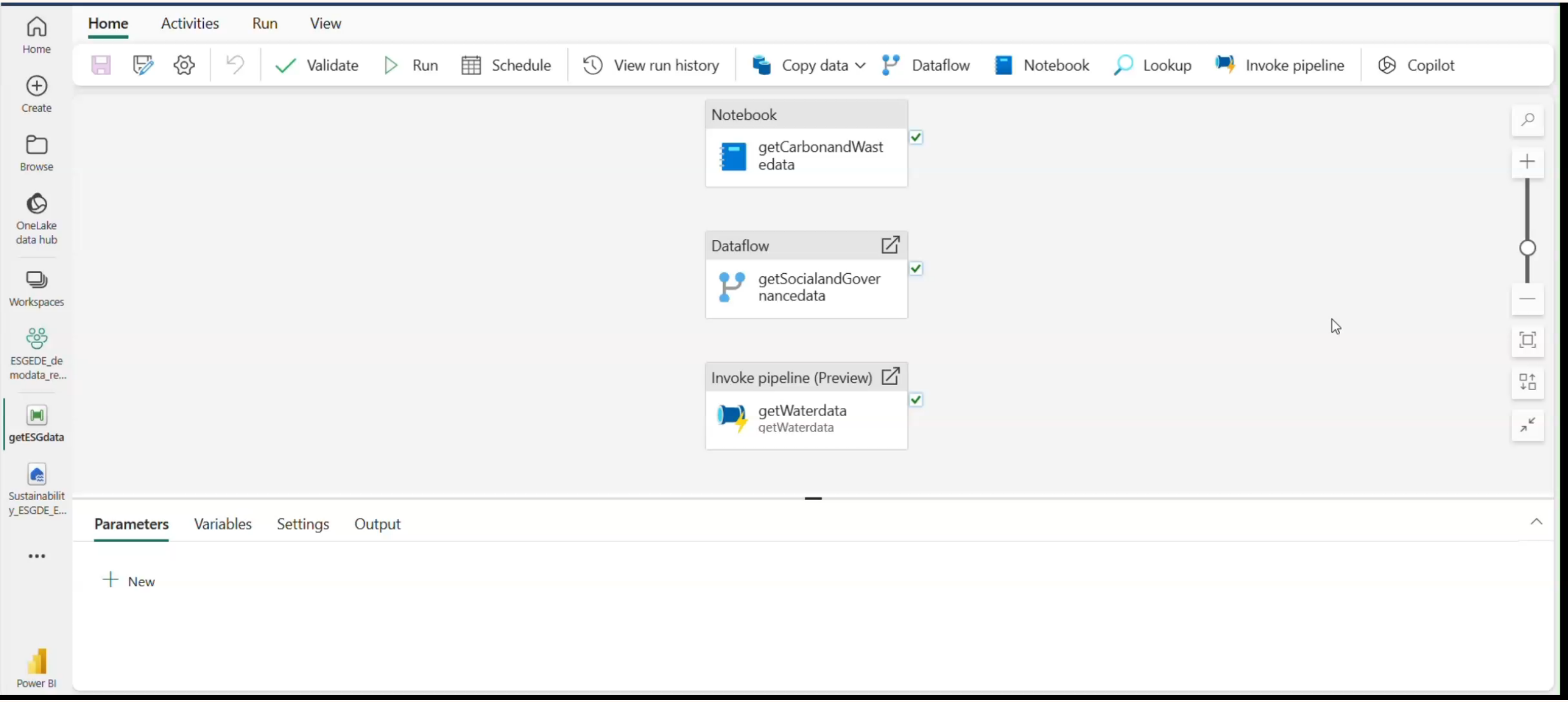
Methods

- Fabric Notebooks
- Fabric Dataflows Gen 2

Considerations

- Built-in notebook to transform MSM data

Demo – Transform and load data into SDSF



Extending the ESG schema

Understanding the SDSF schema

Environmental tables - Common

- Party: Metadata for any entity in the organization such as facility, business unit, supplier etc.

Environmental tables - Emissions

- Measurement tables named as “xxxGREENHOUSEGAS”
- Store Carbon and GHG emission quantity at process, party, asset level
- Metadata tables named as “GREENHOUSEGASxxx”
- Store Greenhouse gas type, emission source, emission factor information etc.

Environmental tables - Water

- Measurement tables named as “xxxWaterUtilization”
- Store water withdrawal, discharge and consumption volumes at process, party, asset level
- Measurement tables named as “xxxWaterQuality”
- Store effluent discharge quantities at process, party, asset level water samples

Understanding the SDSF schema

Environmental tables - Waste

- Measurement tables named as “xxxWaste”
- Store waste generated, recovered and disopsed volumes at process, party, asset level
- Measurement tables named as “xxxWasteQuality”
- Store hazardous waste effluent quantities at process, party, asset level water samples

Social - EHS

- Measurement tables named as “xxxHealthSafetyxxxMetric”
- Store EHS data – training, safety incidents, service disruptions etc.

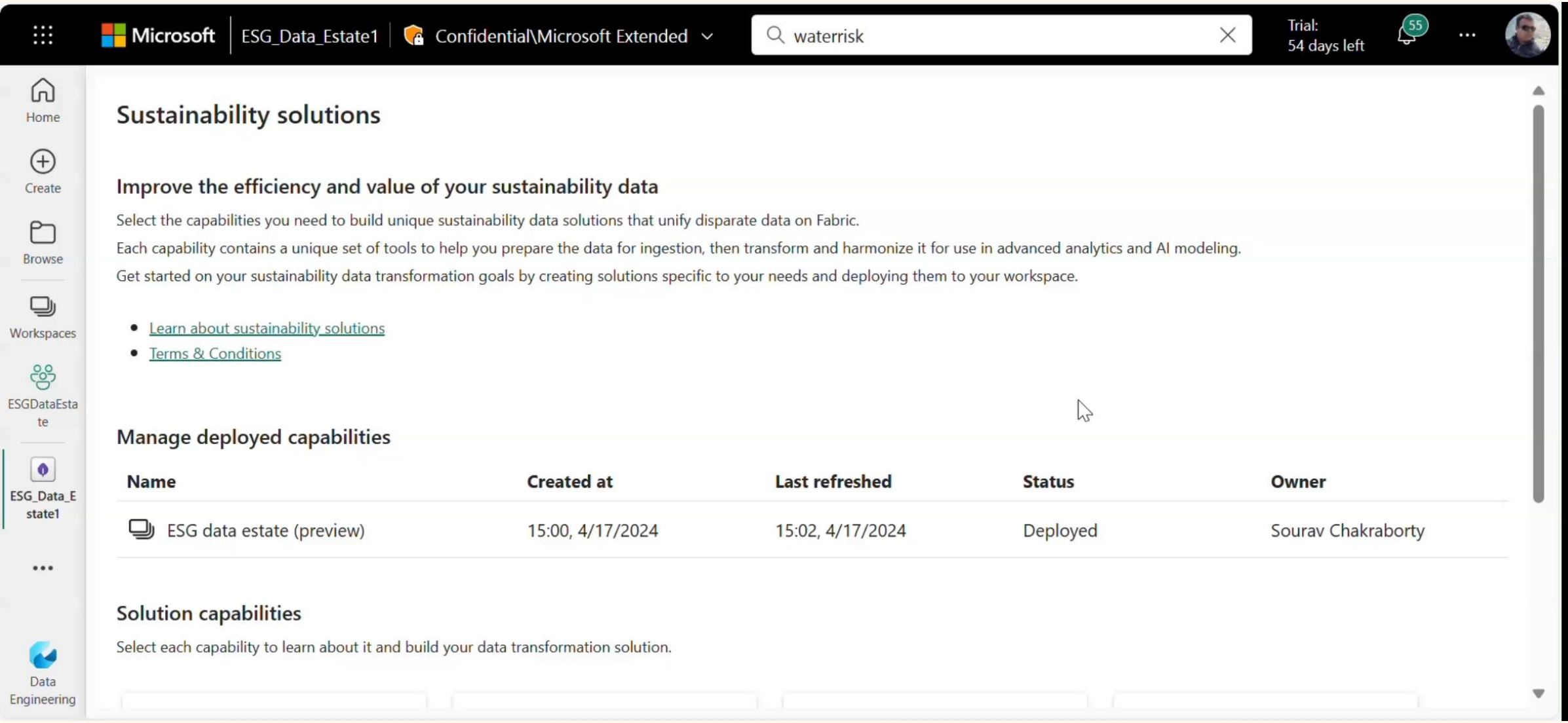
Social - Employee

- Store employee composition data – board of directors, pay & gender diversity,

Other tables

- Tables related to biodiversity, corporate governance

Demo – Decorate water data with water risk scores



Computing sustainability metrics

ESG Data Estate

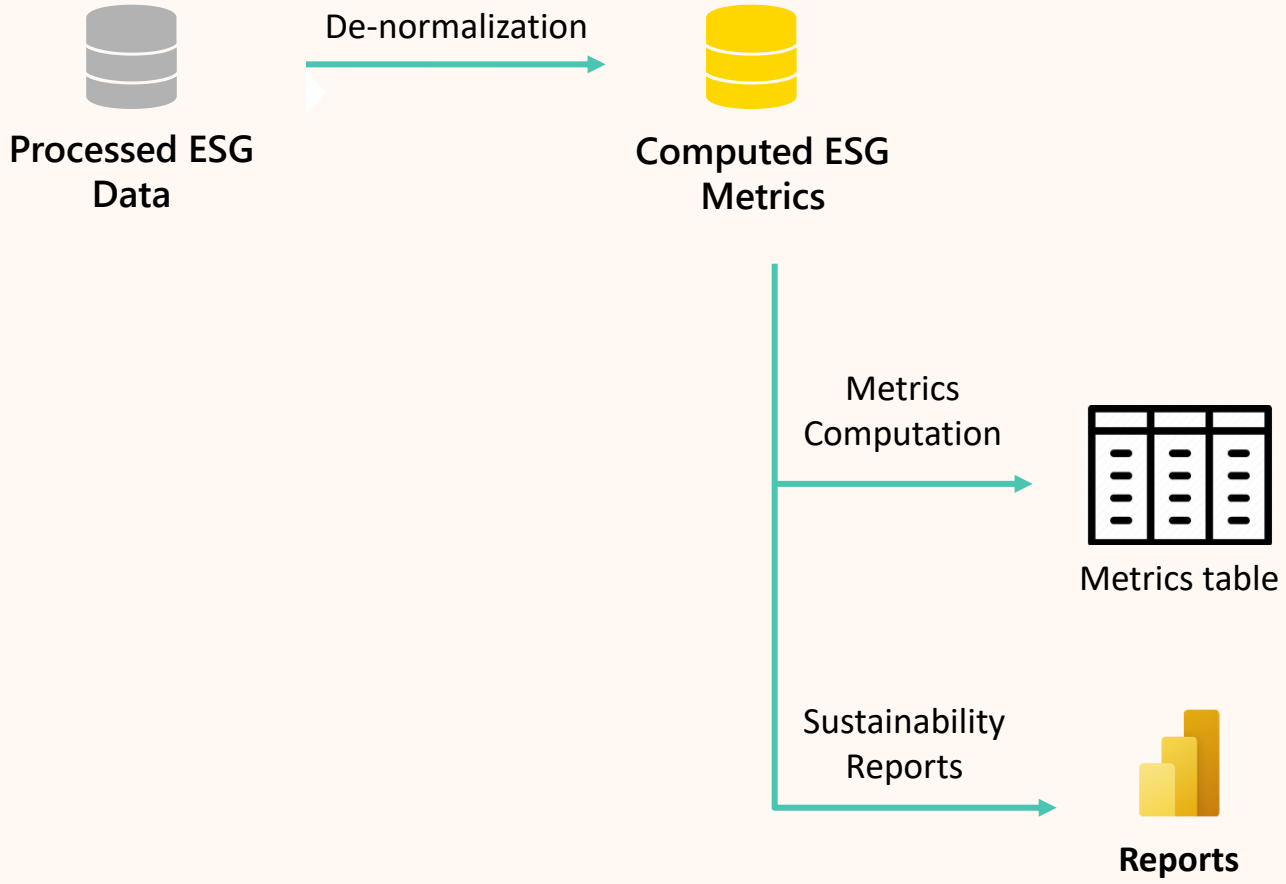
Computing metrics

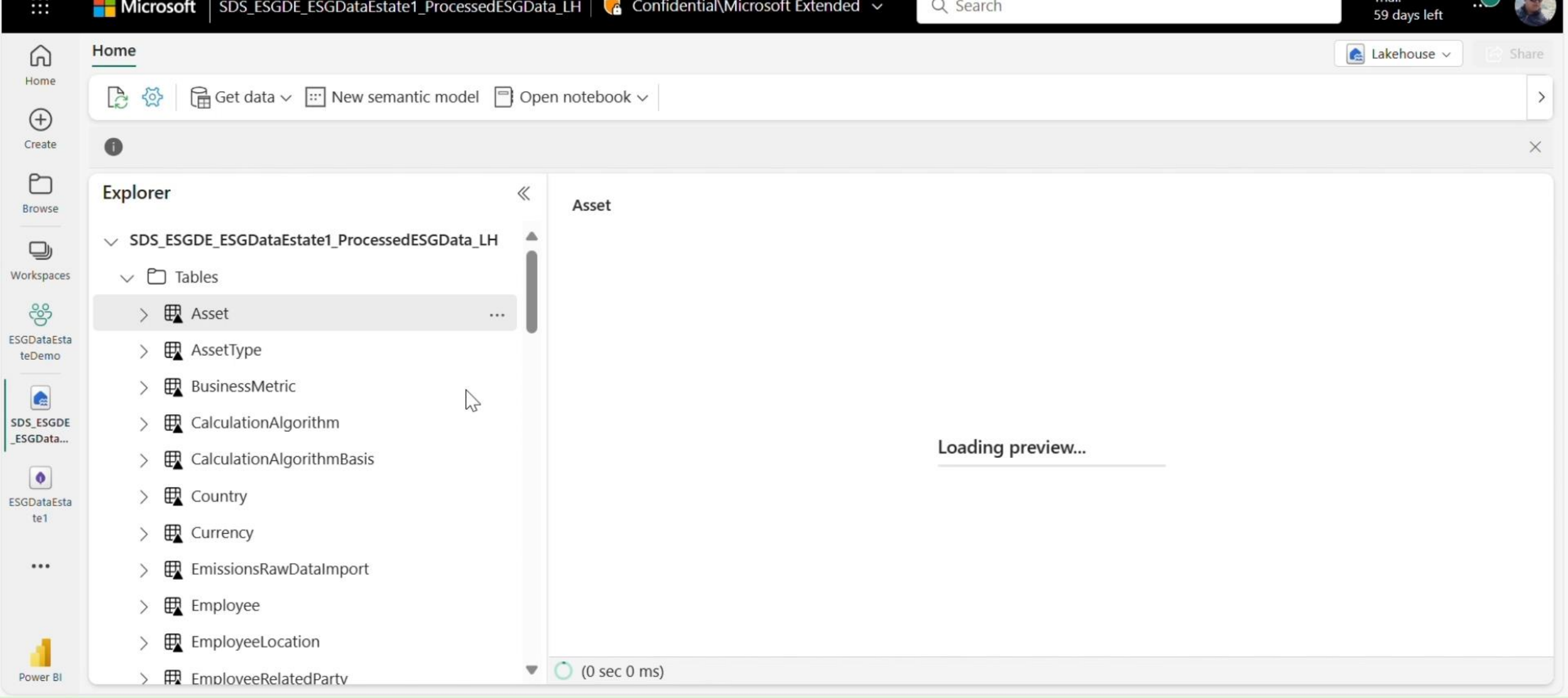
De-normalization

Configurable to generate fact tables to support ESG metrics and analytical dataset

Metrics and reports

Customizable, extensible, and supports mandatory CSRD related metrics

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Power BI

ESG Data Estate

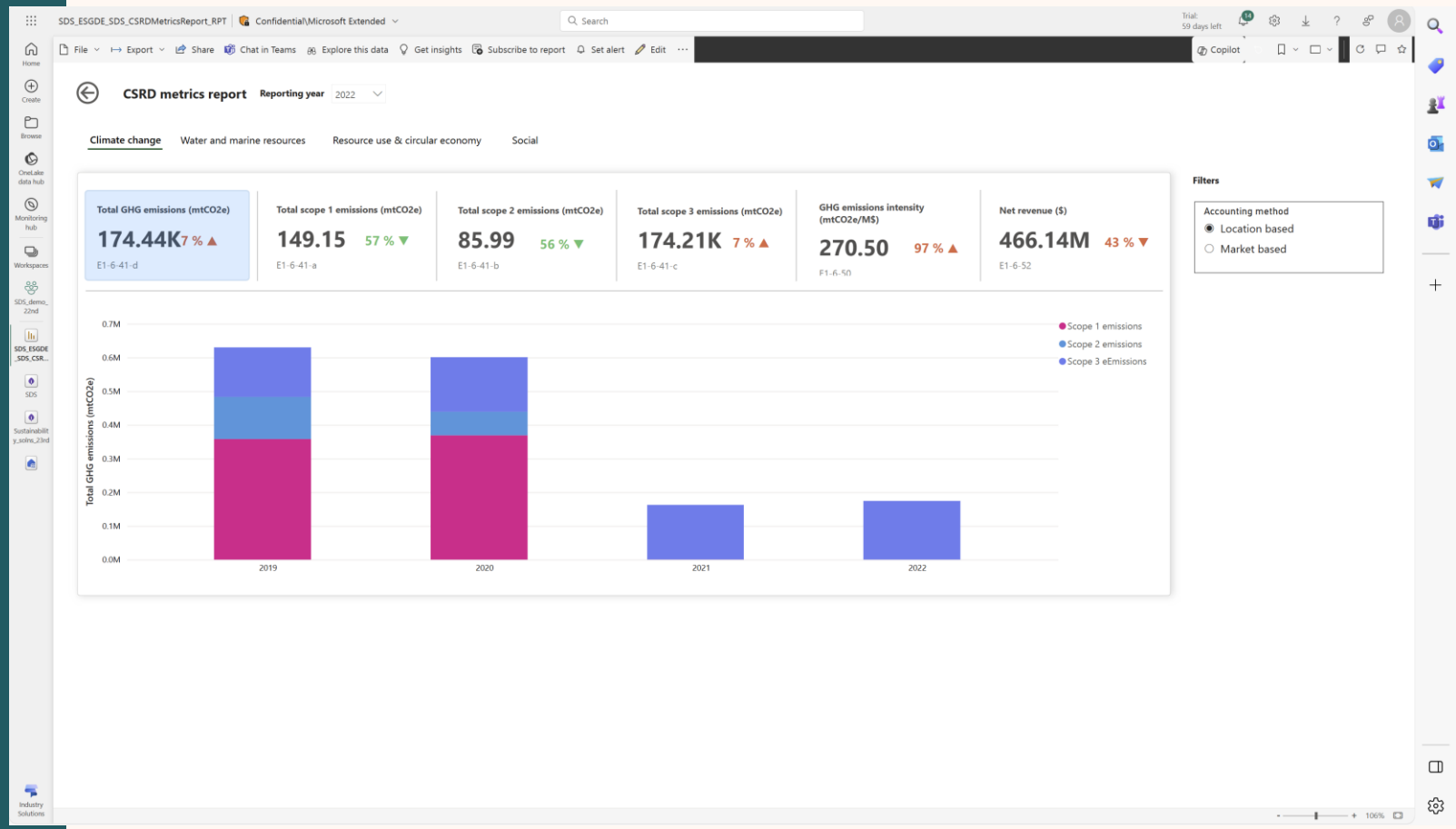
Visualizing data

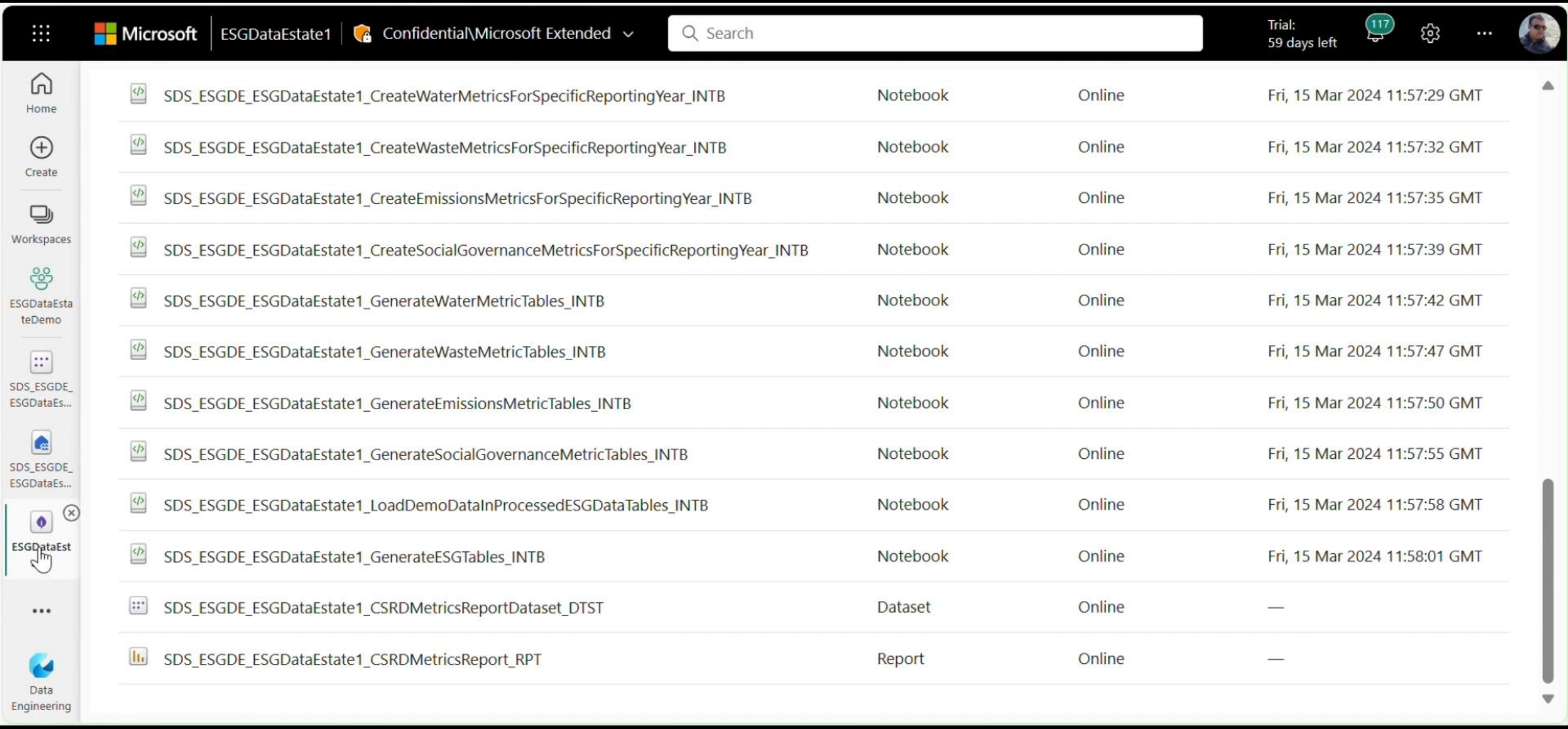
Pre-built dashboards

Pre-built dashboards to visualize and explore metrics data

Power BI

Use Power BI with a semantic data model

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Related sessions

Focus on Sustainability Data Solutions

Session	Title	Abstract	Speakers	Date
SUS04M	Introduction to Sustainability Data Solutions in Fabric (SDSF)	This introductory session will guide you through the foundational features of Sustainability Data Solutions in Fabric (SDSF). We will also uncover deployment best practices to maximize your Environmental, Social, and Governance (ESG) impact and investments.	Ravindran Gangadharan, Sourav Chakraborty	Monday, May 6
SUS05M	Audit compliance for Sustainability regulations	Discover how to adeptly navigate disclosure reporting requirements and utilize Microsoft Cloud for Sustainability to enhance the audit process, ensuring precision and compliance every step of the way. This session will provide an overview of the audit requirements for disclosure reporting and the capabilities provided by Microsoft for streamlining the audit process.	Neha Gupta, Chintan Rajvir	Monday, May 6
SUS05T	Microsoft Azure Emission Insights + Azure Carbon Optimization	Learn how to obtain, visualize, analyze, and optimize emissions data for Azure workloads. Discover the capabilities of Azure Carbon Optimization and Microsoft Emissions Insights offerings, and how they can empower you to make data-driven decisions for a more sustainable cloud environment.	Sourav Chakraborty, Kiran Motwani	Tuesday, May 7
SUS04W	SDSF + Azure OpenAI service + Azure AI Studio = An open platform for Copilot	In this session we will show you examples of leveraging an integration between the ESG data in Fabric and Azure AI services to meet sustainability analytic use-cases.	Sourav Chakraborty, Chintan Rajvir	Wednesday, May 8
SUS04R	Integrating Azure AI's Document Intelligence models with Sustainability Data Solutions in Fabric	Learn how to extract and transform unstructured data from sources like images, documents and forms, into structured data stored within delta lakes. We'll guide you through the process of creating an Azure AI instance, integrating with Azure Key Vault, and using SDSF notebooks to convert images or documents into usable data which can be further used for analysis within Fabric.	Abhinav Premsekhar, Deep Baldha	Thursday, May 9

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Thank you!

- **How was the Summit? Share your feedback!**
  aka.ms/MCfSTSFeedback
- **ESG Data Estate documentation**
  ESG data estate (preview) - Microsoft Cloud for Sustainability
- **Join the Sustainability Community!**
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- **Learning Resources**
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Q&A

Please type your questions **in the chat** and we will answer them during the Q&A session.