



# Helping a natural gas company harness the power of ESG data

Creating a data and reporting infrastructure able to support affordable energy, reduced emissions, and a stronger local community.

**KPMG. Make the Difference.**





## Key facts

**Client:** A US-based natural gas company

**Industry:** Energy and chemicals

**Primary goal:** To transform data management and ESG reporting capabilities

**Primary platform:**  
Microsoft Azure

A natural gas company knew that its data management and reporting capabilities could not support the levels of insight, transparency, and accountability it was pursuing. In addition, regulatory reporting had become a complicated, time-consuming process with increased risk. The company engaged KPMG to help define, develop, and deploy infrastructure on the Microsoft Azure<sup>®</sup> platform to improve reporting capabilities, deliver more accurate and timely regulatory reports, analyze the impact of equipment emissions to inform field operations, and build stakeholder confidence in the company as a trusted provider of affordable energy and steward of the local community.

## Outcome highlights

Key outcomes	Reduction in ESG regulatory reporting timelines	Daily updates to operational and emissions data	Greater transparency for increased stakeholder trust
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# Client transformation journey

## Before

### Commonly accepted data management practices left insights hidden from view.

Although an industry leader in terms of its decarbonization and net-zero goals, our client was like many energy companies when it came to ESG data strategy, management, and reporting capabilities.

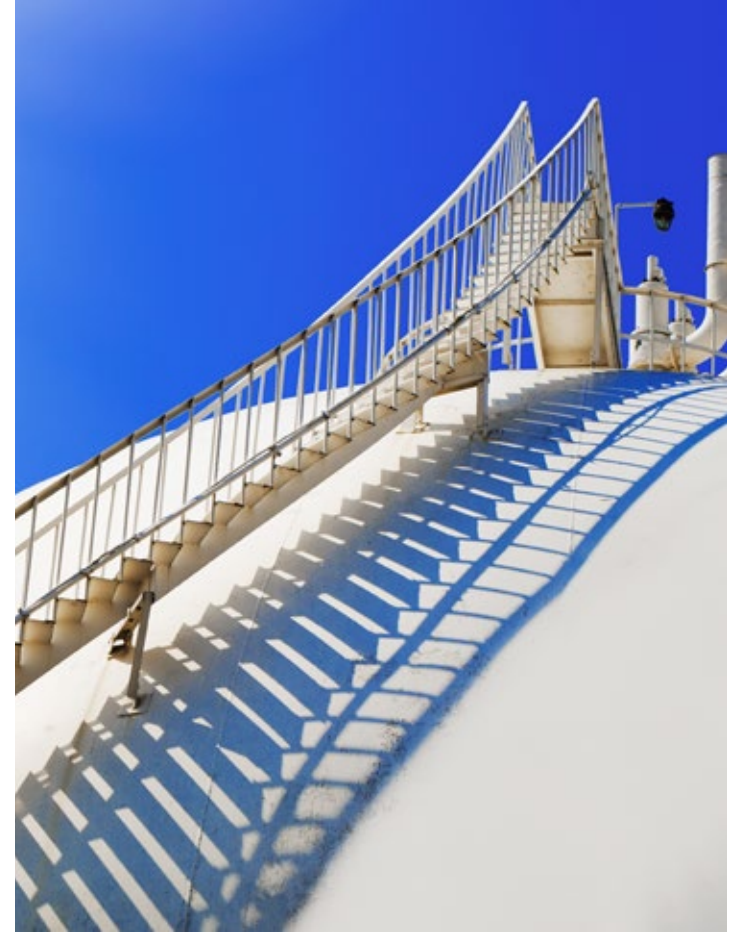
The company relied on highly manual processes to gather, interpret, validate, and reconcile emissions data from disparate sources. That data, spread across multiple states, numerous facilities, and more than a dozen legacy systems, was gathered with the help of third-party consultants. It was ultimately compiled into massive spreadsheets with dozens of tabs and scores of columns and VLOOKUPs, making the spreadsheets decipherable by only a few people in the company. Validations and controls consisted largely of manual checks for missing or anomalous values.

Limited visibility into the reporting process reduced confidence in the accuracy of reported greenhouse gas emissions. Delivering regulatory reports on time was a challenge. It took months, sometimes a year or longer, to prepare one year's worth of filings, and even with all the time spent and money invested in consultants, the company felt it was not achieving the level of transparency it was seeking.

In addition, because the company was unable to aggregate data across domains (i.e., air quality, water usage, waste, field ops, energy usage, etc.) and unable to perform granular analysis, leadership was deprived of key insights that could validate the effectiveness of current emission-reduction efforts and drive more informed strategic and operational decisions. Leadership was presented with data that was often a month old and had unclear lineage as there was no traceable data path from field operations to final reports.

Existing ESG data capabilities not only made reporting and strategic decision-making more difficult, but also failed to support the company in the kinds of industry-leading conversations it wanted to facilitate—conversations around the role of bridge fuel in meeting the energy requirements of expanding populations and economies. And the need for transparency into the impact energy production has on the environment and communities, along with ways to mitigate and balance those impacts through initiatives that create real, measurable differences that contribute to the health of communities and the planet.

Company leadership determined that they needed to get to a point where they were as timely, accurate, and robust in their ESG data as they were in their financial data. And they needed to get there fast.



Once the engagement was complete, our client was able to produce repeatable and controlled monthly estimates of their emissions footprint at the federal, state, and local levels.

—**Steven Arnold**

Partner, Advisory, and Financial Services  
Data and ESG Leader

## After

### A steady supply of insights powers an ambitious ESG strategy.

Just six months after the company decided to implement a holistic Microsoft Azure infrastructure, the vice president of Non-Financial Regulatory Reporting logged into the new platform for the first time. He quickly discovered that he could view CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emission volumes aggregated by time period, location, region, and equipment category. He found he could access near-real-time data related to an individual well pad—from equipment and activities to production, water usage, waste, and emissions. He checked methane intensity scores for a single well and then compared them across all wells. He explores predictive models that alert the company to potential equipment leaks before they happen.

Knowing that the data he was viewing has been pulled directly from each facility across multiple states and put through a series of validations and controls, helped him begin to trust the data. As he continued pulling up dashboards and drilling down into visualizations, his teammates overheard him repeating a single phrase that captures what it's like to suddenly see your company's ESG performance come this sharply into focus: "This is so cool."

The reaction to this level of automation was the same across the company as team members gained access and logged on. All the while, the platform was busily ingesting, integrating, and analyzing data from over 14 legacy applications and numerous classes, drawing from 4,400 wells and over 3,000 miles of pipeline. People freed from manually wrangling data invested more time in studying what the data is saying—ranging from which emission reduction efforts are proving most effective, to which wells are most efficient in their water usage, to energy production ratios. Perhaps nothing speaks more to the trust the company had in its data than the fact that it began linking executive compensation to progress toward the company's sustainability goals.

When it came time for regulatory filings, the team looked forward to what their new environmental data hub could do, and they weren't disappointed. While past filings had taken many months, the hub helped complete the process in less than one.

Better data is giving this natural gas company the ability to be accountable, transparent, and ambitious in its ESG ambitions; prompt and complete in its regulatory reporting; and responsive to its customers, investors, employees, and communities.

## Next

### As ESG ambitions continue to grow, this platform grows along with them.

As common ESG metrics and reporting frameworks change, companies that invest in the infrastructure to accurately measure, monitor, and report sustainability data will be better positioned than competitors to respond to regulatory uncertainty. Our natural gas client's platform built on Microsoft Azure will give it the capabilities and flexibility to align its data strategy, management, and reporting to meet ESG reporting requirements, pursue new ESG goals, and build stakeholder trust in a changing, healthier world.



# KPMG assembled a cross-functional team with the right depth and breadth of experience.

A leading natural gas company engaged KPMG to assess and improve its air and water quality data collection and management, and to review the processes and technology infrastructure. To support goals and improve regulatory reporting capabilities, we brought together a cross-functional team of professionals from financial services data, commercial energy, solutions, and climate technology.

Our high-level goals were to help our client modernize its capabilities in ways that would allow it to automate, generate insights, and align reporting capabilities to leading standards. To provide the kind of infrastructure necessary to support such capabilities, we teamed up with Microsoft.

## Starting with the right strategy

KPMG worked closely with the company to develop a strategy based on leadership and user needs, the knowledge that accurate ESG insights are based on data gathered both upstream and down, the company's ESG regulatory reporting requirements as well as its ambitious ESG goals, and the challenges being created by its current data and analytics capabilities.

## Defining and developing an effective implementation

Once we had a clear strategy, we helped our client envision and design an ESG data management and reporting platform on Microsoft Azure that would increase insights, transparency, stakeholder trust, and data-driven decision-making.

Functionality and capabilities included:

- Near-real-time views into emissions data at both location-specific and equipment-specific levels
- Automated processes to ingest, validate, and integrate activity and asset data from financial and operational systems
- Over 200 controls and validations to help ensure cross system data accuracy/data model integrity
- Powered BI dashboards featuring operational and calculated emissions data that is refreshed and updated on a daily basis
- Dynamic and comprehensive views of Scope 1 emissions data.

Since this implementation, KPMG has developed accelerators specifically for the energy sector using Microsoft Azure microservices, including PowerApps®, Databricks, and Data Factory®, to:

- Investigate the key drivers of emissions at the asset level
- Model impact of planned strategic reductions
- Identify key predictors of leaks and classify wells/pads based on likelihood of leaks
- Confirm impact of field operations and contractor changes (e.g., process improvements and asset upgrades).

## Leveraging the power of Microsoft Azure

KPMG, in collaboration with the client, used Microsoft Azure's services and infrastructure to design a versatile and scalable solution capable of supporting data management, automation, and analytics in a cost-effective manner. Azure's flexibility enabled a solution design that integrated with other cloud-based platforms used by the client.

**Turning insights into opportunity.**

**Keep up with new opportunities and changing requirements.**

Our team of knowledgeable and experienced sustainability professionals understands the complexity of the ESG landscape, from aligning ESG initiatives to business goals in ways that improve performance to navigating regulatory reporting and keeping up with changing requirements. Let our team help you stay on top of ESG issues that are relevant to your business. Sign up for ESG alerts.

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**Meet the team that made all the difference for a natural gas company with ambitious ESG goals.**

Let's talk about what a modernized ESG data management and reporting platform could mean for the future of your business.



**Start a conversation**

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