

**Energy Data
Management
Systems,
2024**

Beacon

Executive summary

The energy data landscape has seen tremendous growth as both the amount of commercially available data in the energy sphere and the scope of what is commercially interesting have increased. Much of this data has become more relevant because it increasingly impacts prices.

Energy data firms face a huge challenge created by having to:

- Bring together the hugely diverse and growing set of energy-relevant data sources.
- Aggregate the data into a cohesive system.
- Transform/deliver the data to fill the needs of a variety of end-user systems (such as market risk, credit and finance).

By employing advanced technologies and sophisticated architectures, these firms can incorporate the growing number of price-relevant datasets into a consolidated view, to help empower their customers' success.

Chartis Research's report [Energy Data Management Systems, 2024: Market Update and Vendor Landscape](#) considers vendors that aggregate and redistribute data across different asset classes, market environments and geographies, to determine how effective they are in developing and processing their data. The report uses Chartis' RiskTech Quadrant® to explain the structure of the market.

Beacon placed as a 'category leader' in energy data management due to the completeness of its offering and its market potential (see Figure 1).

“Beacon's quadrant positioning reflects its modern, best-practice approach to data management technology. Notably, its strong focus on tools enables end users to develop, extend and modify its platform.”
 — Sidhartha Dash, Charis Research

Figure 1: Beacon's positioning; energy data management systems, 2024



In Chartis' analysis, category leaders combine depth and breadth of functionality, technology and content with the required organizational characteristics to capture a significant share in their market.

A mix of industry-leading and best-in-class capabilities drives Beacon's category leadership (see the 'Beacon: category leadership' section).

Market Context

Historically, the energy data market (see Table 1) has consisted of transactional data: prices, volumes and other characteristics gathered from exchanges or over the counter (OTC) environments. However, the growth of independent analytics outside the trading system has led to highly diverse sources of datasets that are now relevant to the energy market.

The rise in availability and demand for what has traditionally been ‘alternative data’ has had a growing impact on prices. Data such as total warehouse load, railroad traffic, shipping manifests – and even a large range of physical asset data from satellites – is more widely available for incorporation into risk systems, and is an increasingly integral price-formative element.

In turn, the continued fragmentation in the energy data market creates an operational challenge for firms in pulling together a consolidated view of a diverse set of data elements, regardless of asset class, industry and geography. Moreover, the data needs of different risk and analytics systems are likely to evolve alongside the dynamically changing energy markets.

By embracing advances in data technologies, energy data firms can collect, store, transform and deliver data to meet various system needs. Today, most advanced systems can easily leverage a range of database types to maintain the metadata and a series of targeted

databases for each data type. They can then use a relational or object-oriented framework to describe the overarching data structure.

Trading systems and their associated support systems require a type of data framework that closely maps and abstracts the key elements of risk, finance and accounting environments. As these systems become more complex, an integrated data framework must provide for the handling of various data types and their structures.

Whether a firm chooses to partition the data physically or conceptually, there is no right or wrong approach. However, we see a trend developing toward a more distributed, heterogeneous architecture, as the benefits of these systems become more apparent. Firms that have built onto relational frameworks may begin to modify their solutions into distributed ones.

In addition, deploying this type of framework on a hybrid infrastructure (a mix of proprietary data centers and hyperscalers) can add resiliency and scalability to address the unique complexities of energy data. Chartis views this as a positive trend and expects the market to continue moving in this direction.

At their core, energy systems have complex data models as systems for risk, credit and market data and front-office analytics become increasingly separate and distinct. It is now imperative for firms to have a data integration framework that links independent systems with front-to-back platforms.

Table 1: Market landscape factors

Data storage and management best practices

- A relational metadata framework in the data architecture.
- A physical storage framework into which the underlying data structures can be transferred, before being abstracted and mapped.
- A conceptual partitioning of the data into its different structures.

Distinct and opposing trends

- A divergence is occurring in the energy data market, caused by rapid growth in new vendors and new types of data and analytics.
- Convergence and consolidation are also occurring simultaneously among the major energy data players.

Structural considerations in the energy data landscape

- A broader set of tools to abstract the data layer from physical storage is more widely available.
- Explosive growth in a wide variety of databases now enables systems to hold huge amounts of unstructured or semi-structured data.
- Extract, transform and load (ETL) tools are more capable of handling complex data structures (such as spatial, array, etc.).
- High-speed distribution frameworks can handle very large datasets, even if they are not in classical formats or architectures.
- Hybrid cloud architectures – a combination of proprietary data centers and hyperscaler infrastructures – will evolve over the next few years.

Beacon: category leadership

Beacon's core offering is centered around an open-ended integrated development environment with consistent data modeling, source code, methodologies, analytics and cross-asset modeling. This allows clients and end users to take Beacon's out-of-the-box functionality and quickly develop custom applications to fit their needs.

To this end, Beacon employs a 'buy and build' pricing model whereby clients can buy the pre-built functionality they need and then develop their own extensions. This pricing model seeks to:

- Solve redundancy issues between the front, middle and back offices.
- Reduce support overheads.
- Centralize data structures to accommodate more complexity in analytics and modeling, avoiding errors caused by fragmentation or variations in internal data structures.

Beacon's primary focus is on providing a comprehensive development framework for users to create custom tools to manage risk across a variety of commodities, assets and financial instruments. This focus on creating a platform for developing bespoke risk management tools necessitates robust data systems. Beacon is a global category leader in the data management space, due to its best-in-class data management and integration tools, which allow clients to transition their existing data framework seamlessly into their own custom Beacon ecosystem.

A key ingredient in Beacon Platform's success is its ability to integrate client data streams alongside pre-existing market, regulatory and contextual data. This is done with a variety of tools that work together to create a centralized data framework.

Another strong component of Beacon's solution is its transparent source code and consistent data modeling. This allows developers and analysts to add new tools, or extra complexities to existing ones. Given the open-ended yet standardized nature of the platform, in-house developers can create and prototype more specialized applications than those available in comparable 'out-of-the-box' solutions. Moreover, they can do this while keeping development costs low and speeding up time-to-market compared to in-house solutions developed from the ground up.

Methodology

Chartis Research ('Chartis') is a research and advisory firm that provides technology and business advice to the global risk management industry. Chartis assesses risk technology vendors using consistent, objective methodology, regardless of business relationships.

The Chartis RiskTech Quadrant® evaluates vendors on both current and future dimensions: completeness of offering and market potential.

- **Completeness of offering** criteria include depth/breadth of functionality, data and infrastructure, analytics, reporting and more specialized capabilities (such as risk/performance linkage).
- **Market potential** considers business model, market penetration, financials, customer satisfaction and growth strategy.

Chartis uses detailed evaluation forms, customer surveys, expert interviews, vendor briefings and other research sources to assess solutions. This rigorous methodology provides an independent view of solutions and vendors.

Figure 2: Beacon's category-leading capabilities

