

# Europe's Energy Data Challenge

Data management has never been seen as a 'sexy' business function alongside trading or risk management. Still, companies that overlook or undervalue the data management process do so at their peril. In today's increasingly volatile and complex energy markets data has to be viewed and managed as a business asset.

By Jeremy Wilcox

IN ITS 2007 *Strategic Energy Review* the European Commission called for infrastructure unbundling to make data more available. Brussels believes that data transparency is central to efficient and effective market competition, and while this view is shared by the more progressive free market economies (such as the UK) there remains a general reluctance across Europe to make data more available on a near real-time basis. As a consequence, some economies have become more protective of their domestic market data which in turn undermines the development of market competition.

Even allowing for these pockets of data protectionism there has been a flood of data coming out of Europe's energy markets over the past five years, both actual physical data (production, demand etc.) and derived data (contract prices etc.) from the energy management process. On its own this data has little value, as Richard Quigley, Managing Director of data management vendor DataGenic, explains: "Data is a complex object that by itself is meaningless; it requires context to be transformed into information for use."

The first principle in unlocking the value of data is to first accept that data is a 'competitive asset' to a company and not a byproduct or an end-result of enterprise applications or data collection. That requires buy-in at all levels of the organisation to maintain, control, manage, improve and measure data as an asset, like other assets in the company.

A key business function within the energy sector is trading, and with the growing constraints provided by climate change mitigation and the worsening economy, the value of the trading function to businesses has appreciated. Integral to the trading function is data.

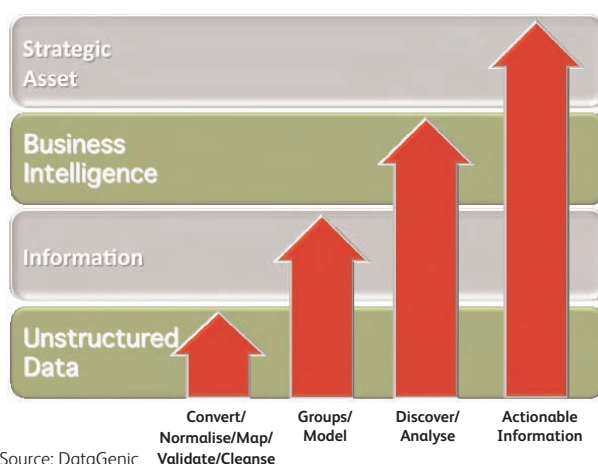
One of the data frustrations in many organisations is the ongoing challenge to obtain board level buy-in and, consequentially, the budget that allows the asset to be fully realised. Data is often the last item on the project list. It can involve substantial business and technical work and usually hits at the heart of businesses' daily operating process. So, in today's more cost-conscious business environment, businesses may be tempted to cut back on data costs. Quigley argues against such an approach, explaining: "Data can be the most powerful, cheapest and fastest driver to profit opportunities."

... energy market data has to be viewed and managed as a business asset

The case for developing an energy data platform is compelling. As an information asset, data can assist in improving business planning, the better targeting of customers, reducing operational risks and also satisfying regulatory requirements. A data platform can also increase business efficiencies through the provision of more efficient information flows that in turn improve business analysis and reporting accuracy and, as a consequence, can also increase business revenues.

Perhaps the strongest business case for adopting an energy data platform is that it provides a competitive advantage. A data platform provides a company with the ability to adapt to the changing environment and in today's uncertain and changing market it is the companies that adapt best, and quickest, that will emerge stronger.

Figure 1: Creating a Strategic Data Asset



Source: DataGenic

Today's energy business climate requires the processing of more data than ever before. Deregulation, new technologies and market forces will continue to drive this data growth. Transforming this data into an enterprise and actionable data asset for operational and strategic decisions, regulatory compliance and risk management, is key to strategic differentiation. Many disciplines, technologies and best practices exist that can provide the framework to realize the investment in your data asset. What are they? How do I achieve an ROI in my investment? What applications and methods offer the best opportunities for leveraging data value?

Quigley explains that the paradigm governing the landscape that today's utility needs to operate in has changed dramatically since the turn of the century. He believes that only the fittest businesses will survive in Europe's dynamic and competitive energy marketplace. Central to this survival, says Quigley, will be data management.

"To help support utilities in their bid to comply with regulations and legal directives, attract and retain customers,

Figure 2: Industry Solutions – Energy



Source: DataGenic

### Developments in Energy Data Management

As with any technology, data management systems are constantly evolving and the following are the current key developments.

#### Business Process Management (BPM)

BPM is defined as the management of complex interactions between people, applications and technologies in a business designed to create customer value. With exponential growth in utilities' data there is demand for a real-time, responsive technology solution. Companies that have embraced this have seen real productivity gains and improved customer service, and have been able to rapidly adapt to changing business requirements. As such, energy data management vendors are expected to embrace the BPM revolution, possibly through partnering with BPM software vendors and offer BPM as part of their overall business proposition.

#### Service Orientated Architecture (SOA)

Already being embraced throughout the industry, SOA is a service-based approach to IT development that changes the way in which functionality is developed and delivered. Within SOA, functionality is considered, factored and deployed once for use at all levels of the organisation, thus providing a business-focused infrastructure that supports a continuous business evolution.

#### Object Orientated Data (OOD)

With OOD, code and data are merged as a single object, as opposed to the traditional process of separating code and data, which provides for a componentised framework. As a result of OOD, the responsibility of actions, events and properties can be moved into individual data objects and data can be modelled in an organic environment that reflects true market and business structures.

#### Multi-Data Environment

This reflects the industry shifting to more advanced technology, where the management of multiple data types can provide the necessary enhanced business analysis. Today's energy data management systems require the management of multiple data types and processing, integrating and disseminating this data to downstream systems in a timely, accurate and robust manner.

address environmental issues and at the same time attain an economic return on their investment, an energy data management system can provide the backbone and platform in which to meet the challenges ahead."

However, data management itself is also facing a series of challenges, the most obvious being the sheer volume of data. As Europe's energy market has evolved, the volume of energy data has increased almost exponentially – with this data also becoming increasingly complex. For a business that needs to manage its data this has become an operational and technical nightmare, with numerous legacy databases with extensive dependencies, together with multiple data sources and vendors that further complicates the data integration process.

This complexity, allied to the sheer volume of data, and sources, requires a data management system that ensures the data used is robust, stable, functional and, above all else, fit for purpose. As such, data systems need to ensure a series of specific data quality dimensions such as data relevance, applicability, accuracy, consistency, timeliness and market value.

Commenting on the need for information quality, Quigley observes: "There is an enormous challenge for the industry to ensure data integrity and the management of the "golden data copy" (whereby all data required by a company is stored, cleaned and processed using consistent standards). Data validation must become more automated and be managed by workflow management tools and business process management practices."

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A secondary, but no less important, challenge to data management is client expectations. Energy data management has rightly been marketed as a valuable business function, increasing process efficiencies, and as such clients have high expectations of the benefits. These clients are also becoming more demanding as they come under increased profit, regulatory and reputational pressures. One of the problems increasingly faced by data management vendors, notes Quigley, is that senior management may not appreciate the operational and technological complexity associated with managing data.

Perhaps the biggest challenge to data management in the coming year will be the worsening economy. After all, data management systems don't come cheap and companies that have yet to invest in a data system could conceivably decide to remove data costs from their budgets. However, the ongoing uncertain economic climate will only increase energy market risks and thus enhance the importance of a data system •

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