THE VALUE OF ALTERNATIVE DATA

Joao Macalos, QuantCube Technology, France, explores the value of alternative data for delivering real-time insights on LNG and other energy commodities.

W hen it comes to the movement of LNG and other energy commodities around the world, there are many sources of information that are used by organisations to ensure they have an accurate picture of the markets.

Traditional traders, for example, will typically rely on conventional market indicators and data from the likes of Bloomberg, as well as projections and official quotas released by industry bodies, such as OPEC. But they are always on a quest to find more data to gain an edge over their competitors, which is fuelling an increasing interest in alternative data.

Alternative data unlocks the ability to receive insights in real time so that market trends can be derived in advance of official data. For many energy commodities, a number of alternative data sources must be analysed to this end. Coal consumption can be ascertained by increased activity from mines, power stations, and transport operations. With regard to crude oil, global shipping movements and social media activity in Arabic – which accounts for 90% of all social media conversations on crude oil – can be analysed. Of course, tracking energy commodities flows that are largely transported through pipelines beyond what is released by

operators is impossible. However, it is possible to track the movement of oil tankers and LNG carriers, which can be used to provide significant insights on global imports and exports.

The value of shipping data

For LNG, a number of data sets can be used to deliver timely information on global shipping movements. An example of this includes automatic identification system (AIS) shipping data, which allows companies, such as QuantCube, to pinpoint the exact location of vessels at sea and track where they, and other commodities vessels, end up across the globe.

When it comes to identifying vessels, a key benefit of LNG carriers is that they are unique from a design perspective, as they typically have 4 – 6 distinctive tanks and many more features specifically designed for the storage, transportation, and delivery of LNG. For example, LNG is typically stored at a temperature of -126˚C, so the tanks are designed to ensure that the LNG remains cold enough to stay in a liquid state. By using satellite imagery, these vessels can be easily identified. For tankers, however, these vessels might just as easily be carrying

diesel as crude oil, so other data points must be used to determine what the cargo is.

Of course, tracking ships through AIS data only works when the systems are operational. In most cases, they are, as investment in the transportation of expensive commodities must be safeguarded to provide stakeholders with assurances that cargos will reach their destinations safely. However, some countries, particularly those that might be subject to sanctions, such as Iran, as well as companies operating in these countries, may choose to hide their movements. Conversely, other countries and organisations are eager to show that they are capable of exporting large quantities of LNG to increase investment and confidence in their output. In these cases, shipping-based information may be used to provide a more accurate picture of their exports.

Adapting to crises with alternative data

Using alternative data to gain real-time insights is crucial for staying a step ahead and mitigating the effects of geopolitical and macroeconomic events. In recent months, the combination of the war in Ukraine and Europe's deepening energy crisis has caused global LNG prices to skyrocket. Some supply chains have been severely disrupted and the lack of official data from major exporters, such as Russia, has made the situation increasingly difficult for traders, economists, and leading market analytics providers to predict. However, one thing that is certain when it comes to determining investment strategies and commodities trends is that the more data an organisation has, the better equipped it will be. The value of real-time insights on variations in the commerce of LNG, that reveal movements between the world's leading importers and exporters, cannot be understated.

AIS data, for example, is particularly useful for detecting novel movements of LNG and other commodities as new movements between countries may reveal the opening of new routes, that may in turn reveal wider macroeconomic trends. For example, a significant increase in arrivals of LNG shipments to Italy from Algeria between April and July 2022, compared to the same period last year, reveals that the country is not just stockpiling for winter, as might be expected from many European countries at this time of year, but protecting against future scarcity. Similarly, if imports of energy commodities and, most significantly, iron ore, are seen to increase in a country, it is reasonable to assume that an increase in economic activity and growth will follow, as iron ore is the key raw material used in the production of steel, which is chiefly used in construction.

Combining alternative data sets can also reveal wider economic and political trends. Since the implementation of massive sanctions by Western countries against Russia, AIS shipping data has revealed a significant drop in import-export activity at northern-Russian ports, which are mainly used for trade between Russia and northern-European countries. Looking at the wider picture and bringing in other alternative data sets also helps understand the effect of sanctions among the population. For example, QuantCube was able to determine economic anxiety among the Russian people through examining a number of data sources, such as social media platforms, using cutting-edge natural language processing algorithms to determine economic sentiment. Using these techniques, the company discovered that economic anxiety increased by 250% in March (following the invasion of Ukraine) compared to the level recorded in January. It also found that sentiment relating to emigration spiked significantly in this period, further revealing the wider impact of the conflict.

Building in agility

Ultimately, long-term investment strategies cannot be based on real-time insights alone. For this purpose, they must be used in combination with traditional methods of market analysis and indicators. However, the value of alternative data for gaining immediate insights on contemporary events, and adjusting investment strategies accordingly, is significant, as they can provide additional insights to enable investors to anticipate market movements and act before their competitors.

It is no secret that the COVID-19 pandemic severely disrupted supply chains. Again, analysis of real-time AIS shipping data revealed how congestion at the largest ports in the world, including Long Beach (the US), Rotterdam (the Netherlands), and Shanghai (China) between the months of August and September 2021, affected global movements of LNG, dry bulk commodities, liquid bulk commodities, and container ships. Following the congestion, tensions in the gas market became a main driver for the increase in global gas prices, which precipitated an increase in crude oil consumption – particularly in China, as the country sought to maintain economic growth.

When the Freeport LNG facility in Texas, the US, closed due to an explosion at the beginning of June 2022, the fall in US exports was immediately clear from AIS data. Wider analysis of the global market in the immediate aftermath of the plant's closure was also intriguing, as US gas prices fell due to a surfeit of the resource within the country. As might be expected, the price of gas in Europe, one of the US's export markets, rose dramatically (Figures 1 and 2).

Similarly, Russia's invasion of Ukraine – and the subsequent sanctions it incurred – triggered an energy war between Russia and Western countries that has disrupted the energy markets. By tracking the deliveries of LNG in real time, the EU strategy of stockpiling natural gas ahead of the winter and before the full impact of the sanctions was realised was immediately obvious.

These examples reveal how alternative data can be used to predict the impact of future disruptions to supply chains around the world. The consequences of the fire in the Freeport LNG liquefaction facility should serve as a reminder of the fragility of global LNG supply chains. As recent years have shown, black swan events severely impact global supply chains. A similar crisis in the Middle East or APAC regions could have a much more disruptive effect on the global movement of LNG and other energy commodities. With real-time insights, organisations will be much better equipped to adjust their investment strategies and operations in the face of such events.

Making alternative data work for the LNG industry

With the global alternative data market expected to reach US$143.3 billion by 2030, growing 54.4% annually from 2022 to 2030, organisations across industries are seeking to harness this resource to uncover insights that might give them an edge over competitors with their investment strategies.[1]

From QuantCube's work in the commodities space, it knows investors are eager to tap into new sources of information and expects to see a rapid increase in collaboration with alternative data providers in the coming years. Real-time insights on LNG movements are a compelling example of what can be achieved through the utilisation of alternative data, and its potential to create further value and insights across the LNG industry is considerable. **LNG**

Figure 1. Natural gas prices in Europe and the USA.

Figure 2. QuantCube Commodity Indicator – USA LNG exports.

References

1. 'Alternative Data Market Size, Share, & Trends Analysis Report By Data Type (Card Transactions, Mobile Application Usage, Social & Sentiment Data), By Industry, By Region, And Segment Forecasts, 2022 – 2030', *Grand View Research*, (2017 – 2020), www.gra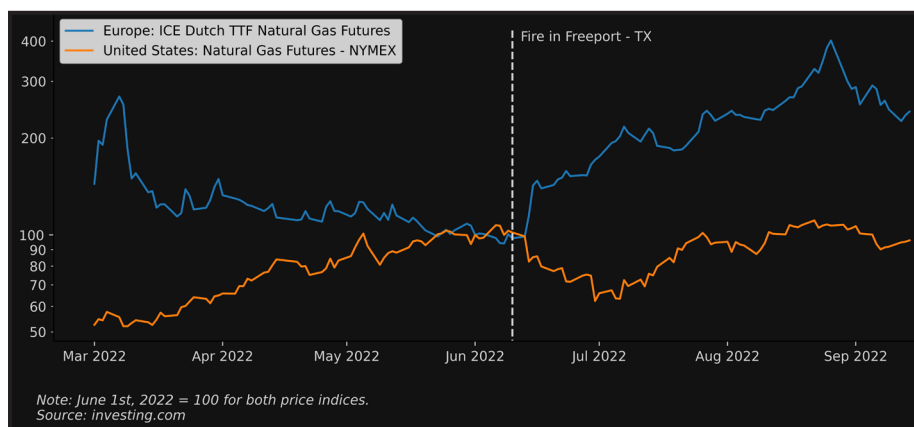ndviewresearch.com/industry-analysis/alternative-data-market