

BEING DATA DRIVEN IN
THE ENERGY SECTOR —
IT DECISION MAKERS'
VIEW OF EMEA





Introduction

The energy sector is acclimatized to facing strong headwinds and have proven adept at adjusting to often rapidly shifting business conditions — whether that is regulatory change, big fluctuations in supply and demand, or evolving security supply chain concerns. With the recent lived and experienced energy crisis across Europe, organizations have had to respond in the best way they know how, and from the data and information they're given. Organizations that have data strategies in place will likely see more success than those who do not, as they leverage the data they have to remain competitive and meet the challenges of tomorrow, as they strive to meet customer needs and gain traction in their market.

This executive summary takes a deeper analysis of the energy industry based on insights from our 2021 [“Cloudera Enterprise Data Maturity Report: Identifying the Business Impact of an Enterprise Data Strategy”](#).

The key takeaways from the research are as such:

- **Reducing risks and costs, and improving the customer experience** are top of the agenda
- **Leveraging innovative analytical tools and methods** are a priority when it comes to data management
- Organizations are adopting **enterprise data strategies**, and report areas of much needed improvements to optimize their data
- Organizations that leverage **Enterprise Data Cloud capabilities** create opportunities for new business frontiers in a hybrid world.

37%

of ITDMs in the energy industry report completely achieving and having the necessary enterprise-grade standards in place for security, back-up, and disaster recovery across all environments.

Priorities when managing data in the energy industry — reducing risks and costs, and improving the customer experience

Today’s energy industry taps on large streams of multi-structured data to optimize their business and improve the customer experience. As such, customer and prospect data (55%), customer sentiment data (51%), supply chain data (50%), publicly available data (42%) and connected product data (41%) are identified as being the most common data sources currently used.

While changing customer behavior provides increasingly complex data, new opportunities to meet customer needs emerge, especially for the utilities sector. The ever-evolving expectations of consumer/household and commercial users means organizations must match their services with the advanced customer service experienced online from companies in other sectors. With the energy industry having mostly relied on traditional business models, organizations must strive to have a unified view of their customer data across the business and within departments. The importance of the customer is also further reiterated by almost half (47%) using data and analytics to improve the customer experience and satisfaction. Engaging in customer centric data sources will pave the way for organizations to be able to improve the overall experience for its stakeholders.

What’s also interesting here is the use of publicly available data in this context. This is likely in the form of information regarding the energy market and using this to complement customer data in order to make insightful decisions as a business. Plans for energy policies, economic, and demographic data are some examples of publicly available data, and such data provides insights into changes in population distribution which impacts the forecasting for alternative energy sources, carbon footprint and more. The usage of open data allows organizations, particularly the oil and gas companies, to make more effective and collaborative decisions, as well as increased productivity through profound relevance to societal debates and relevancy.

Reducing risks such as regulations and security (47%) and reducing costs (47%) are also important for this industry, which is perhaps no surprise given the industry has been focusing their efforts towards achieving complete excellence in their operations, thereby optimizing their costs, in the past decade. With energy comes added pressure to comply with regulations — further justification for the evidenced use of publicly available data.

Leveraging innovative analytical tools and methods to deliver real-time business insights and support self-serve analytics reporting

Innovative analytical methods and tools such as Internet of Things (IoT) (52%), data warehouse modernization (50%), business intelligence (50%), and Artificial Intelligence (AI) (47%) are utilized the most within the industry. Having masses of relevant data at hand in order to make the best-informed decisions at speed is critical, and tools and methods such as these can help with that. Methods and tools such as IoT and AI can also help to monitor edge devices, facilitate preventive maintenance, ensure up-time/availability of energy generation and distribution resources.

There is heavy responsibility on the industry to not only transition to lower-carbon energy emissions for example, but also visibility into global energy supplies, and these analytical tools and methods can also play a part in accelerating the industry further to drive these changes. It can become essential in enabling the energy transition, particularly across areas such as reductions in CO2 emissions; and with the scale of these transitions being so vast, the industry is reliant on methods and tools such as these to assist at scale.

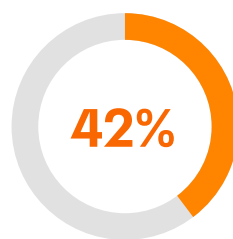
With this comes greater reliance on accessible data to forecast and coordinate consumption to ensure safe and reliable operations. To further put the importance of fast data into context, the majority (82%) of surveyed organizations report the valuable nature behind delivering real-time business insights through technologies such as IoT- which we're already seeing in terms of analytical tools and methods currently used. The use of real-time data streams also allows the industry further decision-making capabilities to improve operations, reduce risks and best serve customers.

Organizations' progression towards the monetization of data is reflected by their current abilities to support self-serve reporting analytics. More than a third (34%) of ITDMs report they have completely achieved providing all relevant business groups with access to centralized analytics tools and support suited for their own analysis and reporting needs.

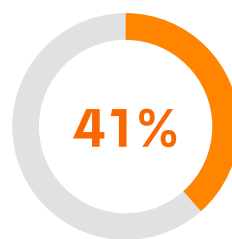
The critical nature of effective enterprise data strategies in the energy industry

Most (84%) organizations across the energy industry report currently having enterprise data strategies in place. Businesses want to do more with their data and having enterprise data strategies in place pushes them one step further towards having good quality data at their fingertips.

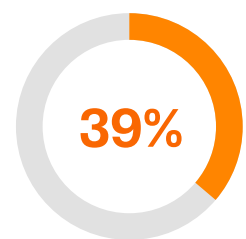
More than half (54%) of ITDMs recognize their current enterprise data strategies as very effective, with the remaining proportion of surveyed respondents reporting improvements to be made. ITDMs report a realm of challenges when it comes to their current enterprise data strategies, demonstrating a notable need to improve in order to get the most out of such strategies:



A lack of understanding of data management and compliance.



As well as lack of effective processes and systems in place.



And high costs of data management solutions.

Without a true understanding of data management and ability to invest in solutions to manage this, comes a lack of effective processes and systems in place, and poorer quality of data. It goes without saying that organizations who currently experience these challenges will not be getting visibility into their data, the resultant real-time insights as well as predictability of data to improve the customer experience.

Six in ten (60%) ITDMs within the industry also report that their organizations are not coping extremely well with the volumes of data they're expected to manage – further evidence of where pinch points are currently experienced. This in turn has a knock-on effect on other coping abilities with data. Similar trends are seen when assessing organizations' ability to cope with the trustworthiness of data (67%), frequency (64%), variety (60%), and most importantly, the ability to use data to inform business critical decisions (57%).

The energy industry is expected to identify consumption, manage power production, set pricing, and also cope with issues as they arise such as outages and wider demand. Without being able to cope with the data that they're faced with, it is virtually impossible to make the best, informed decisions moving forward.

Organizations that leverage Enterprise Data Cloud management capabilities create opportunity for new business frontiers in a hybrid world

Given the variety and changes in the volume, frequency and analytical methods used, the infrastructure and workloads to be managed in the future will need to be supported by a hybrid architecture. Organizations are planning to move towards hybrid multi-cloud to better manage data and support its workforce in the near future. This gives organizations the agility that they desire, particularly when thinking about the need to process data quickly and efficiently across a number of different environments.

Having options for where data is stored and processed will be critical as well. Certain data from the edge and IoT are required to be stored in the cloud for quicker access to data and insights while historical data may be better suited for infrastructure on-premise. Prevailing regulations may also require the options for both.

Half (50%) of ITDMs surveyed across this industry have reported an increase in spend across supporting changing work environments (e.g., hybrid working). There has also been an increased spend since the start of the pandemic for more than four in ten (42%) in terms of supporting digital transformation initiatives such as hybrid multi-cloud architecture, and data and analytics solutions.

The hybrid future outlines the need for a hybrid, multi-cloud data architecture (known as enterprise data cloud). Almost all (90%) ITDMs agree that organizations that implement a hybrid architecture as part of its data strategy will gain a competitive advantage.

Supported by a set of integrated capabilities, an Enterprise Data Cloud is able to help organizations navigate in the heterogeneous landscape. However, there are a number of areas in which energy organizations could be doing more to get the most of this:

- **Supporting new business models.** Organizations could be doing more to routinely and formally evaluate processes to refine new business models that emerge from data and analytics; an area where ITDMs also report room for their organizations to improve.
- **Having greater access to centralized analytical tools.** Greater access would further enable business divisions and departments to align priorities with their organizations' roadmaps. By ensuring that the entire organization is on the same page when it comes to their data use, would also ensure that they are best able to implement more seamless and effective enterprise data strategies.
- **Having big data infrastructure that is centralized and tightly integrated.** The infrastructure that organizations have in place to support their big data, shapes the outcomes of such data. In other words, if organizations are not currently utilizing adequate infrastructure, the ability to use data to derive business insights is limited. ITDMs have reported this to be an area in which they could improve.
- **Speed and access to data:** From the research, it is clear that organizations currently prioritize leveraging solutions for speed and access across on-premise and cloud infrastructure, with more than two fifths (43%) already completely achieving this capability. Organizations' continued efforts to achieve these will create progressive steps to optimizing operations, to best serve customers, and gain traction in a competitive market.

Organizations’ current capabilities in relation to the Enterprise Data Cloud:

ITDMs in the energy industry [107]	Completely achieved	Not completely achieved
Leveraging solutions optimized for speed and access across on-premise and public/private cloud infrastructure.	43%	57%
All relevant business groups have access to centralized analytics tools and support ideally suited for the needs of their own analysis and reporting.	34%	66%
We routinely and formally evaluate and optimize our process to refine new business models that emerge from data and analytics.	33%	67%
Having big data infrastructure that is centralized and tightly integrated across the organization, allowing business divisions/departments to align priorities with the organization’s data roadmap.	36%	64%
Having the necessary enterprise-grade standards in place for security, back-up, and disaster recovery across all environments.	37%	63%

Figure 1: To what extent has your organization achieved the following capabilities? [Base size in table], “Not completely achieved” is based on the sum of “Mostly achieved” and “Somewhat achieved”, showing energy oil, gas, and utilities scores across EMEA, ITDMs only, omitting some answer options.

Although there is a glimmer of optimism in terms of organizations’ current capabilities, there is an evident need to improve in order to get the most out of their data. Organizations that recognize these areas and strive to address them will see notable and positive differences in how their data is managed and utilized to inform business critical decisions.

Methodology

This report specifically focuses on the analysis of the energy industry which consisted of 107 ITDMs. Respondents were from organizations with 1,000 or more employees across both public and private sectors in the UK, France, Germany, Italy, Spain, South Africa, and UAE.

All interviews were conducted using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate.

Conclusion

The energy industry engages with data and analytics and puts the customer at the center. In doing so, they are able to progress products and services development, as well as meeting customer demand, and more critically, ensuring that customers have access to usage which meets demand.

With this, comes a realm of challenges and areas where notable improvements can be made to best optimize their data, and thus their abilities to drive effective business critical decisions. Improving the effectiveness of enterprise data strategies is a good place to start and ensures that organizations are not limiting their potential. Organizations that embrace transformation powered by data will develop agility and provide a competitive advantage to excel in the future.

About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. Cloudera delivers an enterprise data cloud for any data, anywhere, from the Edge to AI. Powered by the relentless innovation of the open source community, Cloudera advances digital transformation for the world's largest enterprises.

Learn more at cloudera.com