# J.P.Morgan

# Energy sector must optimize real-time data and payments

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# Executive summary

The commodity markets have experienced a surge in liquidity over the past decade, resulting in a nearly doubled trading industry. This growth has been largely attributed to the oil trading market, which is estimated to have grown by over 80% between 2017-22[i], as well as power and gas trading which has followed a similar growth pattern. However, this surge in value has brought about volatility and competition, highlighting the linkages between commodities markets and the financial system. The volatility of commodity price levels has significantly tightened collateral requirements and increased the size and frequency of margin calls. The energy transition has intensified the ESG oversight and pressure on banks and commodities traders, making it more difficult to obtain financing for fossil fuel-related activities. As a result, energy traders and producers are seeking alternative sources and forms of financing but also leveraging real-time treasury (i.e the modernization of treasury management with a focus on real-time data and operations) that helps reduce the need to increase funding capacity.

Implementing real-time treasury requires a sound understanding of both the business and operating model (including technology) of a commodity trader. It's paramount that the right tool is used for the right flow and in some cases intraday functionality is an important first step to reach near-real time across a wide number of accounts. That is where a treasury management system (TMS) and Application Programming Interfaces (APIs) provide great value. The potential for APIs to deliver faster inputs is substantial and on the rise.

Digital transformation and notably real-time treasury, is necessary in the current environment as corporates strive for real-time monitoring of cash flows, optimization of working capital and the flexibility to respond to rapid changes in the macro landscape. Real-time treasury in energy is here to stay. Corporations that are not keeping up with these trends may soon begin falling behind their competition.



[i] https://www.statista.com/statistics/262858/change-in-opec-crude-oil-prices-since-1960/
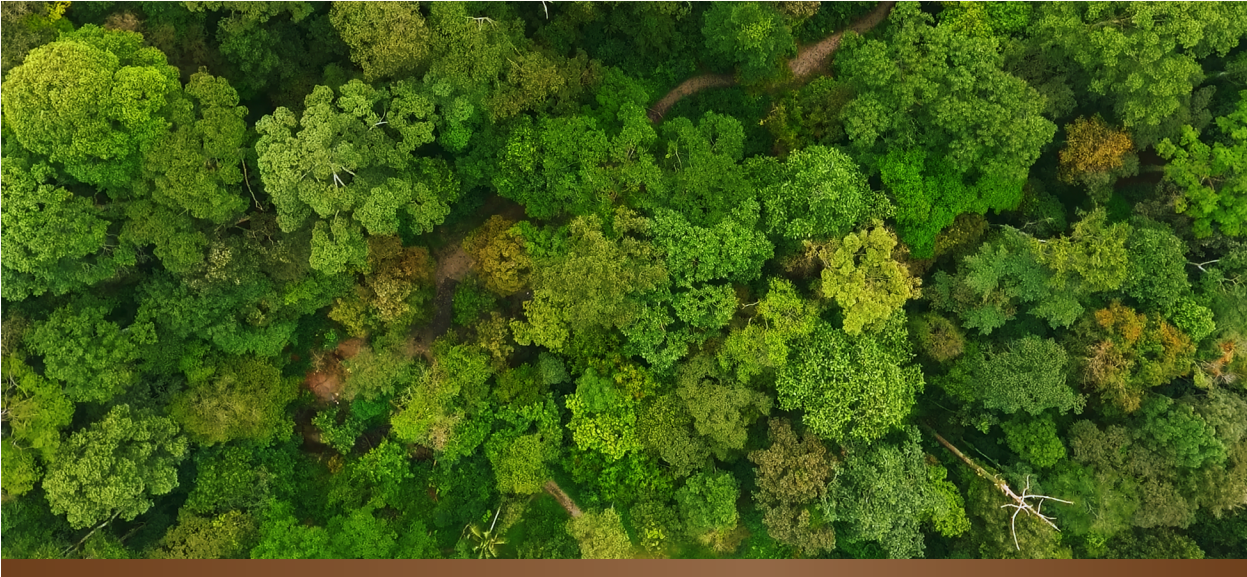
# About the Authors

J.P. Morgan is a leading corporate bank with a global presence and offers integrated services to clients, embedding them within Enterprise Resource Planning (ERP) and TMS, in order to achieve the benefits of real-time data. We have extensive partnerships with ERP and TMS providers and are building a partnership ecosystem across its clients' treasury journeys, allowing our clients to move approximately $10 trillion USD every day.[ii]

Zanders is a global independent treasury and risk consulting firm with almost 30 years of experience in providing innovative solutions to multinational corporations, financial institutions, public sector entities and NGOs. We specialize in treasury strategy and optimization, technology selection and implementation, financial and non-financial risk management, risk modelling, validations, and regulatory compliance, and have developed its own suite of innovative SaaS solutions.

**zandersgroup.com**

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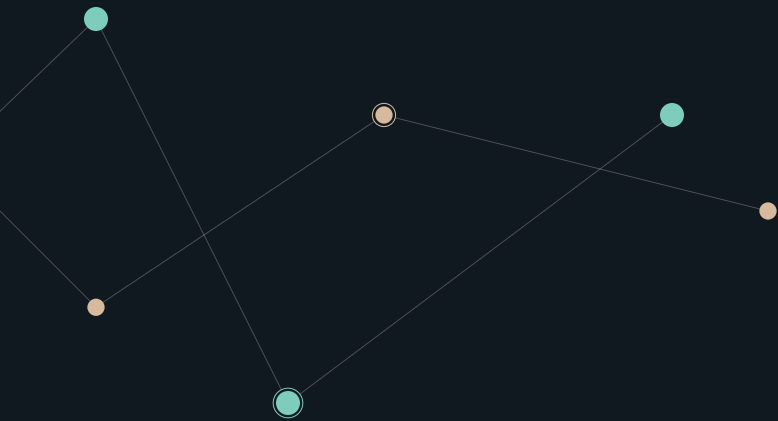Senior Consultant
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[ii] J.P. Morgan Chase proprietary data 2023"

# What is real-time data and real-time payments?

**It is important to establish a common understanding around real-time data and real-time payments.**

### Real-time data definition

Real-time data refers to the continuous and up-to-the-minute information about financial instruments, markets and economic indicators as they are happening. It is data that is updated instantly, often with little to no delay, allowing "users" (Traders, Treasurers) to monitor and respond to changing conditions as they occur. This is particularly relevant in the commodities space (and with other similar assets) since it is subject to variance in different markets and currencies, as well as in their monetary and trading values. Trading systems need to account for these variations and enable users to extract the maximum value from them; and should empower users to leverage the opportunities created by variance.

Types of real-time data:

- Foreign exchange rates
- Commodities prices
- Volatilty measures
- Order book
- Bank balances
- Transactions details

Expected output (non-exhaustive) from real-time data:

- Strengthen decision-making and risk management by having a comprehensive view of their positions and exposures
- Enhance trading strategies and performance using data-driven insights and analytics
- Track and react to market trends and price changes more efficiently
- Boost operational efficiency and accuracy by minimizing manual errors and delays
- Adhere to the regulatory requirements and standards that govern their commodity trading activities, such as reporting, disclosure, transparency and ESG criteria

## Real-time payments definition

Real-time payments refer to electronic financial transactions that are processed and settled immediately or within seconds, enabling near-instatenous transfer of funds between financial institutions, businesses and individuals.

Characteristics of real-time payments of interest for Treasurers and Traders include:

- Speed (completed in matter of seconds)
- Availablity (systems operate 24/7, including weekend and holidays)
- Immediate settlement
- Cross-border transactions

Real-time payments comes as the continuity of the trading process. They are particularly relevant for margin calls settlement. Provided the growth of the trading industry and its subsequent liquidity needs, real-time payments comes up as a natural evolution coupling speed and risk mitigation.
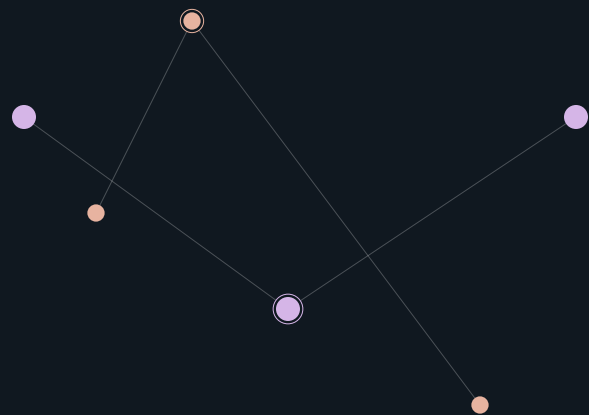
# Using real-time treasury to overcome challenges in the energy industry

**There is no evolution without disruption and real-time data has never before been more relevant to the global energy sector than it is today.**

Increasing commodity price levels and heightened volatility has proven it can significantly tighten collateral requirements and increase the size and frequency of margin calls.

Commodity markets experienced an important rise in the overall level of liquidity. The trading industry nearly doubled in value from 2018 to 2022.[iii] A significant portion was attributed to:

- Net income for the world's oil and gas producers doubled in 2022 to $4 trillion USD.[iv]
- Power and gas trading followed a similar growth pattern, rising from $7 billion to $13 billion USD during that same time span.[v]

Therefore, there is both the context and the driving factors for commodity traders and the energy sector at large to leverage real-time data/information and enabling real-time treasury:

**1.** The global landscape is shifting supply dynamics, causing price volatility. For example, political tensions between Russia and Ukraine have caused fluctuations in the natural gas market. **Real-time data enables traders to make informed decisions** on cargo values, exchange margins and credit and risk limits during volatile periods.

**2.** The cost of working capital has increased due to rising interest rates and complex product demand. **Real-time data can help traders to efficiently deploy working capital** across their global footprint, reducing the capital intensity of their global trading operations.

**3.** As a natural consequence of energy and trading, energy markets have regulatory requirements that necessitate real-time reporting of trade and activities. **Real-time data help traders (and middle-office) stay compliant** with those regulations.

**4.** Credit conditions for energy trading has been influenced by factors such as market volatility, regulatory changes and the overall financial health of the trading firms. When energy markets experience increased risk or uncertainty, lenders may demand stricter collateral requirements, counterparties/clients/clearers faster settlements everywhere, every time. As the nature of energy trading is getting closer and closer to instant, real-time treasury combines API and digital currency that: (1) helps traders to clear down credit lines based on **real-time knowledge of receipt of funds** and (2) enhances cash visibility and accuracy as it operates 24/7/365. This allows traders to trade more or enhance risk mitigation more closely during periods of high volatility.

[iii] https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/the-trading-opportunity-that-could-create-resilience-in-materials
[iv] https://www.iea.org/reports/world-energy-investment-2022/overview-and-key-findings
[v] https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/the-future-of-commodity-trading

*"Volatility led to a major spike in margin calls on commodities (derivatives contracts), particularly in Europe. Consequently, it is resulting in an increased demand for liquidity to meet those calls."*

**Jerome Brun**
Executive Director, EMEA Business Development
J.P. Morgan Payments

In a fast-paced and ever-changing sector like commodities trading, real-time data is a crucial tool for success. The tool empowers energy traders with timely and accurate information, enabling them to react swiftly to market changes, optimize their strategies and manage risk effectively. Real-time data brings operational efficiency as energy traders can streamline their operations (on the whole value chain), automate processes and execute trades more efficiently.

As operational efficiency has been under scrutiny through transformation projects, **real-time acts as an enabler for business transformation** leading to reduced operational costs and increased competitiveness.

The following case study gives a fair representation as of why companies like Iberdrola have been implementing API to benefit from real-time payment tracking.

# Case study

**Global corporations are taking advantage of J.P. Morgan's best-in-class real-time treasury setup to optimize their working capital management.[vi] Among those is Spain-based Iberdrola, which generates, distributes, trades and markets electricity worldwide. As the world's number-one producer of wind power, Iberdrola is also a forerunner in renewable energy technology.**

They asked J.P. Morgan to ensure their treasury functions could keep pace with their fast-moving, forward-looking approach to energy production and sales. Historically, Iberdrola would rely on once-a-day statements for visibility of their balances and transactions. To locate payments, Iberdrola had to log onto an e-banking portal or call J.P. Morgan directly.

[vi] https://www.jpmorgan.com/solutions/treasury-payments/case-studies/sap-real-time-treasury-optimizes-working-capital

## The solution

The J.P. Morgan team hosted multiple agile client sessions to fully understand the challenges faced by Iberdrola. Very quickly there was a shared understanding that J.P. Morgan's Treasury Services APIs could deliver significant value to Iberdrola's Treasury, given their global presence across many different regions and time zones. As a result of this deep client insight, we were able to deliver a swift, effective solution specifically tailored to their needs. The J.P. Morgan Real-time treasury application on SAP®, powered by APIs delivers:

- Bank reporting and SAP® reconciliation in real-time, across their J.P. Morgan accounts globally
- Payment tracking utilizing Swift GPI from initiation to receipt by final beneficiary

## The results

Iberdrola has migrated from cumbersome, once-a-day reporting to instant access to real-time data. By integrating our application programming interface (API) solution into their existing ERP system, SAP, Iberdrola can take action on issues sooner and respond quickly to changes in the macro environment, while streamlining workflows and automating previously manual tasks.

"Once the technical implementation was completed, and the configuration of our corporate ERP (SAP) with the J.P. Morgan API was achieved, everything was very simple," said Joseba Dominguez, Treasury Implementation Manager at Iberdrola. "Even more so, when you consider the great benefit that this API brings, in optimizing our Treasury by providing real-time access to balances for all the accounts of the Iberdrola Group in the U.S."
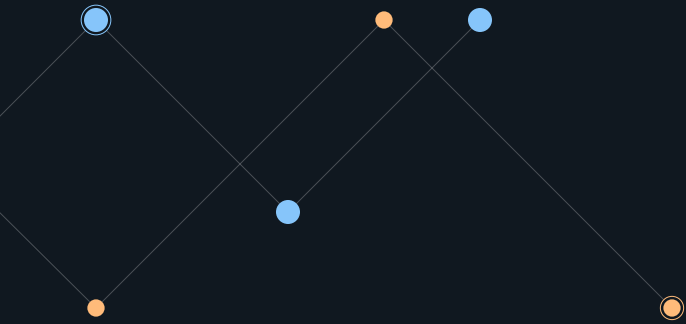
# Integrating real-time treasury into their ERP/TMS systems is already within reach

**Real-time treasury can be achieved but it requires capable technology, partners and the ability to make a sound choice amongst existing API proposed by partners. Learn more about four key aspects that make real-time treasury a challenge for some.**

### 1. A concentrated but capable landscape

To understand the challenges in the industry, one must properly know the TMS/CTRM landscape across a sample of companies well established in the energy space. TMSs provide energy treasuries with the technology backbone to embrace real-time information. According to Zanders' research, 98% of the 60+ energy treasuries surveyed used a TMS as their core system, with a clear concentration of dedicated systems towards the top four largest vendors: SAP, FIS, Kyriba and ION. APIs connect well with products provided by the major treasury and risk management vendors. Despite a clear concentration of dedicated TMS systems towards those top four largest vendors, the positive note is that energy treasuries have the technology backbone to embrace real-time information.

## J.P. Morgan **Access**  Embedded Digital Solutions  |  An Embedded Experience to drive your treasury goals

| **ERP & TMS integrations are at the core of a modern treasury** | **Real Time Treasury** Send payments, track and reconcile in real-time | **ERP AP/AR solutions** Collaboration between accounts receivable and business | **Market Leader** In integrations with 12 TMS and 5 ERP solutions | **Minimal IT Required** Seamless integration with minor technical resources |
|---|---|---|---|---|

### Integrations with **leading TMS and ERP systems**

| **Services offered** | **Global Payments** Make payments globally | **Real Time Cash Position** Automated transaction monitoring and balances | **Real Time Reporting** Automated reconciliation on an almost real-time basis | **Payments Tracking** Track end to end status of J.P. Morgan cross border wire payments |
|---|---|---|---|---|

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## 2. Capable but some points of attention

Iberdrola with SAP is an example of how accessing and utilizing real-time data can create great wins for an energy business. But reaching real-time information when having a system in place implies some re-working. API connects well with products provided by the major treasury and risk management vendors. However, those new add-ons should be installed carefully and quite often with some support (external or internal) to ensure that the outcome will reach its benefits.

*Offering is in pilot

## 3. Real-time data at glance

J.P. Morgan has successfully built apps in SAP for real-time treasury, covering real-time reporting and reconciliation, payments and 'track and trace' that can be accessed within SAP S/4 HANA environment to better acquire and study data.

J.P. Morgan has built a partnership ecosystem to address our clients' treasury needs using the following tools:

- **Balance reporting for enhanced decision-making**
  Balance reporting through APIs provides firms with real-time access to their financial information, enabling them to make informed decisions. Real-time balance reporting enables accurate forecasting, improved cash flow management and enhanced risk assessment. This comprehensive view of their positions and exposures empowers companies to monitor their financial health, optimize liquidity management, and strategize accordingly, while being able to retrieve up-to-date balance data, including cash positions, investment portfolios and debt obligations.

- **Unlocking real-time data accessibility in spreadsheets**
  Issues like mergers and acquisitions, legacy systems and cost considerations often contribute to a fragmented data landscape with disconnected systems and spreadsheets. One often overlooked solution to this problem is the use of APIs, especially in the context of Microsoft Excel. Excel is still widely used today due to its flexibility for specific ad hoc data analysis for risk management, market data analysis and trading strategy development. APIs provide a means to directly access up-to-date data from multiple sources without manual data entry or time-consuming transfers between systems. By employing standardized API calls, Excel can retrieve the required data directly from the original source, facilitating real-time data accessibility. Maximizing Excel's capabilities improves their trading strategies and performance using data-driven insights (and analytics).



**Inadequate intra-day limits may deteriorate trade capacity and volume**

Minimal visibility

High fees and funding costs

Lack of infrastructure to connect with the full ecosystem

**Objective**

Create an End to End real time environment for traders and treasurers to maximize trade opportunities in a controlled environment

**End-to-End Tracking**
Real-time end-to-end payment tracking information

**Visibility**
IDL re-calibration and fees visibility

**Seamless**
Streamlined updates from other banks in payment chain

**Simple**
Easy access to payment tracking information



**How it works**

Payment originator → JPM sending institution → **Swift** **GPI** Unique e2e transaction reference → GPI Bank provides an update on transactions → Payment beneficiary receive

Track on SAP

→ Payment flow

<-> Payment status and confirmations
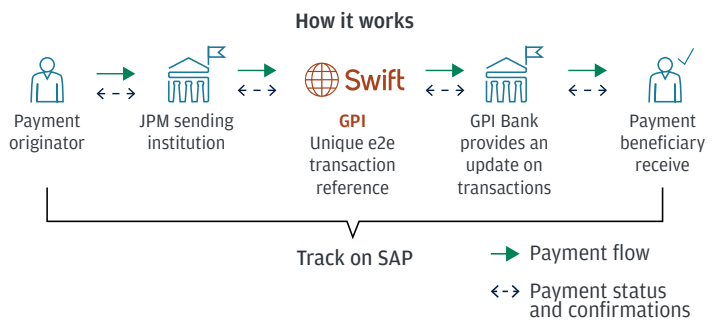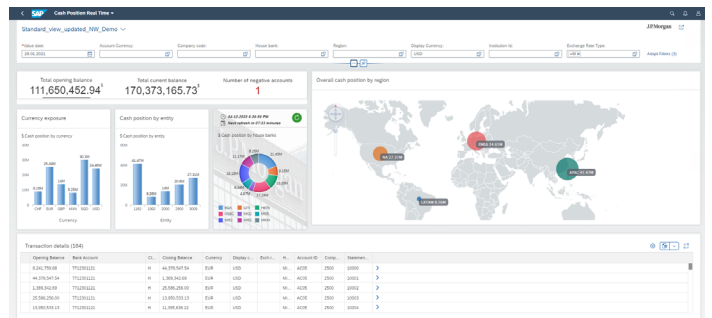
- **Real-time payment clearing for collections**
  Market infrastructure or clearing houses that transact payments and direct debits in real time are another driver of real-time treasury for energy companies. When a customer or trading partner of an energy company pays using a real-time instrument such as digital currencies, the payment information can be reconciled rapidly so that the customer credit account can be cleared, enabling the customer to receive the next set of goods.

- **Accurate net cash position leveraging SWIFT GPI inbound tracking**
  Energy firms often engage in high-value transactions, such as large-scale settlements or procurement contracts. APIs enable to retrieve real-time data on-demand, giving them the flexibility to access the latest information about transaction status, payment confirmations and reconciliation reports whenever they need it. This allows for greater visibility and control over the payment process, reducing settlement risks and enabling timely decision-making. By tracking inbound incoming funds using SWIFT GPI, treasurers are able to have greater visibility of their net cash position.

## 4. Virtualisation as an additive feature to real-time data

Virtual bank accounts enables position monitoring in many different ways as needed. Either by commodity types (Iron Ore/Copper/Cobalt/Electricity/Gas) or by business segmentation (trading desks/Business Unit), virtual bank accounts alleviate physical bank accounts structures but also enables an almost real-time monitoring of balances (since they are reported faster than on a physical bank account) in granular and modular ways.
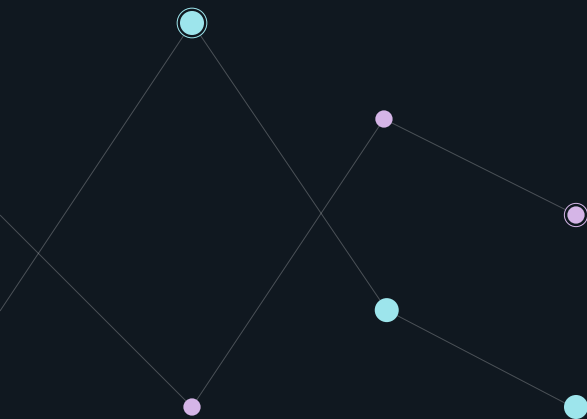
# Implementing real-time treasury, what to bear in mind?

In order to best achieve benefits from real-time data, clients are demanding more integrated services from banks and embedding services within ERP and TMS. The potential for APIs to automate treasury tasks is substantial and on the rise with the added benefit that a lot of the integration work is done upfront by the system vendor and the banks.

Many of the ERP and TMS systems used by energy clients do not have ready built ability to consume real-time data. This has been the major hurdle in energy clients benefiting and maximizing the benefits.

> "*Most of the clients are using MT940 end of day and MT942 intraday statements to do their reconciliation, but there are greater benefits to energy clients from using real-time/on-demand data via APIs into their ERP/TMS to do their reconciliation.*"

**Mario Benedict**
Head of EMEA Digital Channels and Connectivity
J.P. Morgan Payments

It's vital to consider the following points when implementing real-time:

1. **Understanding both business and operating model:** While technology can adapt to real-time enablers (API), the reality is that the landscape is much more complex and may involve multiple ERPs and custom applications. As usual, there is no good use of technology without a clear understanding of both the business and its operating model. This is clear with energy client treasuries who are often organized differently to the typical treasury department, and this is reflected in their treasury technology landscape. Often there will be a separate profit center dealing in commodities that is underpinned by high-end systems. There are multiple touchpoints between both system landscapes, and it is in these touchpoints that the real opportunities lie.

2. **Move ahead with the right tool and for the rightflow:** Cash movement is an area not to be over-looked. A current theme for treasurers is system acceptance of intraday statements/updates, with a split in terms of those TMSs that can and cannot currently integrate this type of data.

Whilst larger TMS providers have this functionality inbuilt, this is not the case across the market, with legacy systems lagging behind. Any requirement for this functionality on "old" systems would require costly system improvement or worst replacement.

For many large energy companies, balance and transactional information is only automated for prior-day bank statements. Often, the cash position will be layered with intraday movements, but this process may be manual and ad hoc. The first step to benefit from real-time data is to harness intraday statements through connectivity channels. These take the form of either MT942 (FIN) or camt.052 (ISO 20022) messages, configured to be sent by the bank at periodic intervals throughout the day or at time of cash movement. Certain types of flows which would provide key cash visibility, such as zero-balancing transactions, aren't typically reflected on intraday statements until the end of day. While the cost of frequent receipt (statements) is often mentioned, the use of intraday functionality is a marked improvement to monitor payments and receipts across a wide number of accounts in near-real time.
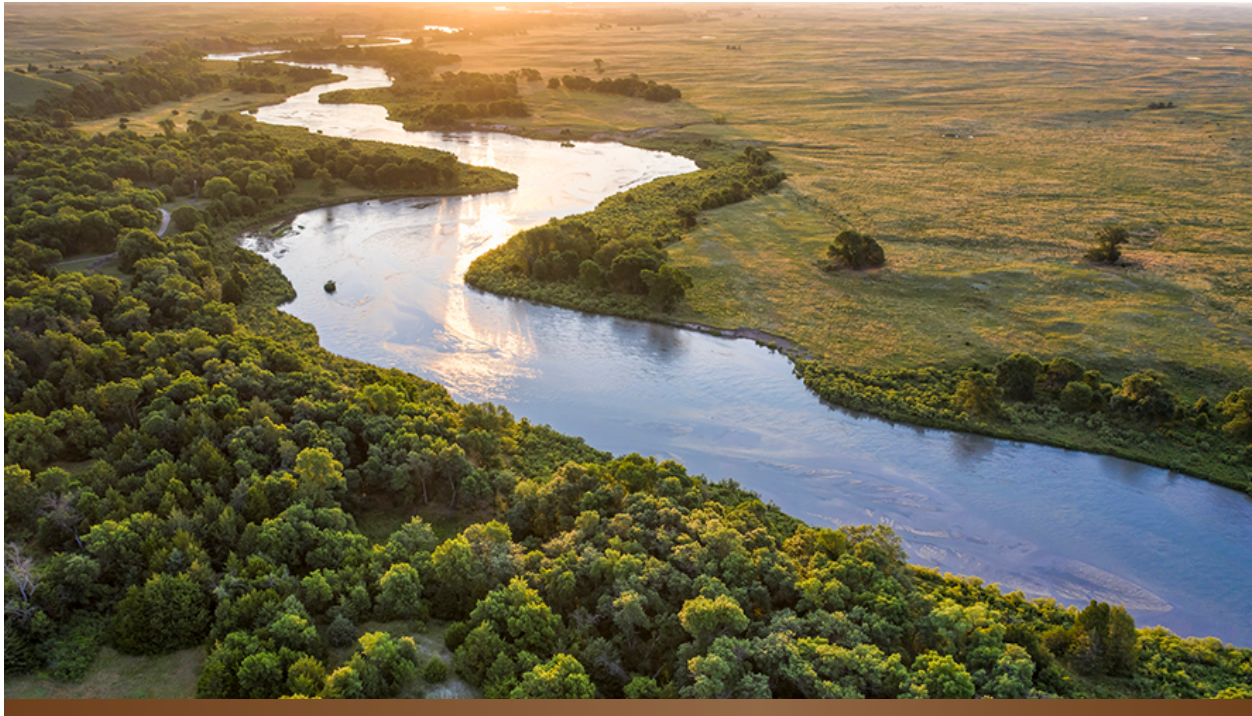
**3.** Until recently, data was often transferred using a host-to-host connection, relying on a schedule for when the transfer took place. Now APIs enable the data to be shared in real time. Implementing new technologies and integrating them into existing systems require thorough planning, coordination and user acceptance. Energy companies often have complex organizational structures, and introducing real-time treasury solutions may involve changes in workflows, processes and responsibilities. The intricate technology landscape with multiple ERPs, custom applications and TMS solutions adds complexity to integration. Ensuring security and compliance of data encryption is paramount, requiring robust protocols and adherence to regulations. Managing this change effectively requires clear communication, training and a change management strategy that addresses the unique requirements and challenges of the organization.

**4.** API is not just jargon anymore, it's a popular solution that is being adopted across Corporate Treasury functions: In place of Swift statements, and sometimes in conjunction with them, API can help treasurers achieve better results, through integration of bank's systems with the corporate's systems.

Monitoring real-time data (against intraday statements) through API is seen as a back-up or complimentary scenario to Swift. In reality it brings an advantage, in terms of speed for business decision and accuracy for key item such as a cash position. The barriers in adopting real-time treasury are smaller than widely believed as banks like J.P. Morgan have already completed a lot of the integration work. There can be some added complexity where clients system standardization and the different levels of "maturity" with APIs among software vendors. For a corporate to connect to all their banks using APIs there are different choices today, but banks like J.P. Morgan are increasingly offering multi-bank API solutions like an API aggregator role.
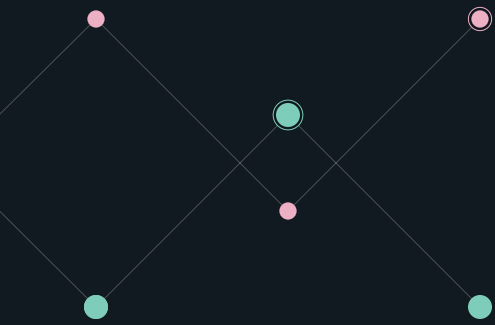
# Conclusion

Given the inherent benefits of adopting real-time technology, we believe it is sensible to start exploring the possibilities of real-time providers today. With energy markets likely to remain volatile and capital intensive, a call to action is required to enable real-time data and real-time payments to create a resilient and automated treasury adequately set-up with the right banking partners. Even if you are not ready to execute a project, consider discussing your needs and requirements today to create a target state and a roadmap to get there.

Wherever your treasury is positioned on the journey to real-time treasury, we recommend a discussion with your J.P. Morgan Payments partners to ascertain your requirements, identify the appropriate solutions and articulate a path forward for your set-up. Additionally, functional and technological partners like Zanders can help corporates identify these requirements, navigate the integration challenges and assist with the implementation of innovative banking solutions to deliver real-time treasury solutions.

The core energy trading model of matching producers and consumers is truly a 24/7 business and enabling real-time treasury will deliver a significant competitive advantage.

> *"Real-time payment options like digital currency and blockchain, coupled with multi-banking API, delivers visibility, control and security, and helps address the needs of energy traders. Digital currencies also reduce payments processing times, enable efficient cross-border transactions and streamline transactions. With the energy market practices, digital currencies may one day also facilitate decentralized markets and enable peer-to peer energy trading among business. Merged with real-time data, these tools will help energy firms enhance their treasury in order to fulfil their objectives."*

**Jerome Brun**
Executive Director, EMEA Business Development
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