The Future of Energy Trading & Risk Management.

Looking towards 2030.

BRADY.

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1. SUMMARY

Whether you are new to energy trading, or an established player, this paper provides an indispensable guide to the factors to consider when evaluating your ETRM technology requirements. We'll explore how commodity trading desks have evolved over the years, and discuss the specific needs of the front, middle, and back office teams in light of those changes today. We'll also examine how the rise in cloud and SaaS deployments have impacted implementation processes, internal resource demands, software purchasing models, and lots more.

2. MARKET TRENDS

2.1 Overview of ETRM systems

Differentiating factor 1: functional strengths

The extent to which the system is designed to best service the front, middle, or back office is a key differentiating factor in the marketplace of vendors and products.

Legacy ETRM systems were heavily back office focussed, reflecting the composition of the energy markets in years gone by, where larger assets and generators with fleets of large assets represented the vast majority of trading volumes. These systems were geared more towards contract management, accounting, and other back office functions, and less towards the needs of the traders.

Today, with the growing prominence of renewables, the advent of batteries, and the technological progress which has allowed for algorithmic trading, traders are relying much more on their ETRM systems. Consequently, some of the more modern ETRM systems have adapted over recent years to offer the front office a wider set of features such as live position and P&L, which were not possible with the older technology stacks used in the past.

Differentiating factor 2: geographical locations

Different markets can have quite different rules, processes, and regulatory conditions that energy traders need to adhere to. Thus, the system which services them needs to adapt to these differences in various ways. One example is the need to facilitate the user not being in imbalance in one market due to regulatory constraints (e.g. in Germany), while this could be a perfectly acceptable P&L decision in another market (e.g. in GB).

Another example is the need for the ETRM system to connect to different exchanges in one geography than in another, or to different transmission system operators in order to facilitate the scheduling of physical flows of power based on the user's position going into delivery.

Differentiating factor 3: complexity of implementation (and cloud versus on-premise)

A successful implementation of a traditional ETRM system typically involves teams of commodity subject matter experts from the front, middle and back office, as well as associated functional areas. On-premise installations require deployment of infrastructure teams to get these systems up and running and to integrate these systems with other platforms used by the organisation. In the era before cloud-native systems offering robust security protocols were available, it made sense for large trading organisations to keep all their tools 'in-house' as much as possible.

Today, energy market participants are diverse, from utilities to ten-person propriety shop trading houses, For many of them, a cloud-native ETRM system allows them to focus on their strengths in trading-related intellectual property, without the need for dedicated in-house IT resources to run and maintain on-premise software installations.

2.2 The evolving nature of commodity trading organisations

The fallout of the 2008 financial crisis resulted in an increase in scrutiny of any business engaged in trading, including commodity traders. A review of trading practices and assets held on the balance sheet of the banks which had become heavily involved in commodity trading followed, with many deciding to refocus their commodity trading operations on customer flow, or simply to divest them.

Hedge funds and energy merchants 'absorbed' the speculative trading operations of these banks – and teams which had previously worked at the banks raised their own capital to be able to keep generating P&L in their areas of focus. An era of lean trading operations had begun – where many participants now sought to access the markets through direct market access providers, to make use of more agile systems, and to focus more on their trading operations. There was less desire to keep the IT infrastructure needed to trade in-house, with all the associated complexities to manage.

Today, we see a large range of energy market participants coexisting – including large utilities, multinational energy merchants, vertically integrated asset owner-operators, asset optimisers who monetise assets for a fee, and large and small prop shops. With lower barriers to entry and increased competition, everyone is looking for a competitive edge, and this is driving increased deployment of newer technologies such as machine learning and algorithms into various aspects of commodity trading, from running the fastest and most accurate weather prediction models to the automated execution of trading strategies. Real-time systems are a must in this new era.

2.3 Challenges in modern energy trading: impact on the front, mid and back office

Energy markets today are more competitive than ever before. Direct/sponsored market access providers allow funds to access over-the-counter energy markets quickly, without the operational and capital requirements that traditionally acted as barriers to entry, increasing the number of market participants in the energy space. In the power trading space specifically, the advent of renewables has dramatically increased liquidity in the prompt day-ahead and intraday markets.

Statistical trading techniques honed in the equity markets have been applied to energy trading as liquidity has increased, bringing a range of new market participants into the sector who formerly specialised in other asset classes. Even the prompt markets in some of the more liquid geographies such as Germany have been affected by this change, and traders are now automatically scalping P&L and arbitrage opportunities across various markets, time horizons, and commodity types.

Impact on the front office: traders

These trends have affected both financial and physical market participants. Proprietary traders seeking to extract P&L from market volatility find that they need access to the latest market intelligence, including their own position and P&L as soon as possible, lest they lose out on opportunities to their competitors.

Physical traders find that they require a live single source of truth about not only the market and their positions, but also the forecasted outputs of their assets. No trader of a renewable energy portfolio wants to be the last to know how to re-hedge their forecasted output, when they're competing with other traders who would be taking positions in the same direction as them on the back of more up-to-date information.

Modern ETRM systems cater for traders specifically, providing real-time trade processing straight from the exchanges and venues that the traders are active on, and displaying comprehensive views of their positions, hedges, and even providing a live percentage-hedged view of their assets.

Impact on the middle office: risk managers

The increased liquidity in modern energy markets creates a challenge for risk managers too – who seek live, intraday information to ensure that traders aren't surpassing their trading limits within the span of the trading day, and then unwinding positions later on in the day so that the overnight reports show them to be compliant. The higher the number of trades, the more important it is to ensure that you have a system which can report a live risk view, as well as flexibly and quickly report on the back of your official marks to present your exposure the way you want to see it, and within a timespan that allows you to act on the information.

Impact on the middle office: operators

Higher trading volumes, power being moved across more markets, and all the accompanying scheduling requirements, from day-ahead nominations to within-day nominations and tracking of volumes to be allocated to interconnectors and more, mean that the potential for human error is higher than ever. Incorrect nominations can result in hefty imbalance costs to the company, if they end up with resulting imbalance exposure that happens to be on the wrong side of the imbalance calculation.

Impact on the back office: confirmations and settlements teams

Increased trade volumes place more demands on back office teams, and the process of manually confirming and settling large numbers of trades can become overwhelming. This is where ready-made solutions can be integrated into your trading workflows, and third party confirmation and settlement matching can be of great benefit. Rather than re-invent the wheel, deploying a modern ETRM system that natively integrates with these industry-standard tools allows your data to flow into them automatically, straight from the ETRM system itself, bringing significant efficiencies to your back office function

The importance of modern ETRM systems

All the above means that trading companies today require ETRM systems that can parse all the information that is relevant to them, display it in an intuitive format, and display it in real-time. They need to be characterised by high levels of automation, all the way from automated deal capture, to the scheduling of physical power flows, to the reconciliation of various important data sources such as clearer files to ensure agreement. This is exactly the use case with which traditional, legacy ETRM systems struggle, and where more flexible, modern systems excel.

2.4 The purchasing model for an ETRM system

A perpetual licencing agreement used to be the standard model for purchasing an ETRM system in the era when they were all delivered as on-premise solutions, whereby the customer was entitled to use the software that they had purchased indefinitely. This would typically involve a large up-front charge for the purchase of the licence (similar to how the suite of Microsoft Office products used to be purchasable for a one-off fee as opposed to the monthly subscription model of today), as well as for the implementation of the system, during which it would be configured according to the client's needs by the vendor. An ever-daunting "upgrade project" would have to be undertaken every 3-5 years – which in effect meant a brand new implementation project with all its associated costs.

This model has changed over time, as the spin-up and wind-down of trading operations to mirror the increase and decrease of volatility and resultant opportunities in different markets has become a more dynamic and fast-occurring process. ETRM software users now seek a lot more flexibility in pricing models. Vendors have responded by offering subscription-based options, which replace the traditional perpetual licence model, comprising an up-front fee and implementation costs.

Modern systems tend to give greater clarity and predictability with respect to what you pay. You sign up for a given configuration, and the price is then locked in for the term of your contract. Older on-premise solutions often included a number of hidden costs – your IT infrastructure, the maintenance costs associated with your particular implementation, the internal attention that would be required to manage associated projects, and so on.

3. WHAT'S HINDERING YOUR ABILITY TO QUICKLY TRADE IN NEW MARKETS?

3.1 Reliance on product specific experts

Traditional ETRM systems can be thought of as frameworks which rely on large teams of specialists for configuration and customisation. An entire labour market of consultants who specialise in specific legacy systems exist, and larger companies deploy them in-house to maintain and configure their ETRM system. Each change to the system becomes increasingly embedded in the trading entity's operations and the sunk costs related to it increase, making it ever-harder for the business to decouple from it.

3.2 Business agility challenge

The above means that any changes to your trading operations, or market changes, require costly projects and project management to be undertaken, often with a significant risk of failure or delays. Being an on-premise installation does not help in this respect, as scaling of system resources requires its own planning and successful execution. This can often mean that the market opportunity which you were seeking to capture has long gone, or that your new team of traders are held back by not having access to the information they need to trade profitably for an extended period of time.

3.3 Business expansion challenge

The lifeblood of a trading company should be its trading IP – the personnel, analytical processes, and models it has developed to accurately predict how long or short the market will be on a given day, or whether the summer-winter gas spreads are looking cheap or expensive, and so on. As markets change, this IP can signal to you that P&L opportunities exist in adjacent geographies where they didn't before, or that a new commodity class has become interesting to trade.

Beyond the challenges already inherent to business expansion of identifying, attracting, and onboarding the best talent to capture these expansion opportunities, traditional ETRM systems add several more barriers. If you want to trade a range of new instruments and a new market, the project becomes an IT issue as much as a trading one, with its own project management and associated resourcing considerations. Often, trading companies are not focussed on maintaining a competitive IT edge, which then hinders their ability to do what they do best – trade where there is potential for profit.

4. HOW AGILE ETRM SOLUTIONS CAN HELP YOU TO GET AHEAD IN EUROPEAN ENERGY MARKETS

4.1 Features that characterise quick-to-deploy systems

Agility in trading means being able to quickly pivot, expand, or test new trading strategies in different commodity classes and markets, such that you are able to capture opportunities as they present themselves. Modern ETRM systems can help you to be agile in three ways:

1. quick implementations by specialist external teams, who already operate with a well-tested approach to fulfil any requirements you may have;
2. offering an out-of-the-box solution, which has all the best practices already incorporated, for quicker time to market.
3. offering seamless access to data contained within the system, such as via APIs, so that you can easily plug the solution into your existing trading technology landscape.

How to acquire the best ETRM system for your business

How to best leverage the functionality of a modern ETRM system to benefit your ability to adapt and scale in today's energy markets depends on your existing scale as well as your existing trading technology landscape.

Small companies without an ETRM system

If you are looking to scale and don't have an existing ETRM system, reach out to the vendors of the most modern systems to arrange demos and discovery sessions to understand which best suits your current and potential future needs.

Small companies with an ETRM system

If you already have an ETRM system, but it is not meeting your scaling up business needs, evaluate other vendor solutions in a similar way. Having a small IT footprint, your migration path should not be too complex or costly.

Larger companies with an ETRM

If you are a large organisation, it is inevitable that you have either one or more ETRM systems in place. However, when you look to expand into new markets, your system(s) may not be well placed to support you. You could be facing any of these scenarios internally:

i) The project to get your system working in the new markets takes a long time to approve and delays your expansion plans.

ii) The project to get your system to meet new market entry requirements ends up taking significant IT resources and becomes costly.

iii) You may find yourselves unable to contemplate a migration away from your existing ETRM system because of how embedded it is in your existing operations.

This is where quick-to-deploy, modern ETRM systems can make a huge impact. For instance, if you are starting a new short-term power trading operation, an out-of-the box solution that can 'plug-in' to your existing IT landscape can offer a more cost effective, and less resource intensive way to service the business expansion, with less internal complexity to manage.

5. BRADY TECHNOLOGIES CUSTOMER CASE STUDIES

Case study 1: Implementation for a new trading desk at a large international energy merchant.

Client requirements: The client had an existing CTRM system servicing their wider trading business. They were in the process of setting up a new pan-European short-term power trading desk under a new entity. They sought high-speed, low-latency trade capture and trade management, with live position, risk metrics, and P&L reporting.

Given the high number of trades anticipated to be undertaken per day, the client needed a high degree of automation in their end-to-end processes, from trade capture to the scheduling of physical power deliveries and cross-border power flows across a number of European markets and interconnectors.

Implementation approach: Brady simplified the implementation process for the client. A two-phased approach was taken, whereby day-ahead auction trading was prioritised quickly, followed by intraday trading and capacity trading in phase two. A program of work was set up in which batches of markets and interconnectors were configured for the client, as and when they had completed the onboarding processes with the relevant TSOs.

Outcome: The approach taken minimised costs to the client by keeping the process efficient, enabling them to scale up their trading volumes at their own pace.

Case study 2: Implementation to service a UK trading house's European operations.

Client requirements: The client used a bespoke ETRM system to handle their trading activity in their domestic market. They had ambitious growth plans, and were looking to enter Europe. However, it became evident that their current system was not designed to handle the complexities of the European gas and power markets. They sought a solution that could help them to scale up their trading operations in Europe quickly.

Implementation approach: Customised reports were quickly delivered and adapted as the client's requirements changed. The client expanded into five different locations across Europe and into adjacent lines of business within energy trading. Igloo expanded the range of instruments and markets configured in the system as needed to support their growth.

Outcome: Brady Technologies' fast response times, and open and transparent dialogue with respect to Igloo's functional capabilities enabled the client to plan their growth without worrying if their existing IT landscape was fit for purpose. They grew their business successfully.

Case study 3: Servicing a new algorithmic trading operation for a major European commodity hedge fund.

Client requirements: The client had been investigating, planning, and hiring a team to execute a set of algorithmic trading strategies. They required a system that could support high volume, high frequency trading and maintain a live view of position, P&L, and risk metrics. FX curves and market data to support a live P&L view had to be automatically pulled into the system from third party suppliers. The ability to allocate custom strategies to trades was also very important. The client needed to monitor the impact of changes to their algorithms on their P&L over time in a granular fashion. A wide range of financial commodity types had to be supported, including agricultural and soft commodities.

Implementation approach: Igloo's modern architecture enabled the client to execute demanding algorithmic trading strategies with ease. The client now has a holistic view of trading and P&L across its entire portfolio, comprising energy, agricultural, and soft commodities.

Outcome: With the permissioning controls, security, and flexibility in place, the client was set up ahead of schedule, and are successfully executing and scaling their algorithmic strategies.

6. CONCLUSION

Whether you are a new entrant to energy trading, an existing player expanding into new markets, or just looking to improve the overall performance of your trading operations, there are clear benefits of deploying a quick-to-implement, agile SaaS ETRM solution. Let us help you transform the way you trade and the results you achieve.

ABOUT BRADY TECHNOLOGIES

We provide software solutions to support above market returns from trading, manage physical power operations, and manage complex risks in evolving and volatile markets, impacted by increased decentralisation, diversity of asset types, the drive for decarbonisation, and ongoing regulatory change.

Our customers include globally renowned utilities, independent power producers, renewable asset developers, energy and multi-commodity trading firms, oil & gas companies, hedge funds and other financial institutions, as well as state power grid operators.

Whether engaged in financial and/or physical trading, on major exchanges or over the counter, or managing multi-country or regional assets, we help market participants optimise their operations and profitability.

The Brady software suite supports key components of the energy trading lifecycle, whilst also supporting Environmental, Social and Governance (ESG) reporting requirements.

To learn more about Igloo ETRM SaaS and other solutions in Brady's portfolio, contact us at:

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