



edg^emethods

SHAPING THE FUTURE OF SUSTAINABILITY

Is Your Energy Management Transformation Ambition **Bold Enough?**

Unleash the Power of Advanced Energy Solutions



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Watt's Up: When Energy Efficiency Meets Modern Art

Prologue

As businesses across the world steer towards more sustainable practices, the urgency for a cohesive environmental objective has never been more critical. With a complex interplay of market forces, technological advancements and stringent regulations, the need for robust Energy Management Systems (EMS) is ever-increasing.

These systems are hugely advantageous to the transitions businesses are currently facing, as well as incorporating the adjustments future changes will require.

In essence, to achieve **bold** Energy Management, companies should have responsive, synergistic and controlled processes in place.

The cutting-edge technology at our fingertips can be exploited to achieve this. With the optimal Energy Management Solution incorporating tech such as the Internet of Things (IoT), artificial intelligence (AI), and big data analytics. The synergy of these technologies produces actionable insights to enable regulatory compliance, alongside proactive sustainability practices.

Setting the Scene:

In the rapidly transforming industrial environment, external pressures such as financial incentives, social expectations, and environmental regulations are converging to create a potent catalyst for change. The UK's commitment to sustainability is supported by initiatives like the Industrial Energy Transformation Fund, allocating £500 million towards enhancing energy efficiency across industries until 2028. Coupled with the rising tide of technological innovation and adoption, these elements collectively underscore the growing demand for sophisticated energy management systems that not only improve operational efficiency, but also drive significant energy savings and GHG reductions.

“ When sustainability is viewed as being a matter of survival for your business, I believe you can create massive change. — Cameron Sinclair ”



Generating Insights

(1) Market Demand - Sustainability

Unsurprisingly, market data and insights indicate that sustainability continues to be a priority in business.

Key highlights from NatWest's Sustainable Business Tracker, a quarterly report designed to monitor business performance and sustainability actions at UK enterprises, are summarised below:

Sustainability Demand:

- 35% of UK SMEs and 64% of large enterprises view sustainability action as a high priority for the year ahead, respectively, highlighting energy efficiency as a key driver.
- 77% of large companies and 42% of SMEs are prioritising low carbon energy consumption in 2024, respectively.

Obstacles to Sustainability Actions:

- Cost inflation hits a three-month high, around 60% of SMEs surveyed noted rising business costs as the key obstacle to becoming more sustainable in the next year. Difficulties measuring carbon footprint were the second highest barrier, reported by 31%.
- 59% of large enterprises also noted rising costs as the key obstacle to sustainability action, followed by uncertainty about government regulation.

What are the CEOs Saying?

Recent analysis reveals a notable increase in discussions among CEOs about sustainability, with a specific emphasis on energy efficiency and renewable energy solutions. This surge reflects the growing strategic importance of sustainability initiatives in corporate agendas, highlighting the crucial role of energy management systems.

These systems are vital for companies aiming to meet these evolving business priorities by enhancing operational efficiency, reducing energy consumption, and achieving significant reductions in greenhouse gas emissions. As businesses increasingly commit to sustainability at the highest levels of leadership, the implementation of advanced energy management systems becomes indispensable for achieving these goals and maintaining competitive advantage.

(2) Market Demand Insights - Financial

Financial incentives are another key driver behind the positive sustainability and energy efficiency market trends we have highlighted.

Firstly, access to funds has never been easier – as a pronounced commitment to sustainability increases eligibility for almost £5 billion of green funding available to UK businesses. An example of this is the Industrial Energy Transformation Fund (IETF), particularly relevant to businesses focused on driving energy efficiency improvements. Launched in 2020, the IETF is a government initiative with £500 million allocated across three phases until 2028. It is designed to steer investment in projects and technologies enhancing industrial energy efficiency and contributing to the reduction of carbon emissions.

This initiative underscores the UK's commitment to helping businesses overcome the challenges of transitioning to sustainable practices and energy management systems.

Cost savings are another great motivator and particularly relevant to highlight - a key concern driving action on energy efficiency is that increased energy costs pose a risk to small businesses. Improved energy efficiency directly reduces energy bills, providing crucial financial savings to your business. The UK Government have advised that reducing energy costs by 20% would be equivalent to a 5% increase in sales for many UK businesses. Improved energy efficiency also reduces pollution costs, i.e. the requirement to purchase carbon credits or fines associated with failing to comply with emissions regulations.



For processes reliant on fossil fuels, the reduced energy consumption that results from improved energy efficiency mitigates the risk associated with the volatility of fuel prices. The impacts of the Ukraine war provide a great example of this – surging oil, coal and gas prices drove up wholesale electricity prices across Europe – businesses reliant on fossil fuels, and without energy-efficient practices, are most exposed to such risks.

The improved data visibility that energy management systems provide allows energy improvement opportunities to be identified – including highlighting parts of the process that could be transformed to reduce dependencies on fossil fuels and incorporate increased levels of renewable energy sources - further mitigating the risk of fossil fuel price volatility.



Generating Insights

(3) Market Demand Insights - **Environmental and Social Drivers**

Business-driven economic activities are a major source of GHG emissions, placing a significant responsibility on companies, particularly in energy-intensive industries like manufacturing, to mitigate their environmental impact.

As corporate responsibility heightens, there is an increasing push for the adoption of low-carbon technologies, including energy management systems. These initiatives are critical, not only for reducing emissions at the source, but also to align with SBTi Net Zero Standards to effectively combat global warming.

There are also significant long-term benefits to be gained through strengthening your sustainability positioning. Today, society demands much greater responsibility from the companies they purchase products and services from, invest in or work for.

As highlighted in the market insight section, data indicates that a persistent challenge

faced by SMEs is labour shortages – exacerbated by a mismatch in skills requirements and available talent. Young talent, in particular, are drawn to companies that align with their values, and over half of workers consider a company's sustainability efforts when deciding on their employer.

Investing in energy efficiency through the implementation of energy systems signals to current and future staff your commitment to net zero, a key value they seek in an employer. This not only aligns with their environmental values but also strategically positions your company on a practical path towards achieving net zero targets through reducing GHG emissions and improving operational efficiencies.

This approach demonstrates both an ideological and actionable commitment to sustainability, ensuring that your efforts are recognised as both genuine and effectively contributing to global sustainability goals.

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(4) Market Demand Insights - Regulatory Drivers

In the UK, the convergence of stringent regulations like the Energy Savings Opportunity Scheme (ESOS), the Streamlined Energy and Carbon Reporting (SECR), and the UK Emissions Trading Scheme (UK ETS) highlights the critical necessity of adopting a data-driven approach to energy management.

ESOS mandates large companies to conduct comprehensive energy audits, offering a pathway to identify energy savings, which is crucial for financial and environmental benefits.

SECR further elevates these requirements, demanding detailed reports on GHG emissions and energy use, stressing the significance of implementing efficiency actions.

Similarly, the UK ETS requires accurate tracking and reporting of carbon emissions, encouraging reductions through market mechanisms.

Incorporating a robust, automated energy management system is essential in efficiently navigating these regulatory landscapes. By ensuring compliance, such systems not only prevent penalties but also harness data-driven insights to uncover opportunities for operational efficiencies and cost savings, elevating sustainability efforts to strategic business advantages.



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Our biggest challenge in this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world’s people.

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– Kofi Annan

Generating Insights

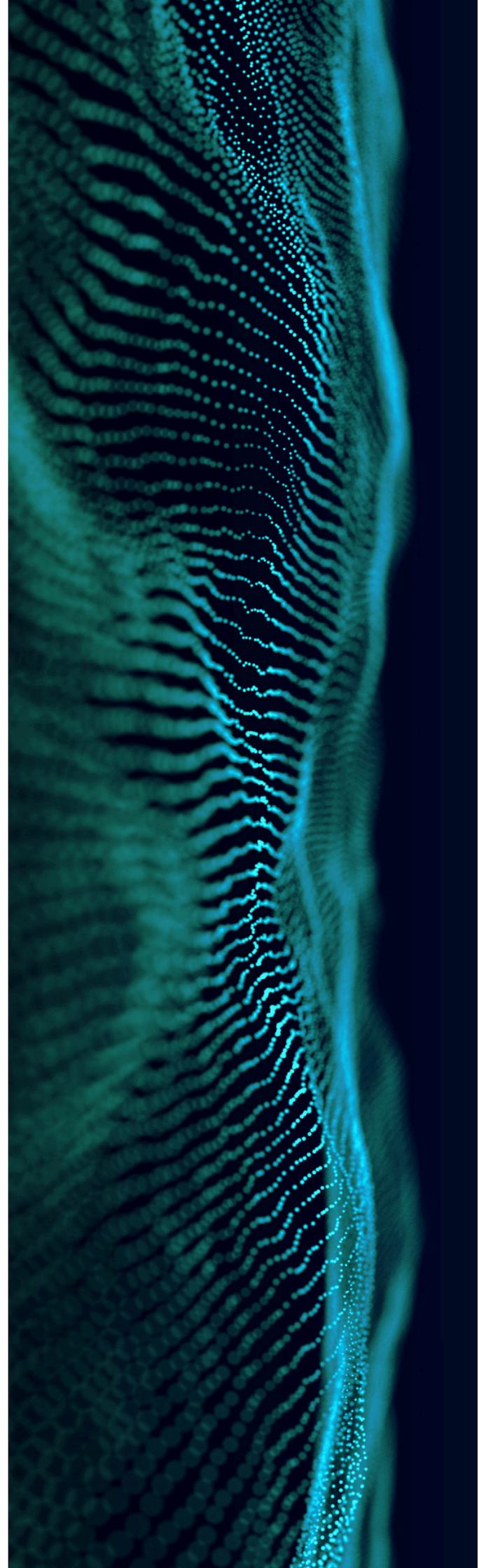
(5) Market Demand Insights - **Technological Drivers**

In the context of energy management systems, technological drivers significantly influence market dynamics and growth. Innovation in technologies such as artificial intelligence, machine learning, and Internet of Things (IoT) applications in energy management systems enables more efficient energy usage, predictive maintenance, and overall enhanced operational efficiencies.

These innovations can disrupt traditional energy management approaches, offering superior solutions that drive market adoption.

Adoption rates of these technologies are equally crucial. Rapid adoption can be spurred by the tangible benefits these technologies provide, such as significant reductions in energy costs and improved compliance with regulatory standards. Faster adoption rates help establish new market norms and can accelerate the spread of innovative technologies across industries.

This creates a virtuous cycle, where increased adoption fosters further innovation, thereby expanding the market for energy management solutions and reinforcing the importance of staying at the forefront of technology trends in sustainability efforts.



A Bolder Ambition for the Future



As we draw the curtains on this exploration of energy management and sustainability, it is evident that the journey ahead, while challenging, is filled with opportunities. The insights shared within these pages are blueprints for action, charting the course for companies willing to take a leap and reap rewards in return.

The landscape of industrial energy management is dynamically evolving, propelled by the dual engines of technological innovation and regulatory imperatives. As organisations adapt to these changes, the role of advanced energy management systems becomes both beneficial and essential. These systems are becoming critical in the intricate machinery of modern industry, enabling data-driven decisions that optimise energy use and reduce carbon footprints.

Through embracing these technologies, businesses move beyond compliance with today's standards, paving the way for tomorrow's achievements.

The integration of IoT, AI, and big data analytics into energy management practices is the beginning of a sustained commitment to innovation and sustainability. As we look to the future, let us be the architects of a new industrial movement that values efficiency and environmental integrity equally.

In closing, remember the words of Kofi Annan, "Our biggest challenge in this new century is to take an idea that seems abstract - sustainable development - and turn it into a reality for all the world's people." Let this be our collective mission as we move forward, turning the promise of sustainable energy management into tangible results for our businesses and our world.



If improved energy management resonates with your strategic ambitions, it's time to elevate your operations and sustainability efforts to new heights. At EdgeMethods, we specialise in partnering with companies to develop and implement comprehensive energy management systems that harness a broad spectrum of technologies—from IoT to AI and beyond.

Our approach is tailored to empower your business, enhancing not only compliance and efficiency but also integrating sustainable practices into the core of your operations. As you've navigated through this document, the opportunities for growth through advanced energy solutions have been made clear.

Take the decisive step towards a sustainable future by engaging with us. Our team is ready to assist you in not only meeting but exceeding your environmental and efficiency goals. Connect with EdgeMethods today, and let us help you transform your energy management into a powerful tool for business success and environmental stewardship.

Contact us today for a free consultative session to advance your energy efficiency and sustainability goals.



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