



Powering the financial services sector

Managing risks and opportunities for energy transition



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Navigating the new energy landscape

The financial services sector faces a raft of new and evolving challenges as it seeks to navigate the new energy landscape. A decade ago, energy did not typically feature on the boardroom agendas of many financial services businesses. Today, however, leadership teams are challenged by rising and volatile energy costs; the need to decarbonise; managing bills and payments for complex and evolving estates, as well as regulatory change.

What's more, the financial services sector's pivotal role in controlling capital flows across all industries puts it in a unique position: it holds the key to unlocking systemic decarbonisation across the global economy by choosing how it finances emissions. Achieving transformational change across the entire financial system is a huge undertaking. Nonetheless, there are many ways that companies can achieve change in the short to medium term. This paper focuses on strategies for decarbonising financial services firms' physical estates.

The recent pandemic lockdowns were followed by disruption to natural gas supplies, which created a perfect storm of energy volatility, driving markets from depressed energy prices to costs reaching an all-time high in under two years. Subsequently, Russia's invasion of Ukraine has thrown global energy markets into a new state of turmoil, further driving up prices. For financial institutions with extensive branch networks such as retail banks, forecasting demand has never been more challenging. For those with a minimal or decreasing physical network, the carbon cost per click is just as crucial.

Across the financial services sector, sustainability and environmental and social governance (ESG) have taken central stage, and successfully navigating the energy transition is now integral to many firms' corporate strategies.

Business Drivers

“... the transition to net zero is a risk that needs to be managed as well as an enormous commercial opportunity to grasp.”

Mark Carney, Finance Adviser to the Prime Minister for COP 26 and UN Special Envoy for Climate Action and Finance

Over 250 financial institutions, managing over US\$71 trillion in total assets, have assessed and disclosed the greenhouse gas (GHG) emissions of their loans and investments through the Partnership for Carbon Accounting Financials (**PCAF**) organisation. Further acknowledging their pivotal role in limiting climate warming, financial institutions with more than US\$130 trillion in assets under management committed to reaching a state of net-zero before 2050 at COP26.

However, as well as assessing GHG emissions that result from their loans and investments, financial institutions must also address **scope 1 and 2 emissions** that arise from their business operations. Understanding your energy use and the business trends that affect it provides a rational starting point for every decarbonisation journey.

Evolving estates challenge payment processing

The number of UK bank branches roughly **halved** from 1986 to 2014, and almost **halved again** from 2015 to 2021. The move to online banking and increasing use of contactless payment has seen cash use, and associated logistics, decline by about **15 per cent** per year; trends that are accelerating consolidation of bank branch networks. As physical estates evolve, gathering and analysing bill data remains a foundation for cost control, forecasting and energy performance reports, and, increasingly, emissions data. Transparency over energy spend reduces energy management risk and improves reporting accuracy. Collecting routine energy data delivers substantive benefits when used to inform business strategy.

While closure of branches reduces energy demand from buildings, banks and financial services firms are increasingly investing in digital services, which means building more data centres or increasing their use of colocation data centre facilities. Both options raise energy demand and emissions while use of colocation data centres shifts the company's emissions from scope 1 to scope 3.

Enel X digitalises Santander's energy monitoring to boost sustainability

With thousands of branches throughout Europe and the Americas, monitoring and streamlining energy consumption is an extremely complex task, especially considering the number of utility companies supplying energy and water. By deploying Enel X's Utility Bill Management (UBM) system, Santander now has a detailed picture of its utility expenses. UBM enables Santander to check for billing errors, compare performance across sites based on number of staff, opening hours and branch size, as well as identifying opportunities to reduce energy consumption.

Monitoring consumption also provides the basis for measuring and reducing emissions. Enel X and Santander are collaborating on projects to cut emissions, including the use of UBM data to inform strategies for renewable power purchase agreements (PPAs) and alternative generation methods.



Emissions reporting

The broad umbrella of environmental and social governance (ESG) is driving boardroom agendas across many energy-related areas. Beyond decarbonisation commitments and energy use, financial services businesses are assessing their investment criteria to include sustainability, geopolitical, supply chain, circular economy and, of course, operational issues.

Most financial organisations are now reporting board-level oversight of climate-related issues. According to a 2021 [report](#), however, fewer than half of the financial institutions that disclose their emissions through CDP have taken action to align their portfolios with a 'well below 2-degree Celsius' world. According to CDP's analysis, the greenhouse gas (GHG) emissions associated with the financial services sector's investing, lending and underwriting activities are on average 700 times higher than their direct emissions.

Industry-led initiative, the Partnership for Carbon Accounting Financials (PCAF), has responded to the demand for standardised global measurement and disclosure of financed emissions with its [Global GHG Accounting](#)


[and Reporting Standard](#). The standard provides detailed methodology guidance for measuring and disclosing GHG emissions across six asset classes. These are: Listed Equity and Corporate Bonds; Business Loans and Unlisted Equity; Project Finance; Commercial Real Estate; Mortgages; and Motor Vehicle Loans.

There now exists a cluster of climate initiatives and PCAF is collaborating with several of these, including the Science Based Targets initiative for Financial Institutions ([SBTi-FIs](#)) and The Task Force on Climate-Related Financial Disclosures ([TCFD](#)). TCFD exists to develop recommendations on the types of information that companies should disclose to support investors, lenders and insurance underwriters when assessing climate change risk.

Regulatory requirements to report GHG emissions vary between jurisdictions. Larger firms and businesses operating in energy intensive industries are often subject to mandatory GHG and environmental reporting, whereas smaller companies operating across all sectors are choosing to report voluntarily in response to pressure from stakeholders.

UK firms to publish net zero plans in 2023

The UK government requires listed companies and financial institutions to begin publishing net zero transition plans by 2023. Although there is no commonly agreed standard for what a good transition plan looks like, a new Transition Plan Taskforce is set to publish a science-based standard.

 While the financial services sector is not considered to be energy intensive, its scale, the prevalence of large numbers of sites in retail banking and the increasing use of technology mean that for a service industry it consumes a lot of energy. Given the sector dynamics, accurately measuring and reporting emissions is an increasingly complex task, especially for businesses that operate globally.

Multiple stakeholders have varying needs, expertise and truths

Stakeholders involved in energy decisions typically include specialists in energy management, operations and contracts, procurement, finance and emissions reporting. Global organisations may replicate these positions in each region. Each of these specialists have different perspectives, goals and needs. With multiple teams involved there is a risk that spreadsheets proliferate, making it difficult to identify a single source of the truth.

Furthermore, those involved in using energy data are not necessarily energy specialists. What they value is having simplified but accurate reporting that provides key insights derived from the raw data, so that they can make informed decisions.

Transition plans will explain how companies will decarbonise in order to meet 2050 net zero targets and adapt to a low-carbon economy by setting high-level targets to mitigate climate risk, including greenhouse gas reduction targets, interim milestones and actionable steps to meet those targets.

The announcement at COP26 was part of an overall commitment by the then chancellor to make the UK a “net zero-aligned financial centre.”



Knowing your energy use is the first step in effective GHG reporting

Accurate reporting requires a single version of the truth, resulting in data that can be shared and actioned. Spreadsheets are unlikely to support this need.

As well as using appropriate technology to measure energy consumption and calculate emissions, organisations may have to overcome cultural resistance to sharing energy data with third parties. Raising awareness of the value of measuring data across the entire organisation can be achieved by identifying pain points, running educational workshops and facilitating a global solution framework that acknowledges regional needs.

Enel X supplies a wide range of software-based solutions as part of Enel X Connect: an all-in-one digital platform that helps companies monitor their energy usage, costs and emissions through a single and easy-to-use access point. Enel X uses a sustainability reporting platform that also tracks energy spend, which is used to enable emissions reporting. The platform provides visibility into how and when organisations use energy, providing a baseline for further efficiency measures.

To capture the environmental benefits of renewable programmes, carbon reporting is an integral part of the platform. This allows organisations to track all data associated with the purchase, consumption and generation of renewable energy – including its impact on sustainability goals and environmental benefits – using market-based and location-based emission calculations.

Accurate demand forecasting key to risk strategy

Enel X works with a leading UK bank to formulate its risk strategy based on accurate energy budget forecasts.

The energy crisis and price volatility has brought energy budgets into sharper focus for many organisations. Enel X's client, a leading UK bank, wanted more robust forecasting accuracy for its energy budgets to inform key strategic decisions. Forecasting future demand is challenging at the best of times; it is near impossible to produce accurate long-term forecasts in the current climate of geopolitical turmoil and extreme pricing volatility. What's more, the client, like most retail banks, continuously assesses branch viability across its estate, which in itself has a dramatic impact on demand.

First, Enel X worked with the bank's energy stakeholders to focus on getting a single source of the truth for their energy use. Enel X then agreed a process of monthly forecast updates. By regularly updating the forecast it could converge on an increasingly accurate budget throughout the financial year. Enel X also tracked non-commodity costs and incorporated the impact of these each month.

The ideal procurement model for the client would have been to secure 100% of the future year's energy requirement at the point the budget was set. In practice it was agreed that 20% of the overall volume would be left to procure on the spot market so that the demand impact from site closures and openings could be accommodated.

To further increase accuracy, our analysis of the bank's estate focused on the 20% of branch and head office sites responsible for 80% of the overall consumption.

Having access to timely and accurate data with an informed interpretation of what it means is the key to being able to formulate a risk strategy to fit with our client's site production profile and successfully navigating the energy crisis.

Maximising energy productivity

Once an organisation has a clear picture of its energy use, identifying opportunities for efficiency gains becomes much easier. Having baselined emissions, and with an integrated energy strategy in place, organisations can establish measures to reduce emissions and to record their progress. A sustainable roadmap should ideally address emissions across all scopes.

Executing a plan to **address scope 1 emissions** could include installing on-site generation and optimising or electrifying key processes. However, making long-term commitments in terms of energy supply and infrastructure is a high-risk strategy when dealing with an evolving estate, as is the case with bank branch networks. Investing in microgeneration at a branch level is rarely an option with sites on shorter-term leases.

Addressing scope 2 emissions requires procuring energy from lower emission sources, including renewable energy through Power Purchase Agreements (PPAs), as well as managing offtake agreements with energy suppliers. Actions such as assessing your current asset base, strategic sourcing/procurement, emissions tracking, and energy efficiency, are fundamental to reducing emissions across scopes 1 and 2.

Businesses with branch networks that spread across large geographical areas can find themselves dealing with multiple grid operators when setting up a PPA. In this case, it's worth considering a virtual PPA, which delivers the hedging benefits of a physical PPA but without the physical delivery of power.

Addressing scope 3 emissions hinges on tracking emissions from supply chain participants and communicating with them. As a CDP Gold partner, Enel X has visibility into supply chain disclosures and works with its customers to facilitate analysis of their upstream and downstream partners. Financial organisations are in a unique position to affect scope 3 emissions through their investment strategies; reporting frameworks and initiatives such as PCAF, SBT-FIs and TCFD provide methodology guidance for measuring and reporting emissions that arise from loans and investments.

Setting targets to make change happen

Committing to stringent targets delivers focused energy strategies

EP100 is a global initiative led by the Climate Group for businesses committed to measuring and reporting on energy efficiency. Energy productivity, or EP, is the ratio of economic output to energy consumption – a metric that is improved through the take up of more efficient technologies and practices.

An Enel X banking client has committed to improving energy productivity 40% by 2025 against a 2015 baseline and owning and occupying operational net zero assets by 2030.

To help deliver on its emissions commitments, the bank has secured a power purchase agreement (PPA), which satisfies a proportion of their energy volume needs with renewable power. Enel X is sleeving¹ the PPA to manage overall risk,

which means hedging the difference between the PPA volume and the bank's demand in the wholesale markets. Given their longevity, negotiating PPA contracts can present a challenge to businesses where consolidation is a feature of the business landscape.

The bank has also made a public declaration through membership of **EV100** to install electric vehicle charging and transition its fleet of 300 vehicles to EV by 2030.

With the typical customer visit only lasting between five and 10 minutes, supporting customer EV charging is unlikely to be a workable model for most retail banks, but providing charging for staff at head office facilities is a sensible proposition.

¹ With a sleeved PPA, also called direct or retail PPA, an intermediary utility company handles the transfer of money and energy on behalf of the buyer

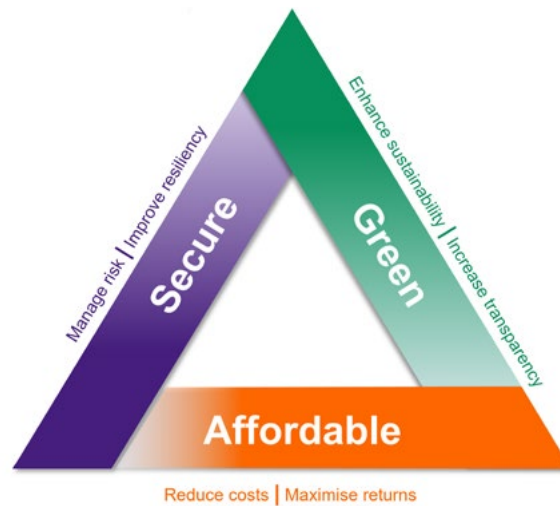
With change comes opportunity

In response to the increased variability in supply that accompanies the growing adoption of energy generation from renewable sources, grid operators and utilities are now placing a premium on asset flexibility – the ability for supply and demand resources to modify their electrical production or consumption when required. This evolving market has created a complex energy landscape; navigating it requires deep expertise.

With change comes opportunity, and the energy transition is no exception. Through more sophisticated energy market participation, flexible energy generation assets and battery energy storage solutions, financial services businesses can earn more revenue and achieve greater performance visibility – enabling them to realise investment returns and support grid operators in the journey to net zero.

“...earn more revenue and achieve greater performance visibility – enabling them to realise investment returns and support grid operators...”





Sustainability and security of supply

Demand response, or DR (also referred to as demand side response or DSR), where a business turns down or turns off an electrical asset in response to a grid event, is the mechanism typically used to deliver asset flexibility to grid operators and realise a stack of value streams across various markets with various assets and facilities.

As well as reducing their carbon emissions, many businesses are increasingly concerned with grid-related issues such as security of supply and maintaining demand in times of grid stress.

Responding to DR events can prevent an actual outage of the national or regional grid system that would result in more downtime and longer time running on back-up generators. This is an example of how financial service businesses can leverage their estates and data centres in a way that enables broader societal benefits.

DR also facilitates the integration of higher levels of renewable generation on the system. Increasing levels of renewable generation make the power system harder to operate in two main ways: first, their variability means that it is harder to keep supply and demand in balance; second, because they are not synchronous generators, they do not contribute to system inertia, which makes it more difficult to manage the system frequency after any perturbation. Without large energy users participating on the demand side, grid operators must address these issues by calling on conventional generators and by paying renewable generators to reduce their output. By participating in DR, customers are improving grid sustainability by enabling more renewable generation, without increasing costs to consumers.

Battery energy storage systems

With technology costs falling rapidly, battery energy storage systems (BESS) are becoming pivotal in the energy transition as they can provide the flexibility and resilience needed to accommodate the increased penetration of renewables on the grid. Battery energy storage systems typically drive three main sources of value for large energy users such as financial services firms:

Sustainability Value

Battery energy storage can improve your ROI for on-site solar power, and storage also enables the grid to support increasing amounts of renewable power, which will drive down wholesale power costs over time.

Resiliency Value

The system will improve your ability to operate critical equipment in the case of a grid power outage, especially if installed as part of a microgrid.

Economic Value

A battery energy storage system has the ability to capture all flexibility opportunities. You earn a share of the value captured by the battery system each month, with immediate positive cash flow impact to your business.

Procuring low-carbon energy

Measures that improve efficiency and optimise energy use using DR can only go so far. Once it has been maximised, the next step is to look at sourcing green electricity for power.

Procuring low-carbon energy

Good procurement of renewable contracts is a complex issue. A typical requirement is to make a long-term agreement with an energy company that can guarantee to deliver a supply of clean electricity sufficient to meet an organisation's changing needs.

Switching to clean sources of power has a dramatic impact on emissions. Like other energy-intensive businesses, financial services businesses are choosing to become off-takers using power purchase agreements (PPAs) to buy renewable energy and to complement the use of on-site generation and storage. This further increases the percentage of energy

which is renewable and thus reduces emissions. As well as guaranteeing supply, this approach allows them to reliably predict future costs. Above all, purchasing renewables through a PPA signifies a long-term commitment to the zero carbon agenda.

However, negotiating PPAs can be technically complex. Some key PPA parameters include the term of the agreement; whether the PPA is a corporate arrangement; if it is purchased directly from the generator or a supplier; if it includes a private wire and/or storage; and how risk is allocated between procurer and generator or supplier, including the volume risk. Optimising these parameters to deliver a bespoke agreement that suits both generator or supplier and off-taker requires depth of knowledge and experience.

Enel X helps financial services organisations simplify their energy purchases through a holistic, three-step process:

1. Strategy

Understanding how different renewable energy resources and product options accomplish different objectives is the cornerstone of an effective renewable energy strategy. Enel X helps financial services businesses prioritise their goals across reducing costs and emissions, budget stability, contractual complexity, speed to market and contract duration.

2. Implementation

Given the complexity of renewable energy contracts, RFP (request for proposal) definition is a critical step for apples-to-apples comparisons. Enel X helps financial services businesses structure RFPs to manage market, basis, counterparty, and contractual risks effectively. For example, COD (commercial operation date) guarantees, production guarantees, and energy attribute certificate deliveries should all be consistent across bidders so that organisations can evaluate deals on equal terms.

3. Continuous optimisation

Throughout the life of the PPA, Enel X continues to support clients via activities such as energy attribute certificate retirement and integration with wider energy risk management strategy.

Accelerating renewable energy purchase and data security

In 2018, a leading global technology business matched 100% of its global electricity consumption with renewable energy for the second year in a row. Looking to the future, the company recognised that sustaining a 100% match would require thinking beyond its historical procurement methods. To continue meeting its users' needs in a sustainable way, it decided to streamline its renewables procurement process by running reverse auctions (where energy sellers bid for a buyer's business) for wind and solar projects. Its goal was to find a way to source, negotiate, and sign a large wave of renewable energy deals in a single, global push.

The customer used Energy Exchange, Enel X's proprietary reverse auction technology integrated in Enel X Connect, to support its industry-leading commitment to sustainability. As a result of the auctions, it signed 10 agreements comprising more than 1.2 GW of renewable

energy. Running digital reverse auctions accelerated its procurement process and allowed it to meet its cost optimisation goals.

Financial services organisations, like many businesses, insist on the ultimate in security levels when dealing with energy data.

Enel X continues to invest in safeguarding customer data across its platforms. For example, Enel X has invested significantly in security upgrades to Enel X Exchange. It now meets programme requirements across 126 testable controls in areas such as application security, security monitoring, audit log management and continuous monitoring, making it the only energy exchange with a US Government Federal Risk and Authorization Management Program (FedRAMP) certification. The U.S. Federal Government General Services Administration requires that the energy exchange platform used for their energy procurements be FedRAMP certified for data security purposes.

Conclusions

Financial institutions have a pivotal role to play in tackling the climate emergency, both through their use of loans and investments, and in limiting their direct emissions.

With a comprehensive energy strategy, financial services firms can reduce carbon emissions, maintain resilience, predict future energy costs and enhance their ESG performance. An effective strategy must include optimising energy use, planning and implementing a procurement strategy, and exploring ways to co-operate with energy companies and grid operators. By committing to PPAs with clean energy suppliers and participating in DR programmes, service businesses can help maintain the stability of the grid and find valuable new sources of income; in short, going beyond adopting energy efficiency measures to become good grid citizens.

For most financial service organisations however, sustainable energy, in itself, is not a core business competence and implementing an energy strategy that addresses all of these priorities takes knowledge and expertise and a current understanding of regulatory and compliance issues.

As a global organisation, Enel X is uniquely placed to work with multinational businesses, including financial services businesses, to deliver advisory services, energy strategies, assets, market access and solutions that are informed by data analysis.

The Enel Group of companies has been on its own sustainability journey for more than 20 years. Enel has fundamentally changed its business model and invested in renewables, networks and digitisation. The company has a core value embedded into its purpose and strategy, which is to create lasting value for society and work for sustainable progress. Our aim is to become a leader in shared value and sustainability. Enel recently brought forward its target commitment to fully decarbonise by 10 years, to 2040.

About Enel X

Enel X is Enel Group's global business line dedicated to advancing the energy transition. We help commercial and industrial scale energy users to reduce carbon emissions, increase profitability, strengthen operational resilience and support a dynamic grid system by providing better ways to source, store, manage and consume energy. A leader in the advanced energy solutions sector, Enel X manages 7.7 GW of demand response capacity and 61 MW of storage capacity worldwide. The Enel Group is listed on all major sustainability indexes and is committed to achieving 100% carbon neutrality by 2040.

Enel X is a CDP Gold Partner. In this capacity, we can help you:

- > Track direct and indirect emissions including Scope 3
- > Organise and report your environmental data
- > Develop and implement an emissions reduction strategy
- > Procure and advise on renewable energy products
- > Measure and understand your environmental impact
- > Analyse the benefits and costs of setting different emissions reduction targets
- > Benchmark your company against your peers

Enel X is a ESGFinTech100 company.

The **ESGFINTech100** is an annual list of 100 of the world's most innovative ESG companies offering solutions for the financial services industry selected by a panel of industry experts and analysts. These are the companies every financial institution needs to know about as they consider and develop their ESG assessment and performance improvement strategies. The **ESGFINTech100** list will help senior management and sustainability leaders evaluate which ESG tech solutions in financial services have market potential and are most likely to succeed and help financial institutions in their transition to net-zero.



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