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**Market-wide Half-Hourly Settlement:**

**Beyond the regulatory deadlines,  
energy companies need to focus  
on the long game**

**A BJSS point of view on MHHS**



# Introduction

Against the backdrop of the [global energy crisis](#), the [slower than anticipated smart meter roll out](#), and quickly following the implementation of the Faster Switching Programme, the UK energy sector is undergoing one of the biggest overhauls of electricity systems and processes. This shift is the most substantial since its privatisation and the introduction of the competitive market in 1990.

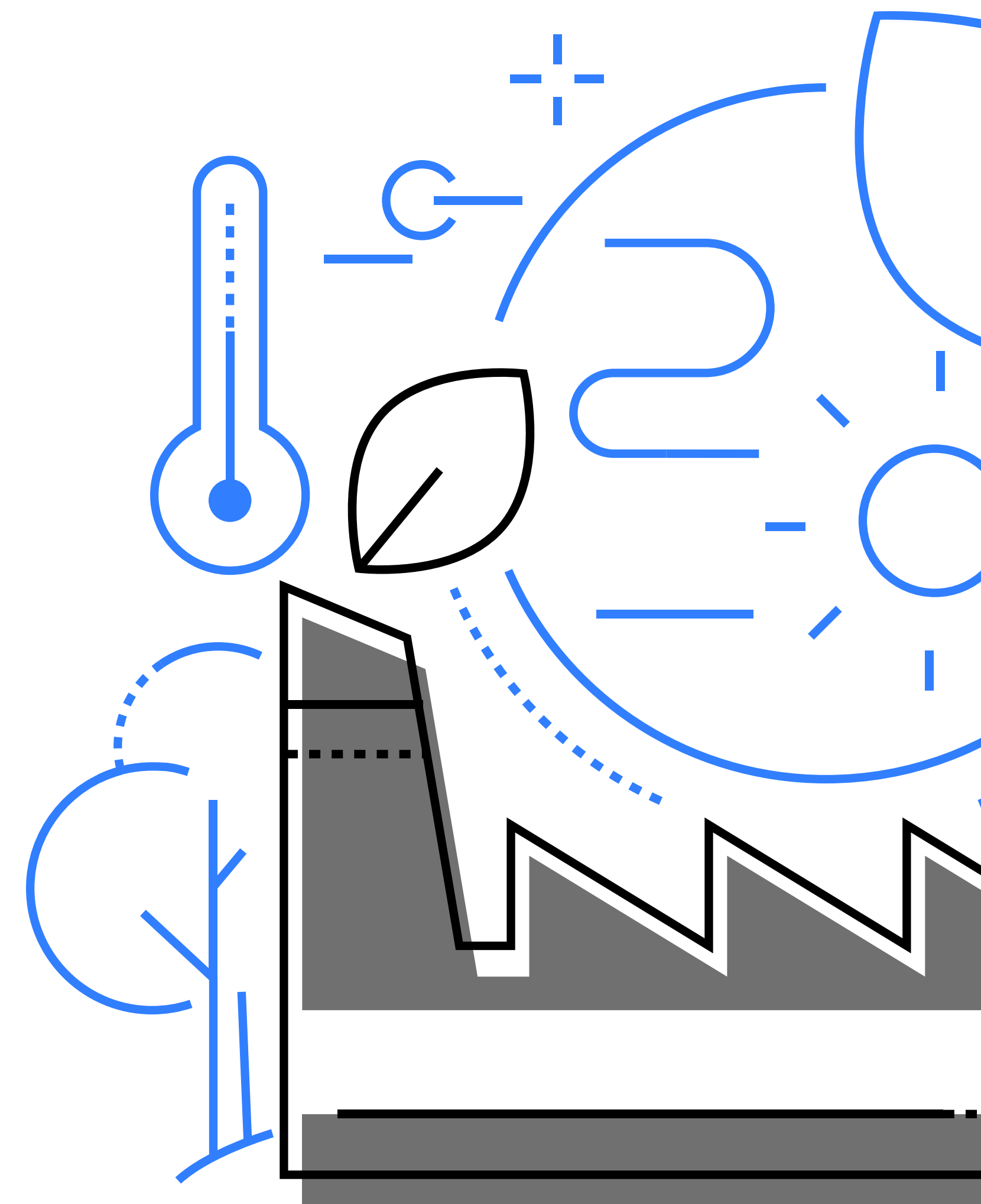
To be completed in 2026, the move to Market-wide Half-Hourly Settlement (MHHS) will allow households to access real-time prices, enabling them to choose the most cost-efficient times to run their appliances and equipment whilst allowing the energy industry to better anticipate and resource the delivery of those requirements. By optimising the load on the National Grid, MHHS will be a key enabler of the transition to Net Zero.

The UK energy sector is currently standing at a decisive juncture in its transformation journey driven by MHHS.

**While delivering on their MHHS regulatory obligations, it must also focus on the opportunities resulting from its implementation.**

With Ofgem's tight timelines to meet the market-wide timescales, most companies have plans well underway to migrate legacy systems, enhance data capabilities, and improve forecasting and risk management. These all need to be in place for the sector to deliver the intended energy efficiency and integration of renewables. At the same time, UK energy companies must explore innovative solutions to problems and pursue future opportunities from this implementation.

The window of opportunity for the first mover advantage is closing fast, and energy companies must urgently research, design and deliver a coherent way forward. On a fundamental level they will need to address step changes in the experiences and behaviours of both domestic and business consumers following the introduction of MHHS. And the importance of further anticipating and pre-empting the increased volatility, potential pitfalls and disruption heralded by the wide-ranging direct and indirect effects of global warming should not be underestimated.



# In this point of view paper, we look at three horizons of change for the MHHS transformation:



## The unfinished business of digital transformation

The introduction of MHHS comes at a time when businesses are already facing ongoing challenges within the digital realms of cloud, data, and the workforce.



## Unlocking the innovation in the energy sector

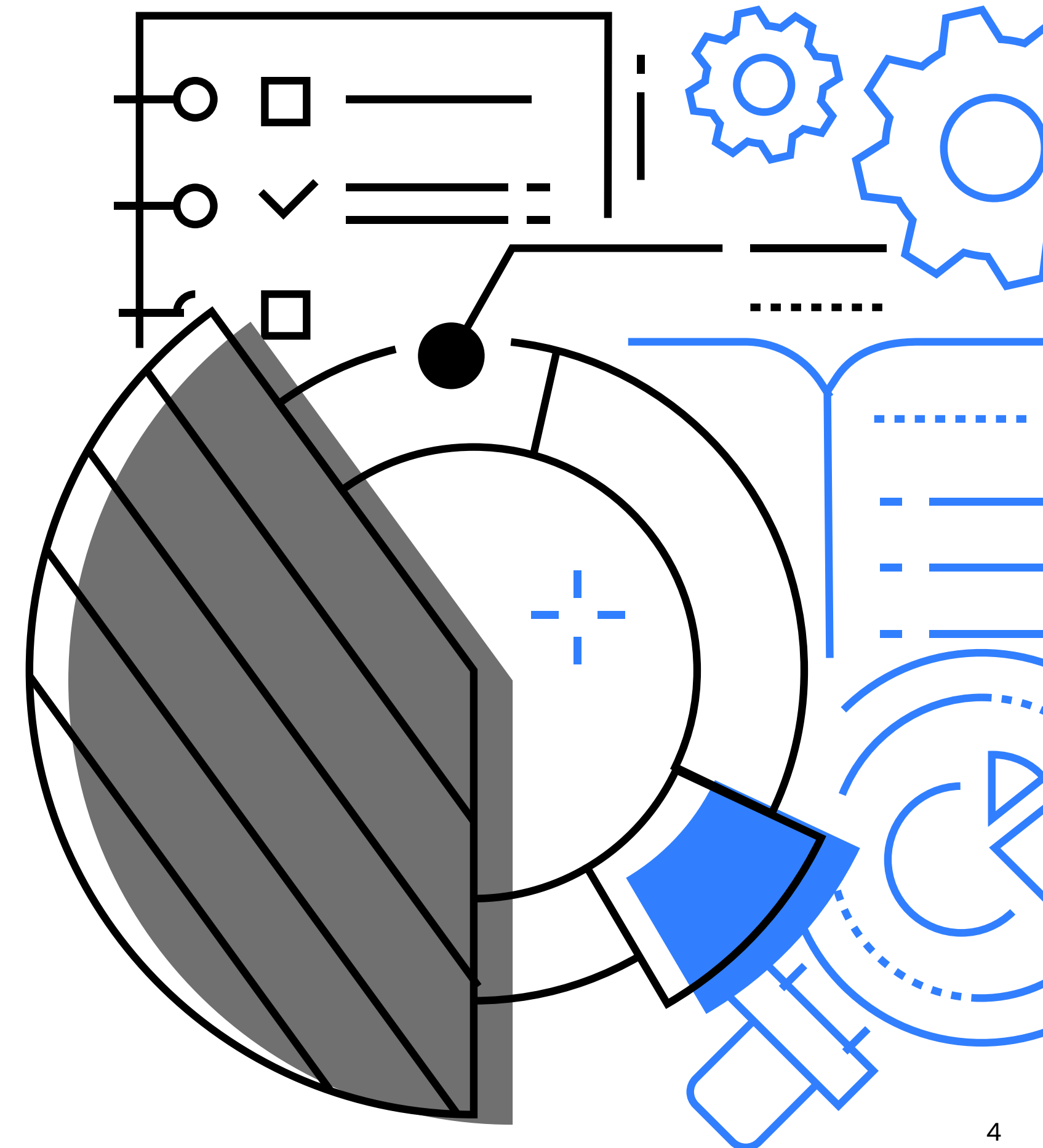
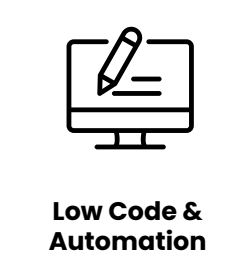
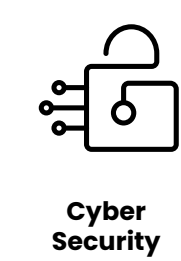
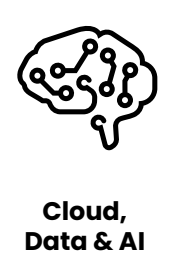
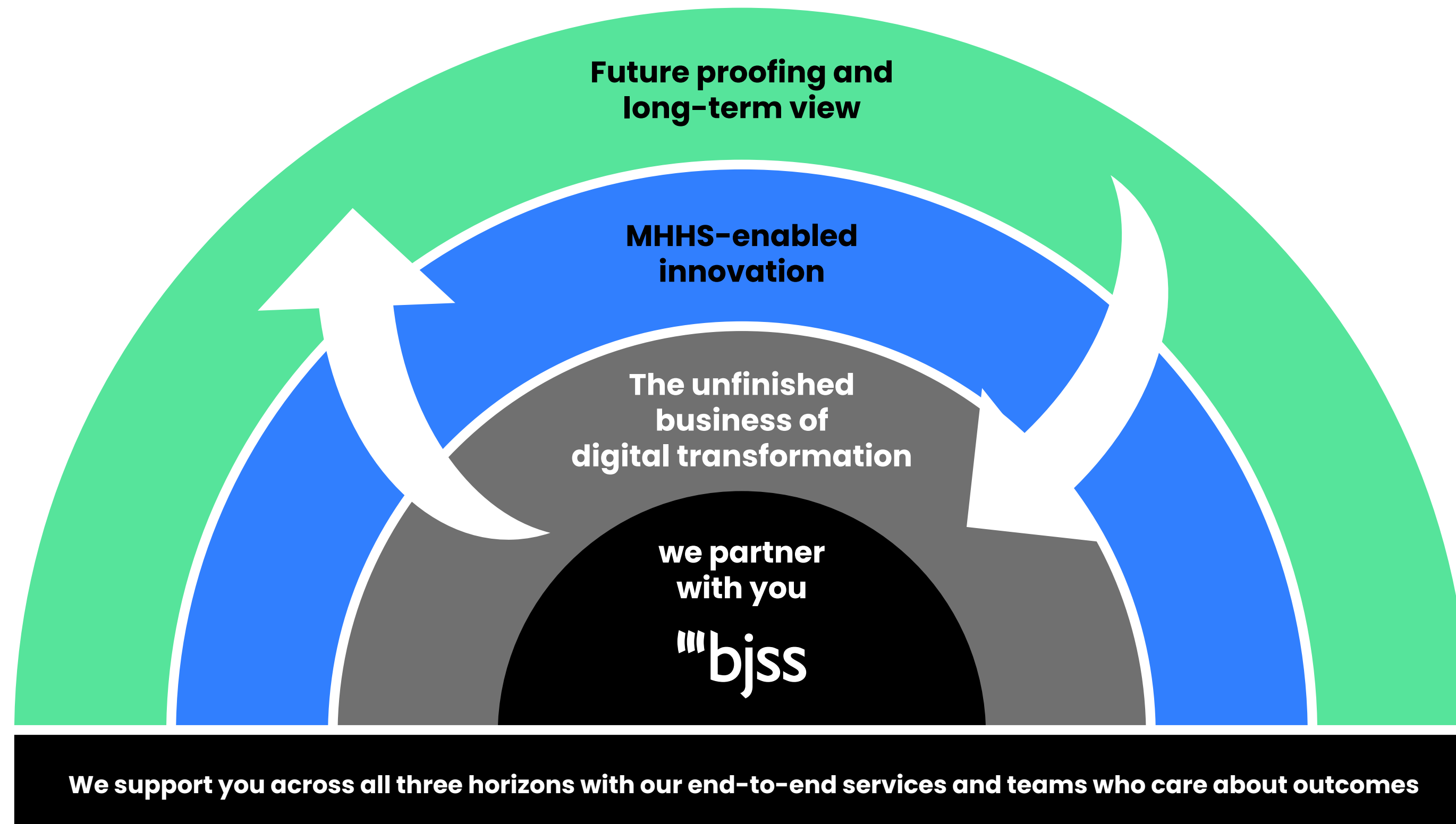
The data provided by MHHS will necessitate and accelerate innovation within the fields of data-enabled customer experience, value propositions and efficiencies.



## Future-proof energy

In the context of the climate crisis, MHHS opens opportunities to future-proof energy by driving consumer and provider behaviour at an ecosystem level.

**At BJSS, we support you across all three horizons with our end-to-end services and teams who care about outcomes.**



# 1 The unfinished business of digital transformation

The changes needed for MHHS add to a set of challenges that energy companies have already begun addressing, such as cloud, data, and workforce changes, but are still ongoing. MHHS renders these three modernisation pressures more urgent and challenging – but presents the opportunity to build it once, if they can build it right.

## Cloud transformation

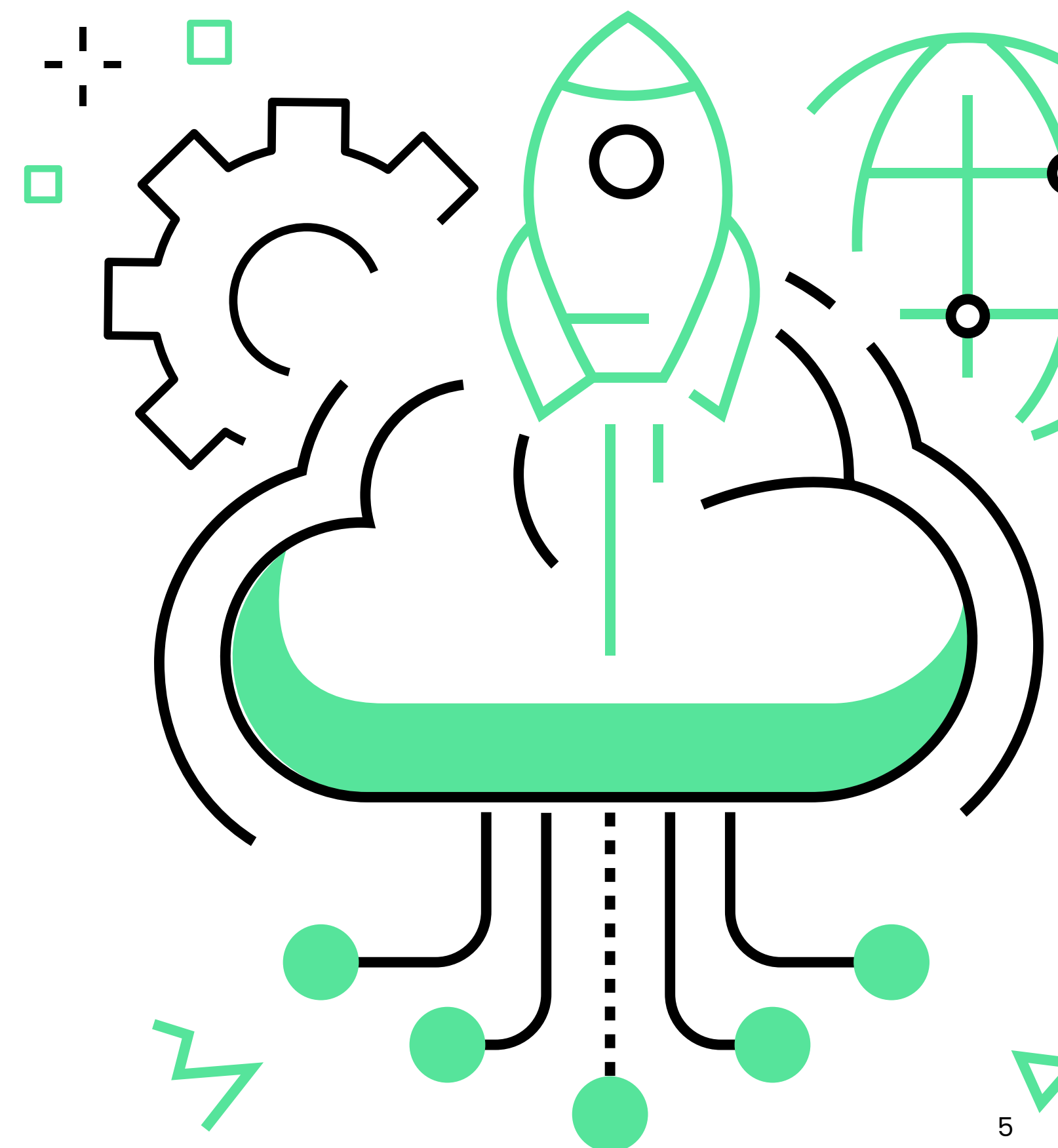
**In a competitive landscape, energy companies have concentrated on their digital customer experience by making things look effortless but working hard in the background. There is still a large amount of manual back-office estate and processes, resulting in tight margins and high disruption risk, however.**

Faster Switching has moved many of the legacy systems inherited from the Change 98 programme into the Central Switching System (CSS) using JSON messages and APIs, but a great deal of industry flows are still flat files. Some utilities are still reluctant to move to cloud, citing security and regulatory constraints.

In this context, implementing MHHS presents challenges of scale, functionality, and integration. Increased data volumes require investment in infrastructure and addressing privacy and security concerns. Integration requires seamless cooperation, new data protocols, and process standardisation among market participants. Interoperability and data quality will also be crucial.

Companies need cloud-native scalable solutions, combined with advanced analytics and artificial intelligence (AI), to efficiently handle the large volumes of MHHS data, automate complex processes, and enable seamless integration and near-real-time analytics.

Digital and cloud transformation are now in the **unstoppable phase of innovation** but this doesn't mean that it is complete, or straightforward. While this may not be an exciting investment for stakeholders to champion, the cost of not doubling down in digital and cloud transformation in core business operations will be high.



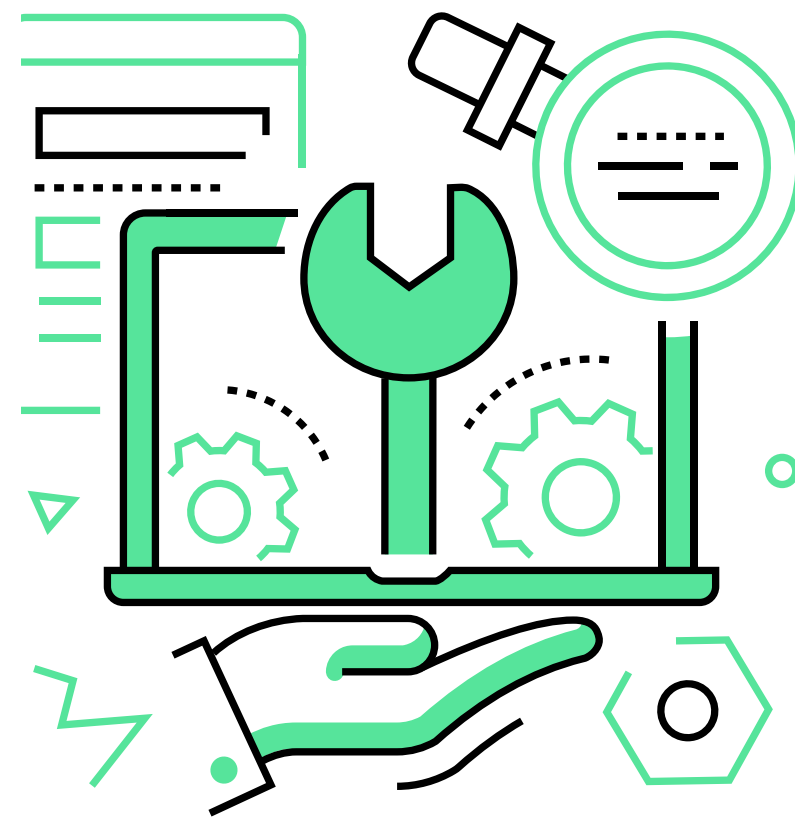
## Data transformation

Energy companies have made substantial progress in using data analytics in several useful ways, such as predictive maintenance, demand forecasting and customer segmentation. They have employed innovative approaches under time constraints, such as identifying vulnerable customers or allocating energy support grants.

However, legacy systems continue to create silos and organisations are always battling against the quality of data that they receive from one another (wrong MPANs at addresses or wrong meter details). Despite internal projects and improvements championed by the regulator, there are still long-standing issues.

Moving to half-hourly settlement will generate vast amounts of granular consumption data, requiring robust and scalable data management systems. Investment is still needed on data infrastructure, technology, capability and the business processes and operating models, however.

As pressures on the energy sector continue, companies need data-informed decisions to respond to the successive crises. Some competitors are already designing propositions enabled by the MHHS data, with the aim to achieve first mover advantage.



## Workforce transformation

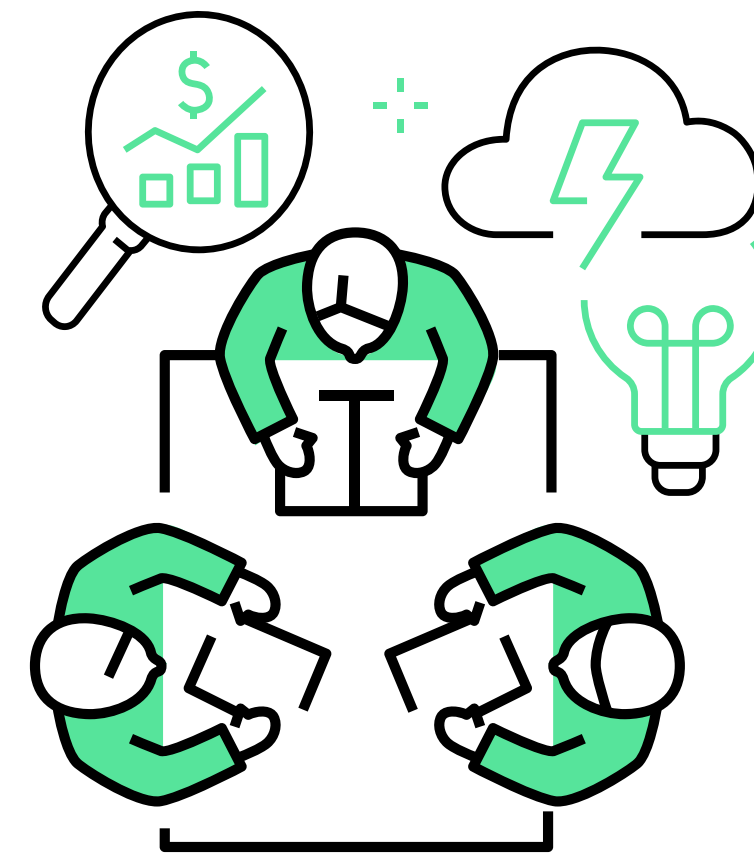
On top of business-as-usual activity that is manually intensive and relies on legacy systems, the sector has seen some significant challenges. These include transitions from failed energy companies, the introduction of support schemes, and the war in Ukraine, for example.

Some customers, appointed two years ago, still remain untransferred to the Supplier of Last Resort. The available capacity is limited, placing greater demands on employees to achieve more with fewer resources.

As in many sectors, we observe digital transformation done “on top of people’s day jobs”.

The challenge is compounded by a [shortage of talent](#) in the renewable sector, which puts pressure on the wider energy sector.

Energy companies need to look at digital transformation specifically to design the employee experience, explore how they can transfer innovation from other sectors, and unlock their staff’s capacity using automation and artificial intelligence.



## 2 Unlocking the innovation in the energy sector

### Deliver step changes in the customer experience

MHHS opens step-change improvements in the customer experience – from more accurate billing, to reduced costs, customers more empowered to manage their energy consumption according to the priorities that matter to them.

However, these benefits could be significantly reduced if the customer journeys aren't redesigned. The task is likely to be underestimated, and tailored onboarding, communications, interfaces and internal processes will all need to be updated. Compliance with GDPR and data protection regulations in handling the increased volume of customer data will need to be reviewed.

This means paying particular attention to the content design and making complex and technical information accessible to the customer base in a way that feels empowering to them.

- Design for customer success, understanding needs and journeys, connecting with customers in ways that promote trust and loyalty.
- Design effortless customer experiences with a low cost-to-serve.
- Design responsive, accessible, and mobile-first solutions to avoid frustration.

- Design for service failures. Few companies can delight across the whole journey, but they can all use data to anticipate service failures and put in place proactive recovery plans.

The new data streams will allow energy companies to uncover new **customer insights**, which will need to be tested with first-hand customer research.

Crucially, companies will need to test the edge cases of MHHS' impact on the customer experience - e.g., where the advertised customer savings might turn out to be increased bills and customers in situation of vulnerability. With an estimated **12m households in fuel poverty**, the social element of corporate governance will be a high priority.

Failure to do this will create uncertainty among customers increasing customer service contacts, churn, vulnerability, and reputation risk.

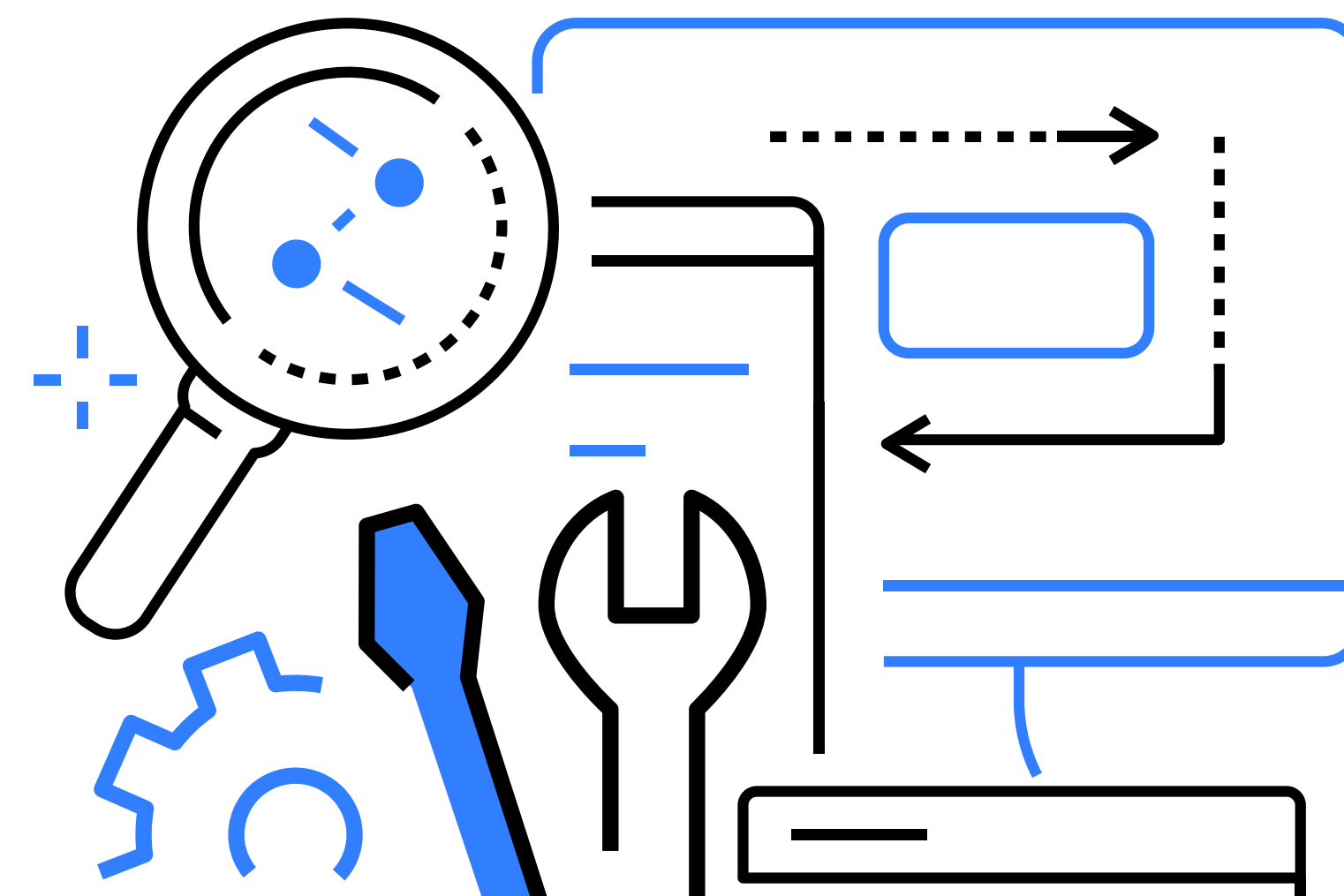
In customer experience, brilliant basics go before magic moments. So, companies can:

- Tackle the change incrementally.
- Prioritise the most common customer pain points and address issues that have the biggest financial impact on an organisation.
- Ensure that solutions are well architected to be flexible and iterative.

**In light of both the cost-of-living crisis and the energy crisis, it is more important than ever for energy providers to identify financially and clinically vulnerable customers.**

**In our eBook, we share how to use Data & AI capabilities to develop your own Customer Vulnerability Strategy and improve the support you offer to your vulnerable customers.**

**Read more**



## Design new services to achieve a competitive advantage

Deep customer insights, combined with the flexibility afforded by MHHS, and ongoing digital transformation, will enable energy companies to create a step change in their value propositions.

Data is at the core of these propositions and will become more valuable to the industry than ever. The monetisation of data is the opportunity to activate, enhance and create new value from existing assets in a privacy-compliant way. As well as helping to boost revenues, accurate data will be vital to understand customer behaviour, reward their loyalty, and offer increased personalised and incentivisation.

Octopus has already built some serious brand equity in energy innovation with tariffs like Agile Octopus with Plunge Pricing and initiatives like the Saving Sessions and the Power Up scheme. These offers are examples of what is possible when half-hourly settlement is utilised to create compelling products for customers, and the possibilities will increase when MHHS is applied market wide. For a company to differentiate themselves in the mind of customers they will need to work at speed to regain a first mover advantage.

There are opportunities for technology to support energy companies and customers – retail and business – to adapt to the intermittency and variability of renewable energy or respond to economic and social challenges. This can help balance the grid, reduce the need for costly backup generation, and support the integration of intermittent renewable resources.

Updating the customer journeys for the existing offer and designing new products are likely to overwhelm the capability and capacity of in-house design teams. Forward workforce planning and exploring the opportunities coming from artificial intelligence, machine learning and automation will be critical in differentiating experiences.

The volume and granularity of personal data brought in by MHHS will require energy companies to be diligent in not only [complying with regulations](#), but to be proactive in ethical uses of data and how customers may perceive the use of their data if their new propositions are to be successful.

## Use data and forecasting capabilities to deliver efficiencies

Embedding the MHHS transformation in overall digital and data transformation creates an opportunity for energy companies to renew their focus on efficiencies and apply their forecasting capabilities to their own operations.

During the redesign of complete customer journeys, energy companies have the opportunity to integrate metrics and processes. These elements enable proactive identification and resolution of potential issues, minimising their impact on customer experience, reducing failure demand and service costs, and ultimately fostering enhanced customer loyalty.

Furthermore, the enhanced data capability required by MHHS should be targeting internal efficiencies – from operations to finance; e.g., billing, customer service. MHHS will also induce a step change in energy companies' forecasting capability, and they should be the primary beneficiaries of their own capabilities. Green software patterns are still an emerging practice, but there might be sustainability gains to be delivered on a global scale by emerging companies and cloud providers. If they work together to move cloud usage to the times and locations forecasted to have spare energy in the grid, they can reduce the cost and the carbon footprint of cloud infrastructure. This should generate a non-negligible impact on their profitability and Scope 3 carbon emission reporting.





### 3 Future-proof Energy

Beyond the unfinished business of digital transformation and MHHS-enabled innovation, there is an opportunity and urgency to move from prediction and forecast to foresight and anticipation.

The first part of the MHHS advertised benefits revolve around benefits for customers. The net benefits to UK energy consumers are estimated to reach between £1.5bn-£4.5bn by 2045, which doesn't reach the scale of the increase in consumer energy cost in 2021/23. The intention is for time-of-use tariffs to trigger societal changes and generate substantial load shifting to align demand and production. Energy companies' ability to predict demand and production more reliably will also unlock value. This innovation, while significant in helping the UK cope with the rise in demand, leaves it the realm of "known knowns".

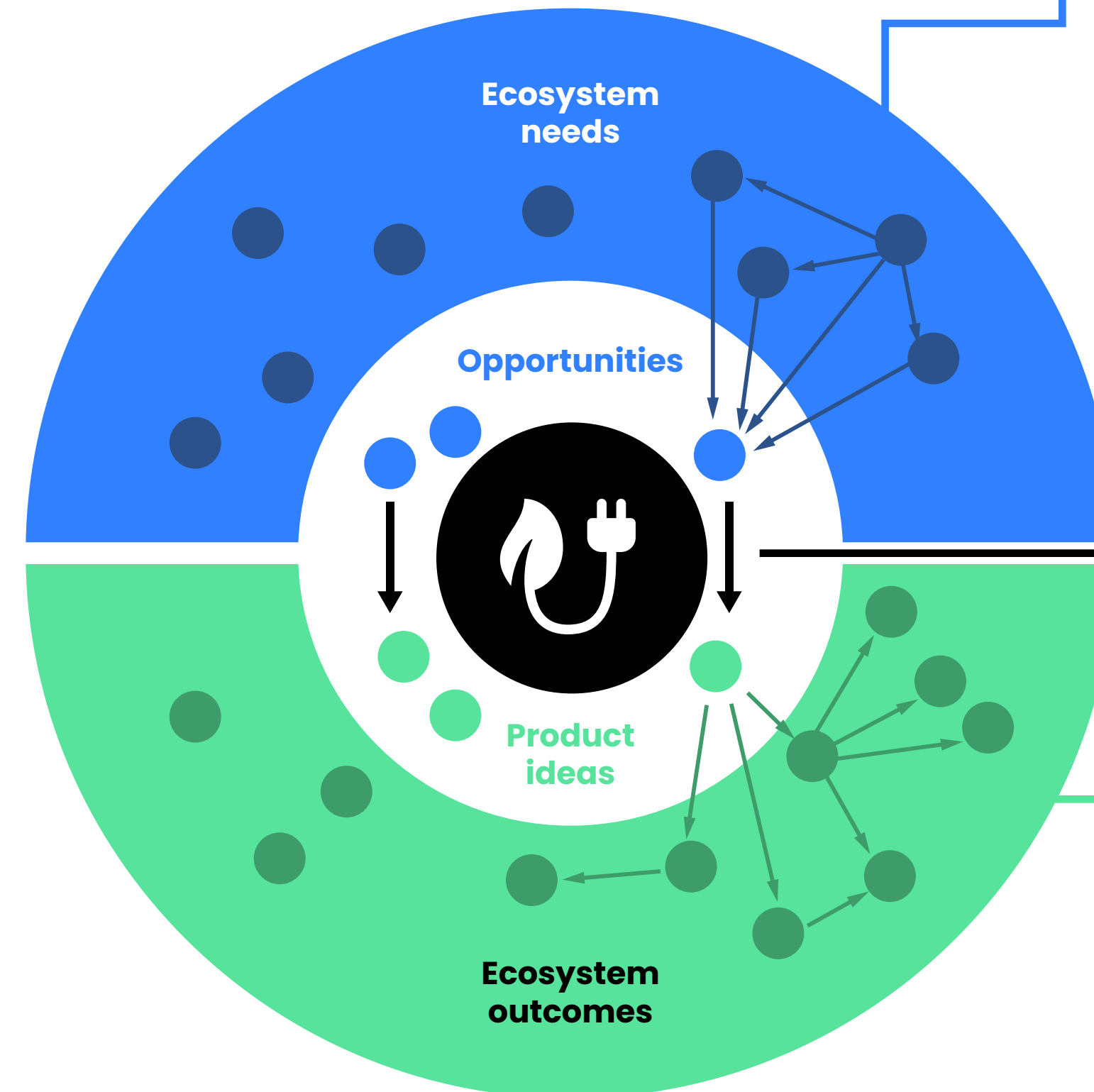
Energy companies must prioritise addressing the long-term impact by delving into both the "known unknowns" and creating the conditions to investigate the "unknown unknowns."

#### An opportunity to mutualise value across the ecosystem?

MHHS will enable the sector to detect new market needs not only in energy, but also in the wider economy. Possible avenues include:

- Identifying energy transition opportunities where the business case can only be realised in partnership or as a consortium.

- Exploring where the interests of energy companies overlap with cloud providers, hyperscalers, financial services and insurance for example.
- Partnering with local communities with specific energy challenges.
- Enabling other businesses to create new data-driven propositions and products to amplify the load shift, such as IFTTT Applets.



#### Ecosystem needs

By detecting needs in the energy ecosystem, we can identify interconnected needs that cross organisational and industry boundaries and present commercial and sustainability opportunities.

#### Opportunities and product ideas

Companies can then explore these opportunities to identify new or improved products and services, and how to realise them, assessing their potential scale and impact in the market.

#### Ecosystem outcomes

Taking an ecosystem view enables companies to scale the uptake of incremental innovation, accelerate the growth of breakthrough innovation and have a greater impact in their sustainability objectives. This will imply a shift with energy companies taking their forecasting capabilities to market as a service to enable innovation.

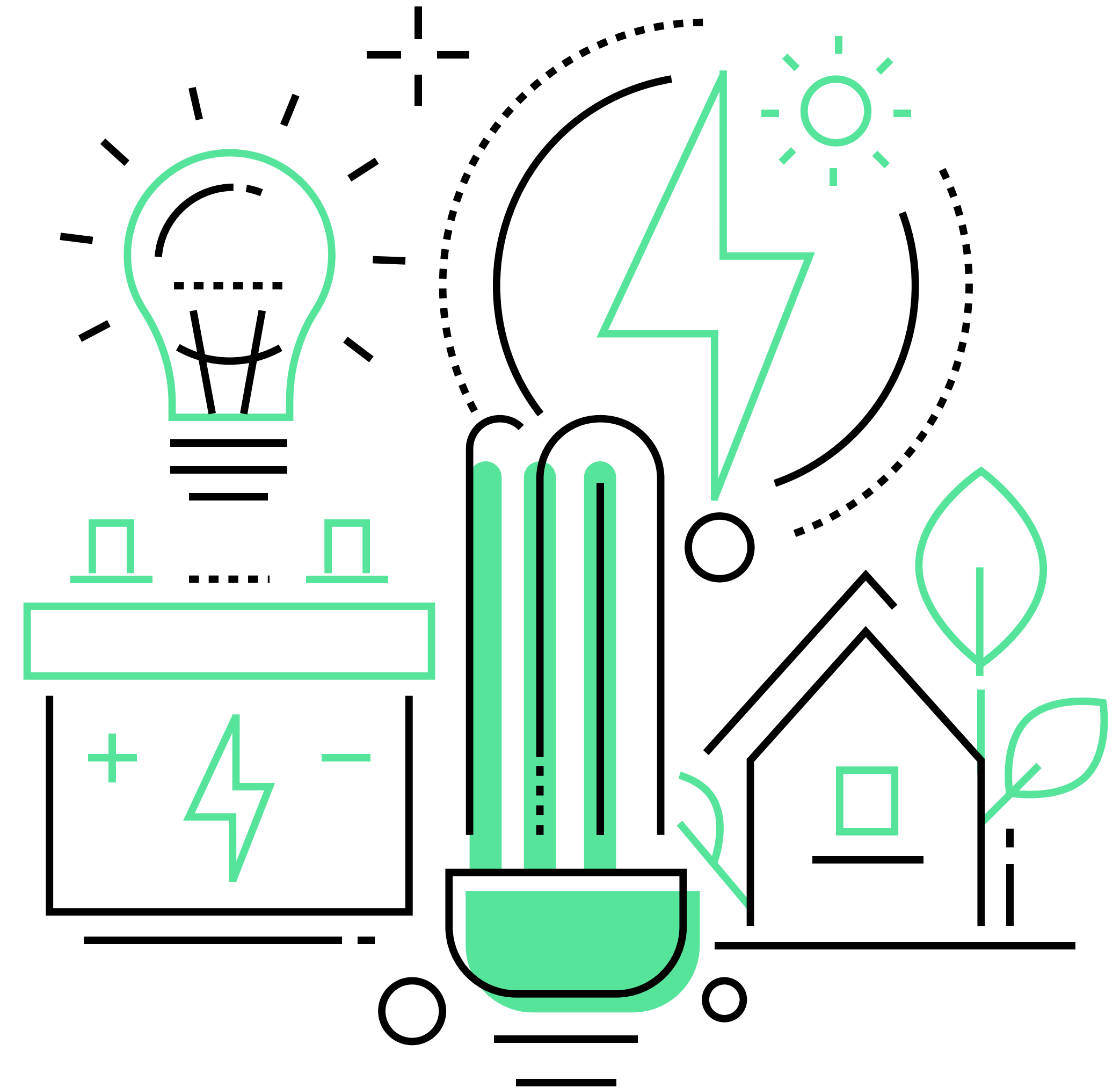
## Energy security in the climate crisis

According to the United Nations, July 2023 was the warmest year on record. Countries battle concurrent crises of heatwaves, water scarcity, wildfires, and air pollution – to name just a few.

It is likely that the situation will only accelerate over the next few years. The most pessimistic scenario of 4°C is quickly becoming the most likely. Countries like France are [starting to explore what it means](#) for their infrastructure, utilities, transport, business and populations, but this exploration needs a collaboration across all sectors.

Having built scalable forecasting capabilities will enable energy companies and ecosystem stakeholders to use data to create much more robust scenario planning tools, detect trends earlier and test adaption scenarios. They will be valuable for the energy companies themselves to future-proof their own operations. At a system level, energy companies and ecosystem stakeholders will enable the market to analyse trends and interpret whether observations are likely to become long-term trends, e.g., populations or businesses withdrawing from certain areas, energy infrastructure aging quicker than anticipated or performing differently than predicted.

A challenge for the energy data science teams will be adapting their forecasting models to climate change – ingesting event data quickly, analysing the gap between their predictions and actuals where the climate breakdown leads to significant discrepancies, and building interfaces to external models, such as the open hub of the [Climate Modelling Alliance](#).



# Conclusion: Data teams at the forefront of business strategy

Delivering the MHHS to the regulatory deadlines under the scrutiny of competitors and the regulators is putting significant pressure on energy companies. However, they can't afford to limit themselves to meeting that imperative. Energy companies must focus on completing the unfinished business of digital transformation, seize opportunities to innovate in customer experience and business efficiencies, and look ahead at ways to create new value propositions and future-proof energy.

This points to the crucial role that data teams play in helping define and deliver the business strategy. They can only realise their potential if they get the support they need from the organisation.

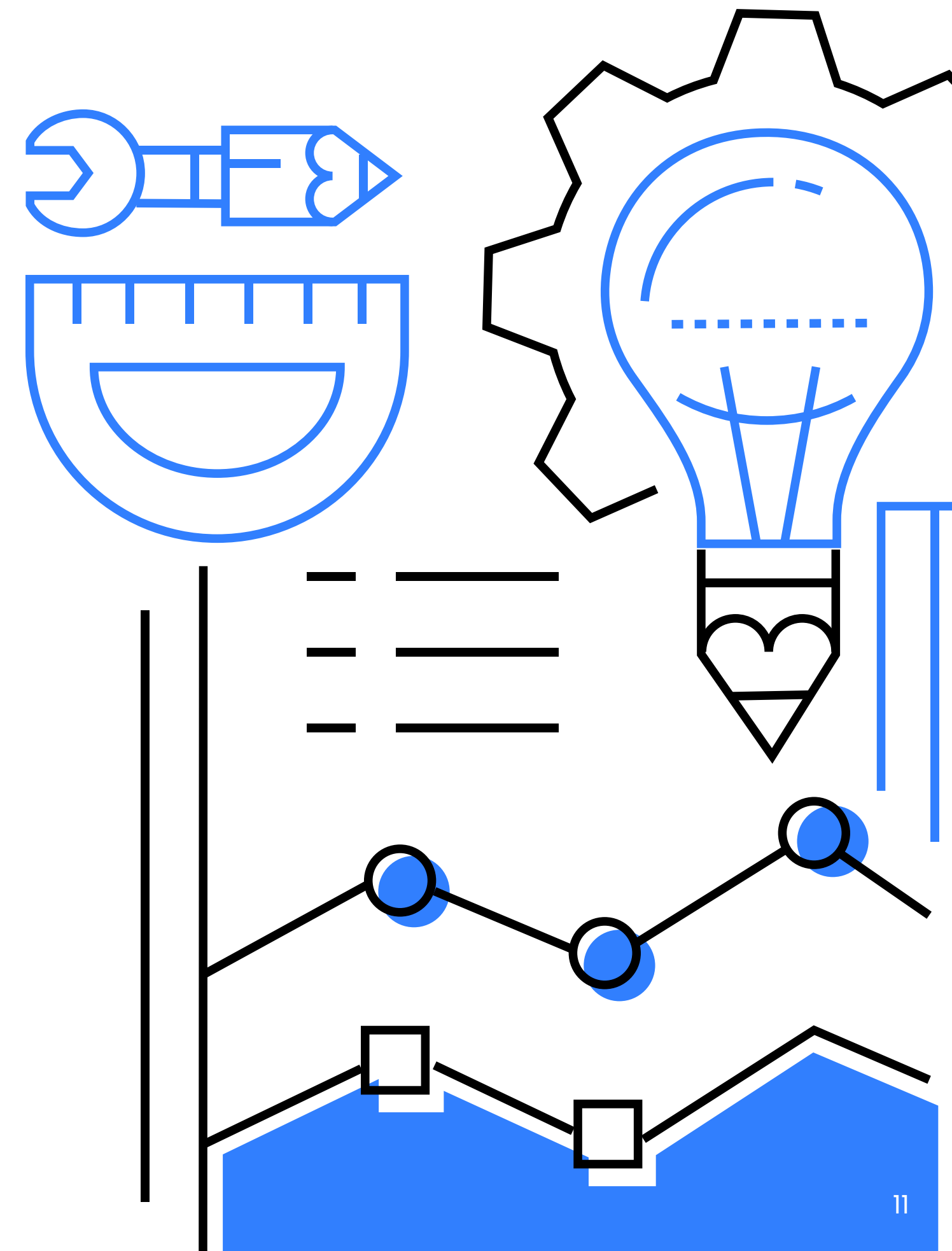
***“When you get a new system, it should give you new questions.”***

Pedro Varela, Head of Data Science at BJSS

## Key Takeaways:

- 1. The technology and data are only the enablers. People are the ones who can create a competitive advantage by asking the right questions.**
- 2. They need the tools, the data, and the support to research and prototype so that they can identify, test, validate and discard hypotheses.**
- 3. They need multidisciplinary teams from futurists to challenge hypotheses, human-centred designers to understand the “why”, and technologists to create new solutions.**
- 4. They need the psychological safety to question the data, the models, and the insights.**
- 5. To meet this challenge, they will need support at every level of the organisation – from business leaders to programme managers and digital teams.**

**Consultancies who support these energy companies will need to be the best versions of themselves to deliver value efficiently and collaboratively – because we all have a skin in the game.**



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