THE EMA MAGAZINE

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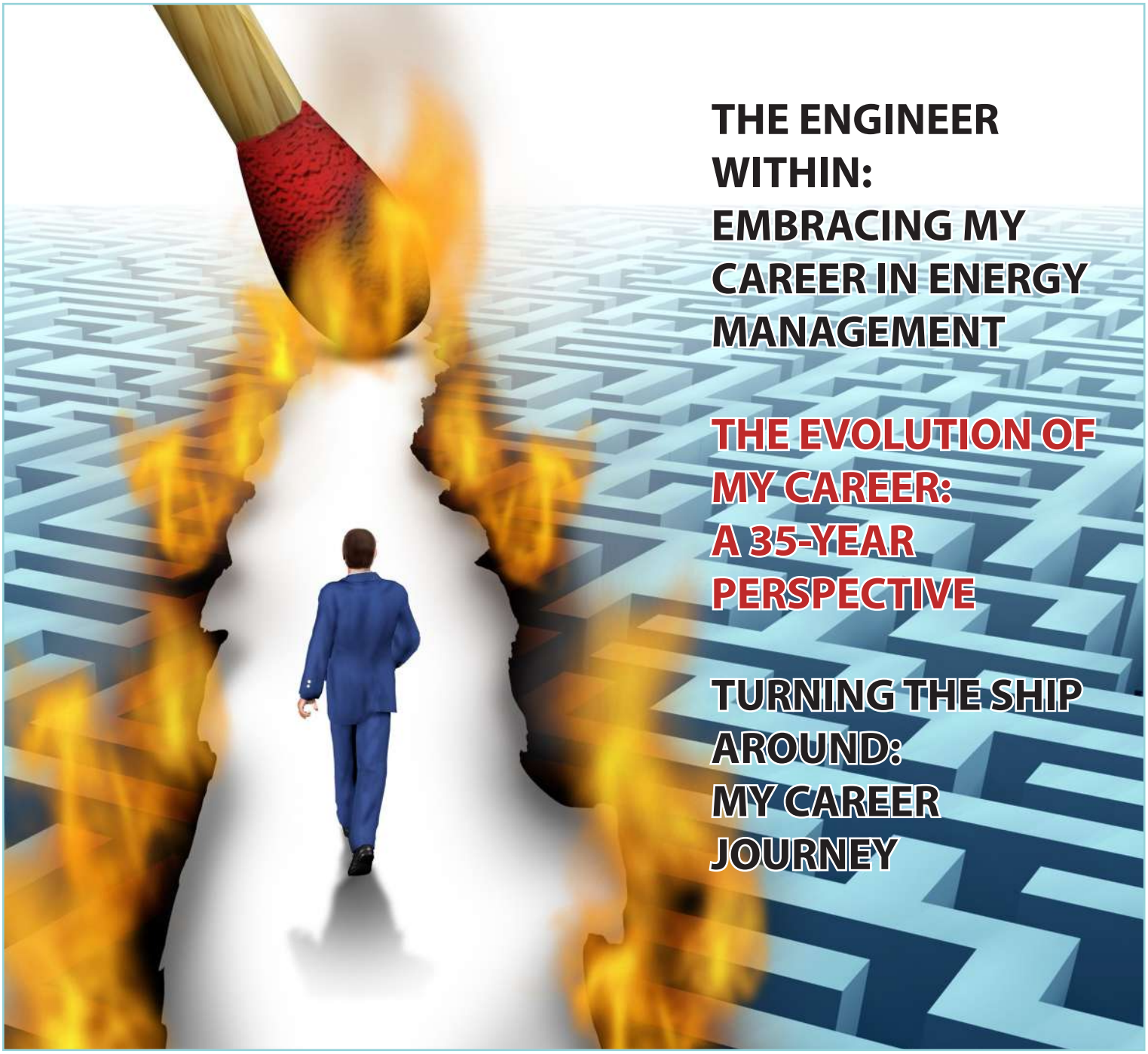

THE ENGINEER WITHIN: EMBRACING MY CAREER IN ENERGY MANAGEMENT

THE EVOLUTION OF MY CAREER: A 35-YEAR PERSPECTIVE

TURNING THE SHIP AROUND: MY CAREER JOURNEY

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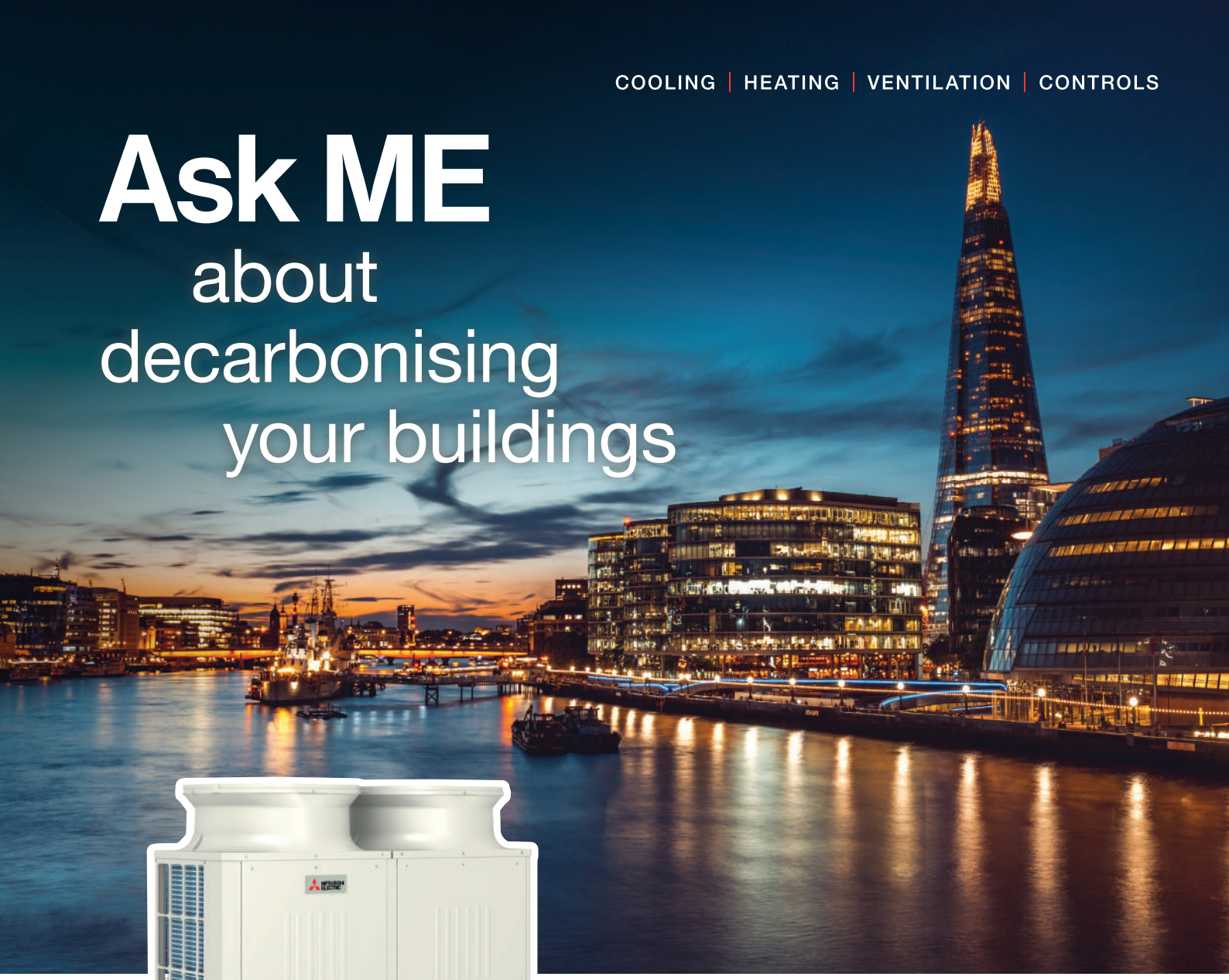

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By The Energy Managers Association

Dear Reader,

Welcome to the latest edition of The EMA Magazine, our final edition of the year, which embodies the essence of the approaching season. The time for reflection on accomplishments, challenges and analysis of what strategies worked well and what areas will need further development in the year ahead.

For the past decade, the EMA Energy Management Awards have been rewarding excellence in the fields of energy and carbon management, and sustainability. To mark this milestone of celebrating dedicated efforts and remarkable achievements, we revisited some of our past winners to reflect on their careers and the industry as a whole. Additionally, we are thrilled to introduce this year's deserving winners.

Looking ahead to 2025, we feature insights from energy management professionals on upcoming trends and their aspirations for the industry. Staying informed and proactive is essential in navigating the dynamic landscape of energy management and sustainability.

This time of year is also the time to say thank you and well done to everyone who made The EMA Magazine possible this year. I would like to acknowledge the dedication of our team, and all our contributors who lead by example and inspire others to follow suit. Thank you for your support and commitment to making this free for all resource possible.

We look forward to engaging with you in 2025.

Warm wishes,

Jana Skodlova
CEO, Energy Managers Association

THE EMA MAGAZINE

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The EMA would like to thank to the above contributors for their time and effort in providing the content and making this issue possible. Their willingness to share experience and knowledge is exemplary and inspiring, and we hope it will encourage others to come forward and contribute in the future.

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ABOUT EMA
The Energy Managers Association (EMA) was set up in February 2012 and represents Energy Managers across all industries. Our priority is to improve the position of energy management experts and their profession and act as their united voice. We aim to develop the skills, knowledge and experience of professionals through our training, high-quality peer to peer guidance and best practice exchange.

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By Paul Graham, Sam Fairne, Simon Graham and Astley Fenwick

Energy and Carbon Management Trends 2025

As we bid farewell to 2024, four energy management professionals offer their perspectives on the key trends shaping the industry in 2025. In addition, one professional presents a wish list of developments he hopes to see in the upcoming year. Staying ahead of these trends will be essential for professionals aiming to succeed in the ever-evolving energy management landscape.

TRENDS TO LOOK OUT FOR IN 2025

Paul Graham
Energy & Sustainability Manager
Kingston Hospital NHS Foundation Trust

Projects' Funding

In my opinion, in the NHS, creative ways to fund energy projects will continue to gather pace. The impact of the accounting standards introduced a few years ago mean that we are unable to accept funding for many types of projects. We urgently need ways to invest in infrastructure and retrofit.

Long-term Procurement Strategies

In my opinion, longer term energy procurement strategies will continue to be appealing. More framework providers and TPIs are offering these, and in more bespoke ways to enable the low-carbon transition where our volumes will change over time.

Impact of Legislation

In my opinion, changes to legislation regarding reporting energy and carbon will impact the public sector more.

Author's profile:
Paul has been an energy manager for 8 years and has been employed by Kingston Hospital NHS Foundation Trust for 16 years within the Estates and Facilities Department. He leads the energy, waste and sustainability agenda for the Trust as they serve the local population in South West London.

Sam Fairne
Commercial Energy Manager
Southern Water Services Ltd

Flexible Storage

Greater use of flexible storage technologies and coupling BESS with traditional renewables as part of integrated local power management solutions. Market confidence and scalability of small scale BESS applications are growing to the point where opportunities that were previously dismissed on an IRR basis can be meaningfully re-evaluated.

Capacity Market

Expansion and progressive monetisation of the flex capacity market coupled with increasing uptake of EV/hydrogen fleet solutions. The increasingly rapid uptake of EV infrastructure (driven by 2035 deadline) has caused heads to spin in outcomes-focussed Engineering and Procurement Departments over the past 5–10 years. As we collectively get more comfortable and familiar with the technology and implementation, we'll be able to take a more careful and considered approach, and more innovative applications and system level benefits will emerge.

Pushback Against Net Zero

It's foreseeable that some climate sceptics might be emboldened by the result of the US presidential election, which could have a cooling (no pun intended) impact on the global meta-narrative concerning net zero. The optimist in me is confident that energy managers will

respond to this counter movement by recommitting to integrating net zero values into short, mid, and long term business plans, and bringing forward decarbonisation opportunities. As energy managers we should be prepared to robustly defend sound, responsible energy and resource behaviours from an evidence-based perspective, and expect to find ourselves in the position where we are called upon more frequently and more directly to rebut challenges to this approach.

Author's profile:
Sam is an energy manager in utilities with a background in waste and environmental management. He is currently working on the design and delivery of renewables in the South East, energy portfolio management, purchasing and ISO 50001.

Anonymous Author
Public Sector

Heat Network Zoning Scheme

The Heat Network Zoning Scheme is coming down the line and could transform future direction on heat decarbonisation planning. Questions of whether to install standalone heat pumps or tap into a local heat network as a potentially lower carbon, lower cost way of decarbonising heat will need to be asked.

Market-Wide Half-Hourly Settlement

Market-Wide Half-Hourly Settlement (MHHS) should provide greater accessibility to profile data for more informed analysis of consumption/performance. Also, potentially paving the way for a wider reach of flexibility services.

Increased Use of AI

An increased use of AI in energy analytics and products will be available. It will not necessarily completely replace human insight, but it will certainly support it with ability to analyse and pick out trends in historical consumption of masses of data.

Simon Graham
Head of Innovation
De Courcy Alexander

Transparency in Energy Procurement

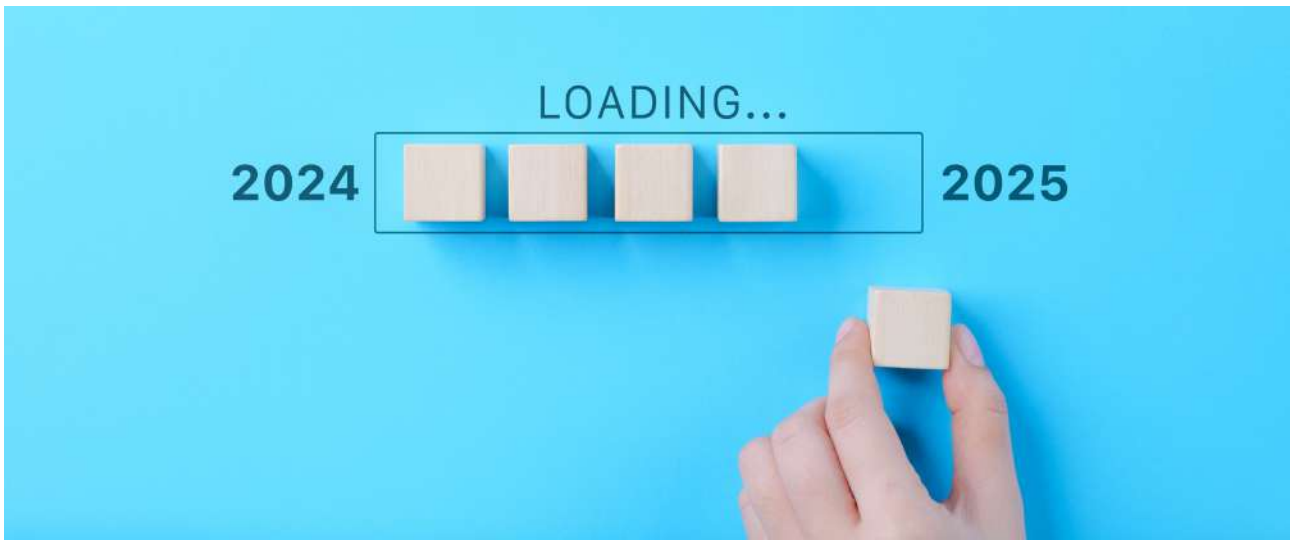
There is an increasing need for transparency in the energy supply chain, energy contracts and use driven by a combination of customer demand and operational needs. Increasingly, companies are using technologies like blockchain to manage their energy supply chain and this is likely to increase.

The Continued Dash from Gas

Recent geopolitical events have emphasised the risk of relying on imported fossil fuels for any business for its continued existence. As the projects that were authorised in the wake of the Russian invasion of Ukraine come on stream, they will be accompanied by more activity, particularly in innovative forms of renewable energy, as the opportunities that renewable energy brings become more evident to a wider audience.

Net Zero FOMO

Many local authorities and other organisations committed to respond to the climate emergency with net zero targets. Not all have put in the investment needed to reach their objective, with some even allowing investments that will hinder their goal. In the coming months, as many organisations approach critical milestones, it is likely that the early adopters will start to report their success and be honoured for this,



which will put increasing pressure on those that have lagged behind.

TRENDS I WOULD LIKE TO SEE IN 2025

Astley Fenwick
Electrical and Energy Consultant

Monitoring and Targeting Leading to Energy Use Awareness

In my opinion, the vast majority of energy users within the back bone industries of the UK, do not have a grasp of where and when their energy is being used. This is a fundamental and proven method to improve energy efficiency and reduction. I would like to see competitive, cost effective equipment that can provide relevant information in 'real' time to become available and installed in all facilities. This would increase awareness among all levels of management and indeed to the 'shop floor'. Unlike a water leak, energy consumption is usually out of sight, it is therefore extremely important that people are aware of the energy use for equipment, facilities and buildings to gain an understanding and comparison to introduce an urge to manage and control energy.

Energy Manager/Champions Training

Having people committed to reducing energy is crucial to any organisation. Depending upon the size of the undertaking, this could be a full time role or one which is part of a required duty list. Energy management and reduction should be seen to be as important as Health and Safety and Environmental issues. The subject should be introduced at all levels and be communicated regularly through management meetings, team briefings and shop floor talks. Having an energy champion(s) will provide a point of contact at the peer level so that suggestions and thoughts can be considered with seriousness.

Regular site energy audits should be carried out and preferably when the facility is not in operation as well as during a normal working period. Procurement methods for new equipment should be based upon life cycle costs and NOT looking for the most competitive capital cost.

Renewable Energy

This should be considered only after the existing energy consumption management, monitoring and control has effectively been introduced into the organisation. The initiative towards net zero is confusing the mindset. Any organisation should first become as energy efficient as possible before introducing renewable energy and approaching net zero. I would like to see the improved production of hydrogen from renewable energy sources to replace fossil fuel derived heat sources, this would reduce the 'rush' for ASHPs installations to replace existing gas fired boilers. Carbon offsetting and carbon storage methods should be discontinued as these appear to be a short term answer and in my opinion do not address the 'real' solution, especially with carbon storage which is just passing on the problem for future generations to deal with.

Author's profile:
Astley is an ESOS Lead Assessor with over 50 years' experience within the building services sector and 35 years' experience with industrial power and process control systems. His specialities include power distribution, lighting, motor drives, HVAC controls, compressed air systems, building services design and maintenance as well as running stakeholders' engagement campaigns in his previous role as energy manager at GSK.

By Jim Sharman, Decarbonisation and Sustainability Manager at University of Birmingham

Navigating Setbacks: How to Regain Traction on Net Zero Plans

Many organisations have targets to achieve net zero long before the UK's legally binding 2050 deadline. High level plans can be ambitious, outlining a long-term theoretical pathway to net zero that is complex and expensive. Unfortunately, financial pressures and competing priorities mean some plans may be at risk of stalling before they've begun. What can you focus on during 2025 if your Net Zero plans are losing traction?

Ambitious targets are lovely, but are you on track?

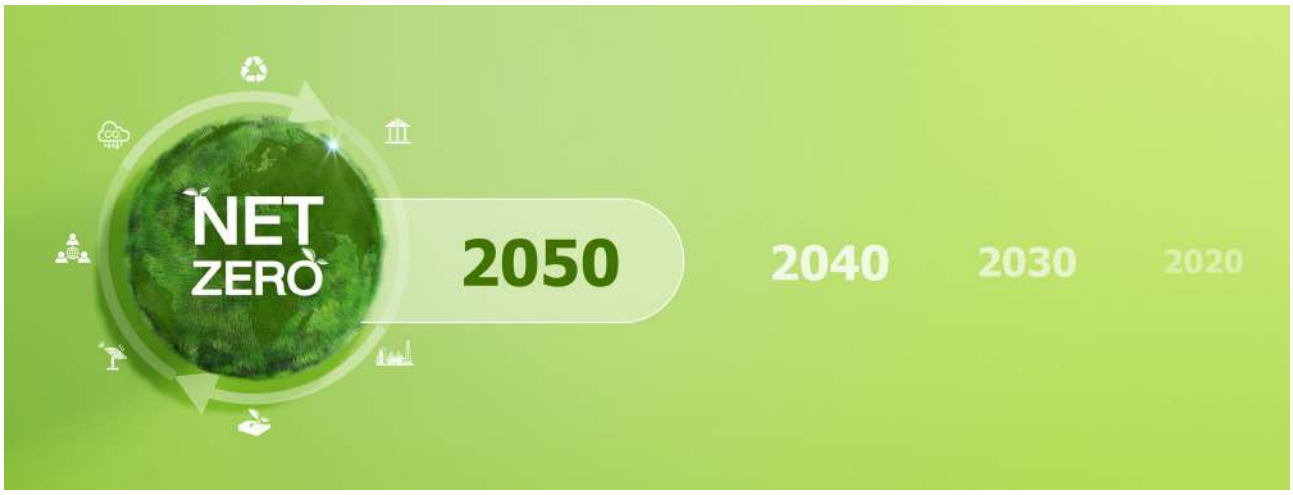
The implications of not progressing with net zero projects are often ignored; these include the reputational impact of inaction, the risk of future cost increases if decarbonisation activity is delayed and risk to business continuity/ operation if investment is deferred.

Focusing on shorter-term goals has an increased chance of gaining leadership support and can be used to build credibility for the more complex projects that lie ahead. Business cases can focus on progressing proven technologies and emphasising added value benefits, such as maintaining comfortable, affordable building operations while reducing fossil fuel energy demand, utility costs and carbon emissions. Investments in simpler projects can also help create the electrical capacity needed for larger-scale heat decarbonisation projects in the future. A refresh of policy can further support a back to basics approach through energy-saving campaigns, sharing best practices, and adapting existing policies on heating, cooling, ventilation and space use.

Get on top of data.

A good breadth of quality data is a prerequisite for analytics to surface opportunities, inform investment cases and prioritise future activity. Fiscal meters can be a useful starting point and reliable half-hourly data is often available through a supplier portal or in-house Energy Management System (EMS). Installation of sub-meters and data loggers can help to improve the reach and understanding of usage by area or system.

Modern Building Energy Management Systems (BEMS) can also be a useful source of energy data along with various other data streams from connected systems, including building services, lighting systems, occupancy sensors, indoor air quality sensors and water. AI tools for BEMS are becoming more advanced, incorporating machine learning for energy demand prediction, fuzzy logic for handling real-world uncertainties,



and reinforcement learning for training software to make optimised decisions to prioritise energy efficiency, carbon saving or occupant comfort.

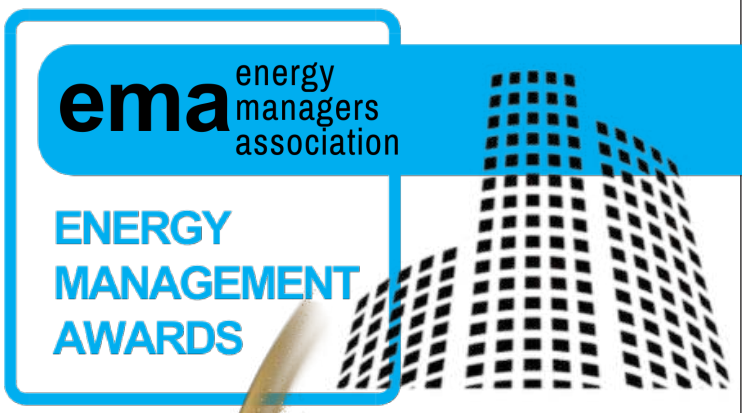
Analytics can be carried out manually using a spreadsheet or sometimes through dedicated tools built into the EMS. Far more could be said about the myriad of M&V techniques than we have space to discuss here. Suffice to say, analytics are only as good as the source data.

Establish a pipeline.
Focussing on short-term goals such as the progression of proven technologies, improving the breadth and quality of data, and refreshing existing policies can be a useful way of maintaining momentum whilst establishing the ground for what comes next.

Now might also be a good time to think about commissioning high priority energy audits and feasibility assessments to prepare for future decarbonisation activity. Business case development for major investment can be aligned with other strategic ambitions such as growth whilst derisking business continuity and operation of the existing estate.

Major net zero projects are likely to involve the decarbonisation of heat through the removal of gas fired heating and delivery of significant electrical infrastructure upgrades to enable installation of renewable heat sources. Net zero innovation proof of concept projects can also be explored such as exploration of geothermal resources, energy storage and flexible energy demand, to both broaden and strengthen the strategic approach.

Author's profile:
Jim is experienced in energy and carbon management across a range of organisations in the public and private sectors. His current role focuses on driving forward energy reduction and decarbonisation activities in support of the University of Birmingham's institutional net zero carbon target.



Celebrating 10 Years of the Energy Management Awards

This year marks the tenth anniversary of the EMA Energy Management Awards. Over the past decade, the awards recognised nearly 50 individuals, 40 organisations, 30 teams and 25 projects for their outstanding achievements in energy management and sustainability. To commemorate this milestone, we have connected with some of our past winners to share their inspiring career stories, provide insights into their roles and offer a glimpse into the industry as a whole.

However, we are not only reflecting on the past, we are also introducing our 2024 awards' winners on page 24. These individuals and organisations have demonstrated outstanding dedication and innovation in the fields of energy management and sustainability, and we are thrilled to shine a spotlight on their achievements.

Turning the Ship Around: My Career Journey

Dan Fernbank
Energy and Sustainability Director
University of Reading

An interview with Dan Fernbank, the recipient of the 2019 Energy Manager of the Year (Public Sector) award in the Energy Management Awards.

Can you share the story of how your career path in energy management began?

I began my career in the financial services industry, as it was relatively easy to secure a job in that field after leaving university. While it wasn't necessarily my passion, I had student loans to repay and needed a job, so I found myself working in finance for a period of time. As I began to realise that I wasn't truly fulfilled in that role, I developed a strong desire to transition into a field with an environmental focus. To facilitate this career shift, I enrolled in courses with the Open University and quickly became aware of the significant impact that human activity is having on the climate. Initially, I struggled to fully grasp the magnitude of the issue and, like many others, believed there were two sides to the climate change debate, when in fact there are not. Motivated by my newfound understanding and passion for environmental conservation, I made the decision to leave my job in finance and accepted a three-month fixed-term position with the Carbon Trust. This opportunity allowed me to begin making a tangible difference in the fight against climate change and align my career with my values.

I ended up staying with the Carbon Trust for the best part of 5 years, and I held various roles that provided me with invaluable exposure to a wide range of issues, solutions and information. Throughout my time there, I discovered that I possess a multitude of transferable skills, such as project management experience and good numerical skills, which allowed me to focus on gaining the energy and carbon knowledge and experience, which I really did not have at that point.

During my initial role, I gained a wealth of knowledge about Excel that has proven invaluable throughout my career. My line manager at the time was exceptionally skilled in Excel, and I learned a great deal from his expertise. As I transitioned into various account manager roles, I delved deeper into the potential technical solutions for enhancing energy efficiency, particularly focusing on incremental improvements to reduce energy consumption. During that time, the emphasis of my work was primarily on energy efficiency rather than deep carbon reduction, even though the Trust was making strides in making business sense of climate change. This experience has been instrumental in guiding my career, emphasising the importance of developing sound business cases to support energy efficiency and carbon management projects.

During this time, I also had the opportunity to work more closely with energy managers, gaining insight into their roles, challenges and practical solutions. When the opportunity arose to join the University of Reading, I seized it without hesitation.

You have been working at the University of Reading for 13 years now. In what ways have your responsibilities evolved throughout the years?

I began my journey at the University as an Energy Manager, a role that eventually transitioned into that of an Energy and Sustainability Manager after approximately four years. This shift was primarily a result of the retirement of the former Sustainability Manager, leading me to take on the responsibilities of both the sustainability and energy teams. This change broadened the scope

of my role, expanding beyond energy management to include environmental compliance, sustainable travel and waste management. It was a significant transition that I actively advocated for as it made sense for those aspects to come together.
Three years ago, my role further evolved into that of an Energy and Sustainability Director. This progression allowed me to become a part of the leadership team within the Estates department, which significantly increased my influence and strategic impact. It enabled me to play a key role in shaping the University's Estate Strategy and guiding its sustainability initiatives.

Over the years, as my role at the University evolved, so have the initiatives we undertake. When I first joined 13 years ago, energy management focused primarily on energy efficiency, and discussions about net zero and a dramatic reduction of carbon emissions were virtually non-existent. However, the landscape has shifted and the concept of net zero is now at the forefront of our efforts, but that too is constantly developing. While incremental reductions in carbon emissions were once sufficient, it is now imperative that we address larger challenges, such as heat decarbonisation. For the past 7 years, I have been exploring various technologies with which to approach heat decarbonisation at the University. We have only recently reached a milestone when we started with an installation of our first major heat pump retrofit, paving the way for future installations.

Another example of a change is the focus on scope and thinking beyond energy. Historically, business travel at the University has always been part of our carbon footprint. However, we had previously accepted the continuous increase in this area while making reductions in other scopes. The onset of the pandemic forced us to rethink our approach to business travel, leading to the implementation of innovative strategies that are already making a positive impact. One such initiative involved setting individual carbon budgets for each school and directorate within the University, with a target of achieving a 30% reduction in business travel this summer compared to pre-Covid levels. While we are still in the process of analysing the data, we are confident that this target has been met. This achievement not only signifies progress in reducing our carbon footprint but also empowers our staff to actively contribute towards sustainability efforts, which can sometimes feel beyond one's control when it comes to controlling energy within buildings. This links up with our focus on behaviour change initiatives which have always played their part in the University's strategies. There is never just one solution though, something that works for 1-2 years might not work for 5-10 years, and we have run different initiatives over the years. However, over the past 18 months, we have concentrated on establishing sustainability champions in every school and directorate, resulting in the recruitment of 71 champions who are now actively collaborating with us to drive progress.

The sustainability team has grown over the years as well, expanding to a current team of 11 members. In fact, the team size has nearly doubled in the past 6 years particularly, largely due to our successful initiatives and the increasing support and expectations from others. While this growth is incredibly positive and rewarding, it can also present challenges as we strive to meet the high expectations set for us. There are no easy solutions or quick fixes, but we remain committed to delivering results and exceeding expectations.

You won the EMA's Energy Manager award in 2019. How was it received by the organisation?

I was delighted to receive this type of external recognition for my work, as it can be easy to feel overwhelmed at times. The award provided me with reassurance that my efforts are making a positive impact. Additionally, the University also acknowledged my achievement internally, further validating the significance of the award. Overall, this recognition holds great value to me and serves as motivation to continue pushing on in my work.

Can you identify a particular influence that shaped your career in the industry?

It's difficult to pinpoint just one, as throughout my career, I have been fortunate to encounter numerous individuals who played a pivotal role in shaping my professional growth. The learnings I got from my managers during my early career really stood me in good stead over the years and even now. But it wasn't just people I worked with, one particular experience that stands out is a presentation I attended years ago by an expert in heat pumps. His can-do attitude and ability to challenge the preconceptions completely shifted my perspective on the technology. This encounter inspired me to delve deeper into the intricacies of heat

pumps and explore new possibilities within the field.

In recent years, it has been the passion and ambition at the University. The genuine interest and support from the University's community have made it a truly rewarding place to work. While there are always challenges to overcome, the overwhelming enthusiasm and dedication of our community make every obstacle seem surmountable. It is truly gratifying to witness the collective effort and commitment towards our shared goals, and I am excited to be a part of such a vibrant and forward-thinking community.

If you have suddenly been given a £1 billion budget to spend on any projects of your choice, what would be your plan?

I volunteer with the Reading Community Energy Society which strives to enable installation and expansion of renewable and low carbon technologies, in and around Reading, for the benefit of the local community. I would love to develop large scale community energy, a renewable energy farm, a combination of wind, solar and storage to demonstrate the concept and scale of what can be achieved. I have been involved with them for 9 years now and it's a great initiative but still pretty much on a small scale, so I would use some of the money to scale it up.

Along similar lines, I would invest in decarbonising housing where there is a lot of scepticism surrounding the technologies and complexities of such undertakings. To address this, I would focus on a specific suburb where a complete retrofit would be implemented which would prove the feasibility, and also provide valuable insights and lessons learnt for future projects.

What is the most significant 180-degree turn you influenced in your career?

I recall a conversation with my predecessor at the University, whom I briefly met before assuming my role here. He compared the process of accomplishing tasks at the University to turning a ship around and this analogy resonated with me ever since. I feel I have definitely "turned the ship around" in terms of operational sustainability at the University, which could possibly be the biggest shift in terms of the organisation and how the work I lead influenced it.

> ***"While incremental reductions in carbon emissions were once sufficient, it is now imperative that we address larger challenges, such as heat decarbonisation."***

Is there an area of energy management that you wished you did more of?

Not a particular area, but I wish I could do it faster. Progress can sometimes feel slow as there are always things which are taking longer than I hoped. However, I am proud of how far we have come. Over the past 15 years, which is most of my time here, we have managed to reduce our emissions by nearly 65%. This achievement represents significant progress that I am truly proud of.

I am eager to do more at the sector-level as I believe there is much to be gained from collaboration and shared learning. However, finding the time to dedicate to this endeavour has proven challenging. I am hopeful that with the expansion of our team, I will be able to contribute more meaningfully in the future.

What do you think is the answer to a net zero world?

I'm not sure that I have the answer on a world scale, but if I was going to do one thing on a national scale, I would decouple renewable electricity generation prices from fossil fuel pricing. I think the electricity market completely skews the pricing of electricity at the moment. Renewables are a cheaper way of generating electricity than fossil fuels are, but the market favours the fossil fuel industry, which keeps us in a relatively high carbon world. Having said that, the UK has already massively decarbonised its electricity generation but I think it would still make a difference, not just in our electricity supplies, but also then in heating supplies and the shift to electrification.

What are your aspirations for the future?

The University has a target of Net Zero Carbon by 2030 and I would like to be leading that journey to get us there. I hope that I will also be able to share our experiences as well as learn from others on a sector level more, as I mentioned previously.

On a personal level, I would really love to continue building up the community energy schemes that I am involved in. I think they are a great opportunity to get people on board and get local ownership. If you look at communities in Germany for example, they often have a wind turbine which is community owned, and the excess they then sell for profit that goes again towards the community. I think it's a brilliant model and I would like to find more time outside work to do that.

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JANUARY

16-17th	Fundamentals of Energy Management
22nd	Essential HVAC Control and Optimisation
24th	Reaching Net Zero
31st	Energy Monitoring, Targeting and Validation

FEBRUARY

7th	On-site Electricity Generation
14th	Energy Auditing Techniques
21st	Lighting – Basic Understanding

MARCH

7th	Become an ESOS Lead Assessor
10th	SECR Compliance
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"A comprehensive summary of the fundamentals of energy management. I recommend the course to a wider audience than just the energy/sustainability community. People in all levels of an organisation would benefit from this training."

"An excellent introduction to not only the theory behind monitoring, analysis and targeting, but most importantly the relevance of each of these in a practical setting. Well presented and engaged the attendees in practical exercises which kept interest engaged throughout."

"Very accessible to a non-technical audience, delivering a high-level oversight of the various HVAC systems. Essential understanding for those wishing to promote and deliver both monetary and environmental emissions targets."

The Engineer within: Embracing my Career in Energy Management

ema energy managers association winner 2018

Roederer Rose Lyne
Net Zero and Emissions Manager
University of Aberdeen

An interview with Roederer Rose Lyne, the recipient of the 2018 Young Energy Management Professional of the Year award in the Energy Management Awards.

What inspired you to pursue a career in energy management and sustainability?

I come from a family of engineers and grew up playing with all sorts of technical toys. I was fortunate enough to have access to lots of engaging STEM summer courses, so I always knew I wanted to do something engineering focused, and that is why I picked Aberdeen to study mechanical engineering. At that time, Aberdeen was known as the oil capital and a lot of technology, engineering and energy was focused there. I thought it would be a great place to learn and gain some hands-on experience in the world of technology and engineering.

During my studies, Aberdeen experienced a major oil downturn which led to a reduction in the number of oil linked internships and graduate opportunities. However, it led to an increase in opportunities in renewable alternatives and I was fortunate enough to secure a short internship with a start-up renewable company. This was my first exposure to renewables and looking at energy systems, and unique ways of generating energy. It was a really fantastic experience to see how we can harness offshore wind and solar energy rather than traditional land based options. I thoroughly enjoyed the experience.

When the University started looking for an Energy and Carbon Management summer intern to work within the Energy Management Team that same year, I did not hesitate to apply. The internship focused on assisting the University's new Energy Manager to develop a carbon management plan and explore ways to improve energy efficiency across the estate. Under the guidance of my line manager, I was exposed to various aspects of energy and carbon management through participation in meetings, analysis and project development. I found great satisfaction in the problem-solving challenges presented by the role, leading me to compile a project register of over 100 initiatives for the carbon management plan within a few months. The dynamic nature of the position, where each day brought new challenges, piqued my interest and broadened my perspective on energy management. I found joy in the technical and mathematical components of the job, as well as in engaging with colleagues and stakeholders. When I was offered a part-time position to continue working with the team while completing my master's degree, I was thrilled to accept.

After I graduated, the internship became my very first job. My line manager went above and beyond to create a 2-year custom graduate programme just for me, so I could keep working there and learn even more. I got to work on some really high-level projects, which was challenging but also a great way for me to learn and grow.

You won the EMA's Young Energy Management Professional award in 2018 when working as a Graduate Energy Engineer at the University of Aberdeen. What did it mean for you and how did your career evolve after that?

That was a fantastic year because not only did my line manager nominate me for the Young Energy Management Professional of the Year award, but he also nominated the whole team for the Energy Management Team of the Year award. I won and the team received

a highly commended award, both of which raised our profiles at the University and led to the wider Sustainability Team winning a principal's award for excellence internally.

Having that recognition outside of the University really showcased our work, and highlighted the fact that we were doing something so good and important that it enabled us to win sector awards. It elevated our standing, our profile as a whole team but also as individuals, and it helped to give a bit more weight behind any proposals we put forward.

On a personal level, winning the award was a big confidence boost for me and it showed me that I was having a positive impact. When I started looking for a job in the private sector, the fact that I won Young Energy Management Professional 2018 and was also part of a highly commended team helped me stand out during my interview. This led to the next chapter in my career, working for clients across the world and looking at ways to improve energy efficiency of their operations.

The consultancy work broadened my horizons in new ways again as I did a lot of decommissioning work, design for future proofing, and proposals' development. Then in 2022, I returned to the University of Aberdeen as their Net Zero and Emissions Manager.

Can you identify a particular influence that shaped your career in the industry?

My internship and graduate line manager and the University's Energy Manager, Tristan Wolfe, who shaped my technical mind, challenged me and guided me through the intricacies of energy management during my studies, and ever since. He inspired and supported me from the first day, but he also encouraged me to lead on key aspects independently to ensure my professional growth. Today, Tristan is not only my colleague at the University, but someone I still turn to for guidance and sounding board. I consider myself extremely fortunate to have had him as a mentor from the outset. I probably wouldn't have pursued this career path without his willingness to share his knowledge and answer all my questions.

How would you explain your role in energy management to a Martian?

Explaining the intricacies of energy management is no simple task due to the multitude of factors at play. Many mistakenly believe that the industry solely involves managing bills and ensuring the lights stay on, but this oversimplification fails to acknowledge the depth of knowledge and skills required for success in this field. I think the most straightforward explanation would be having a comprehensive understanding of the complexities of how energy is interlinked and consumed within a given estate, as well as the ability to analyse it and collaborate with others to identify opportunities for enhancing efficiency.

It is what makes the role so rewarding, complex and exciting. Each day presents new challenges and opportunities for learning and exploration. As the individuals working behind the scenes, our primary focus is on ensuring the seamless operation of systems and constantly seeking innovative solutions to alleviate any concerns for end users. We serve as advocates for future-proofing our estates.

In your experience, what are the three most important skills energy management professionals need for their day-to-day job?

Effective energy monitoring, validation and targeting is key. It is imperative to have confidence in the accuracy of the data before presenting it to stakeholders. Presenting data incorrectly can deter individuals, so it is crucial to have faith in the information being shared to support your ideas. This principle has proven true for me throughout my career, from my time as a graduate to my current role. Data serves as the cornerstone of our industry.

Carbon management was a significant aspect of my responsibilities as an intern and continues to be a crucial core component of my current role. Regardless of one's specific role within energy management, it is imperative to acknowledge the

importance of achieving net zero emissions as a fundamental aspect of any organisation's sustainability journey. Whether the focus is on reducing energy consumption, optimising baseloads, minimising peaks or simply lowering energy costs, it is essential to remain conscious of the other side of that which is carbon. This awareness becomes even more critical when considering long-term planning with regards to net zero and the potential requirement for offsets, and their associated annual cost.

Behaviour change, motivation and communication are very important. While these elements may not have been a primary focus during my consultancy work on large engineering projects, they were essential during my internship and remain significant in my current role.

Behaviour change needs to be demystified because many people do not realise how much energy they use at home. Just like people think about how much food they eat, they should also think about how much energy they use as it can make a big difference in the long run. Demystifying this aspect is something we tackle on almost daily basis at the University. By explaining the intricacies of how the University's system works and being approachable, we are able to build up the rapport that we need to communicate the realities of how energy works. I think it is a really key thing because often we have people who just expect that we can "buy from renewables" and that's it, but there is so much more to it than that.

If you could gain a new skill instantly what would you choose?

For me, the clear choice would be energy procurement. At the University, our energy purchasing is secured centrally on our behalf through APUC, so it is not something that I got to fully experience. I would like to know more about it, especially because power purchase agreements are being increasingly discussed as a way to decarbonise energy for the public bodies. If I had more exposure and more knowledge about energy procurement, I'd probably feel more confident talking about it and being involved in making decisions about what's best for us.

"We serve as advocates for future-proofing our estates."

What energy management principles do you use in your personal life?

I like to keep track of how much energy we use at home. I pay close attention to our energy usage and look out for any changes. I am very energy conscious, so for example if it's a sunny day, I won't use the dryer. Since our house is quite old, we've done a lot of work to make it more energy efficient, like adding insulation and reducing the overall demand before we start looking at installing renewables.

I also like to practice the circular economy by trying not to buy new things. We have some fantastic charities across Aberdeen and we were able to buy a lot of solid oak furniture for a fraction of the cost by shopping second hand. It only took us 2 weeks to find everything we needed when we bought our house. The University has an email based buy and sell marketplace where I found a free mahogany bookcase so there are some amazing finds out there, if you know where to look. In return, I do several clear outs each year and donate things to charity I no longer need instead of throwing them away.

The other thing I try to be really conscious about is travel. Aberdeen is a great city for walking, so I do not drive but walk or take public transport to get around. I try to avoid flying unless it's necessary, and I prefer taking trains whenever possible.

I am often asked why bother "restricting" parts of my life when large corporations are responsible for huge volumes of emissions but my stance is that we have the power to encourage change through how and where we spend our money and time. By making smart choices about how we use energy, what we buy and how we travel, we can help reduce carbon emissions and encourage companies to be more eco-friendly by showing that it is something important to us. It's all about making small changes that can have a big impact on the environment.

If you have suddenly been given a £1 billion budget to spend on any projects of your choice, what would be your plan?

I would start with the decarbonisation of our heat network. We have three campuses which contain the vast majority of our sites, Old Aberdeen which is our main campus, our Student Village and then our Medical Campus that we share with NHS. The majority of the budget would probably go towards the complete refit and targeting ultra low temperature district heating across the three sites which would involve ripping out the

existing district heating, putting in better insulated pipes, and would go hand in hand with improving our building stock as much as possible. We have some historic, listed buildings in our portfolio so going into every single plant room, insulating pipework and PIC valves, just to name a few, and generally improving the overall controls of our buildings.

Once we improved our district heating network, I would connect with the civic network. Aberdeen City is a fantastic city for council district heating schemes, where large areas of sheltered and council housing, schools, sports centres, community buildings, etc., are provided with district heating. It would be fantastic to be able to connect into that and provide heat, or potentially become an anchor load.

Another project that I would really like to get to try are PV carports. They are still relatively unique here, but I saw them when I went to COP28 in Dubai last year. Especially in the height of summer but even in the winter, carports that have PVs mounted on them would be a great addition to our estate, and the energy goes to electric car charging or provides electricity for your site. An alternative would be to cover the carport with green roofs to reduce the heat island effect and reduce the overall temperature of our estate. I think that would be a unique addition to our estate.

As a final project, I would love to create a renewables and sustainability showcase building. A building that would be specifically designed to allow staff and students to test out new technology or environmental processes. We have research covering areas like carbon capture and energy generation being done at the University. I would love to fund a building that could have all these innovative ideas and people could plug their technology in as a proof of concept. I think it would be fantastic to let our students and researchers use our estate more.

Those would be my main three projects and at the end of them, I would probably be out of money!

What is it like to be a woman working in engineering and energy management?

There are many women in the sustainability, but not that many in energy management, however we are breaking through. In my own experience, all of my mentors have been men, and they have been absolutely fantastic and supportive. Interestingly, it's been clients that have been not derogatory exactly, but dismissive. On one of the first projects I worked on as a consultant, we had a client who was really dismissive and not respecting my experience and the research we put into the work. It was only when a male colleague came in and repeated what I said, it was accepted. My boss at the time highlighted this as an issue and this person was removed from the project because it was causing delays.

I am very fortunate to have been raised to speak my thoughts, not be afraid and be confident. I am comfortable standing my ground, which really helped me. However, I have also been very fortunate to have line managers who support me and would never let anything like that remain unresolved, which is key in situations like this.

What are your aspirations for the future?

Short-term, my focus is on my current role and the task of decarbonisation of our estate. I would like to play a role in overseeing the implementation of a new large scale decarbonisation source, whether it's a heat pump, PV or hydrogen, and seeing it to reduce the University's carbon emissions. It would make a fantastic career milestone for myself to see that happen.

Long-term aspiration is to keep pushing the sustainability agenda and keep moving up towards head of sustainability and estates roles. Though a period back into consultancy is never out of the question as I found that thoroughly engaging.

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The Evolution of my Career: A 35-Year Perspective

Mitch Layng
Carbon and Utilities Manager
London Fire Brigade

An interview with Mitch Layng, the recipient of the 2016 Energy Manager of the Year award in the Energy Management Awards.

Can you share the story of how your career path in energy management began?

I didn't initially choose a career in building services, I wanted to do something art related such as graphic design when I left school. However, an opportunity arose through the school careers process that led me to a position as a trainee building services engineer with a government organisation. This provided me with an excellent grounding in this sector, along with day release and evening school to study for my engineering qualifications.

Roles in both the public and private sectors as a design engineer led to a client-side position in a large insurance company, managing both design and operational aspects for all their UK buildings. The operational aspect interested me for several reasons, not least because there was an opportunity to see more of the life cycle of the process following the design and construction, and the impact that design has on the operation, including energy consumption and the wellbeing of the occupants.

Energy management in the early days was not driven by climate change. When I started my career there was a global oil crisis and this led to organisations being more pro-active in reducing energy due to the high cost of oil at the time. Being involved with a government organisation, we were leading the construction industry in terms of energy management, and the production of standards and guidance. Energy management at that time was different, mainly due to technology not being as advanced as it is today. It involved behavioural change, which involved campaigns highlighting the need to switch off – such as the "Save It!" campaign, along with basic control optimisation ensuring time clocks were set correctly, and heating set points were accurate. The use of management systems utilising algorithms and AI did not exist, and much of the data crunching to monitor consumption was a manual process.

You remained with M&G Real Estate for more than 17 years. In what ways have your responsibilities evolved throughout the years?

My initial position at M&G Real Estate (it was called Prudential Property Investment Managers at the time) involved managing the engineering aspects of the facilities management team, and providing advice to property and asset managers. Energy management at that time was only a small part of the role, although there was a dedicated energy manager in place dealing mainly with utilities supply contracts.

My role changed when the property managers' roles were outsourced, and I put together a business case (which was accepted) to keep an in-house energy management position. Regulations around energy management and carbon emissions were developing at speed around this time, and I could see the importance of having someone to advise on the reporting and operational requirements of these regulations. The introduction of The Energy Efficiency (Private Rented Property) Regulations 2015 brought into force the Minimum Energy Efficiency Standards (known as MEES), which had a big impact on the property energy performance requirements.

These regulations focused the attention on energy performance certificates (EPCs) and a whole industry grew up to offer the provision of these services. It was important to ensure the correct type of service was provided, not only to obtain accurate EPCs, but to extend these to provide reports on what could be done to improve the ratings in anticipation of the regulations being tightened in the future.

You won the EMA's Energy Manager award in 2016. What did it mean for you and how was it received by the organisation?

From a personal perspective it was recognition of what I had achieved in a complex and evolving industry. Previous awards I have been involved with, both as a winner and as a judge, in particular the CIBSE Building Performance Awards are won as part of a team, whereas the Energy Manager Award highlighted my personal achievements. I would add that I could not have achieved this without the support of the organisation and colleagues.

From an organisational perspective, the award was well received in my immediate team, and was appreciated within M&G Real Estate. In my view, the importance of energy management has increased significantly since 2016 due to climate change and world events becoming more prominent, and awards like this are a lot higher profile today.

Following your departure from M&G, you delved into the realm of energy management consultancy. In what ways did you have to adjust to the new position?

I had always considered that at some stage in my career I would work for myself, and when the opportunity arose, I took the chance and Layng Energy Solutions was born. The venture started well with several commissions which included working with BSRIA (Building Services Research and Information Association) on a number of publications. One of these, Building Services Analytics, was of interest as it dealt with energy management and the use of technology, and the impact this was having on energy and wellbeing.

I ended up with a contract working in the facilities management department at London Fire Brigade

(LFB), although not entirely energy related, it drew on my experience in the FM world, and it did help to focus the FM contract on energy related issues.

I did find the transition from working within a large organisation to working as a consultant quite a difficult one, for two main reasons. I missed the camaraderie and support of colleagues, and it was challenging for me to go out and sell myself to obtain work. This was one skill that I was missing, and the main reason I have ended up in-house working for London Fire Brigade.

What does your role at London Fire Brigade entail and how does it compare to your earlier roles?

My responsibilities at London Fire Brigade can be divided into two main areas – procurement and management of utility contracts, and energy management.

The procurement was not something I had previously been involved with to any great degree and is quite a complex arena. This has been both challenging and rewarding, particularly with the recent volatility of energy prices. Also, being involved with the Greater London Authority (GLA) and its pathway to net zero carbon by 2030 has been interesting and has really highlighted the challenges involved, particularly within the public sector. I am working closely with a number of colleagues within London Fire Brigade, in particular the Technical Assurance Team and Carbon Reduction Team, to achieve LFB's aim of being carbon net zero by 2030.

In terms of energy management, I was really pleased that LFB were awarded the Low Carbon Initiative – Building Management in the national Energy Awards 2024. This was in recognition of introducing and developing The Energy Portal. It has transformed our Building Energy Management System (BEMS) into an easy-to-understand dashboard to demonstrate and share how we maintain, control and monitor the performance of our fire stations and other buildings. The Energy Portal can be accessed by everybody and is being used to help reduce our energy consumption and costs.

The energy management role in LFB is similar to previous roles, but the challenges are different. With 103 fire stations and 4 support

buildings all operating 24/7, finding ways of saving energy is not easy. Compared to office buildings or shopping centres for instance, where savings can be found out of operational hours, this is not possible with buildings that operate 24/7/365. This makes winning the energy award more pleasing. New technology will assist in going forward, as this becomes more affordable and available.

Can you identify a particular influence that shaped your career in the industry?

I would say there were probably four occasions/events that most shaped my career:

1. Excellent training with the government organisation I first started with. This included 6 months in the "Drawing Office Training Centre", where I learned purely design and drawing, and then 6 months on site seeing how designs were turned into the finished product, and the challenges faced on site.

2. Moving from design into an operational role with the insurance company – I was mentored by a very experienced engineer who took me under his wing and set me off into the world of FM.

3. Starting with M&G Real Estate and the experience gained with managing a variety of buildings, such as shopping centres, office buildings, retail parks and warehouses.

4. Becoming a non-executive board member of the Building Services Information and Research Association (BSRIA). This gave me more awareness of the governance process behind large organisations, and the impact that decisions can have on all stakeholders.

If you could go back in time, what guidance would you offer your younger self?

TAKE RISKS. I tended to play safe and stay in my comfort zone, but later realised that I may have missed out on opportunities. Early on in my career there was a shortage of engineers in Europe and America, which would have given me broader experience. Not that I regret anything now.

PLAN FOR THE FUTURE. I didn't really plan my career path, things just happened that seemed the correct thing to do at the time. Try and see what areas are predicted to grow and become more important in the future, and work out what is important to you.

If you wrote a book about your career, what would you title it and why?

"Re-imagining the life cycle of buildings – an engineer's view".

My career has seen many changes in how engineers design, operate, refurbish, reconstruct and demolish buildings. In the early days, climate change and occupant wellbeing were not at the forefront of the life cycle as it is today. Technology, including renewable generation equipment, has progressed so much it's unrecognisable from 20 or 30 years ago, and its use now is key to managing energy consumption. Artificial intelligence will impact this area even more in the coming years and will require continual re-imagining as this technology progresses. In addition, other factors will become increasingly important and engineers will not only be focused on cutting carbon emissions, but will take more of a holistic view of building services design that will consider the wider impacts on society and the environment. The way people work has changed dramatically over the past few years, and this is likely to continue, meaning people have more of a choice in where they can work. If employers want to attract staff, the quality of the workplace will have to be at the correct level to ensure occupant comfort and wellbeing. I believe these issues will help drive forward the changes required.

What are your aspirations for the future?

To give something back to the industry and to encourage young people thinking of becoming involved with the building services sector. It is also important to encourage diversity within the industry, and this can be achieved through education and awareness. I have been involved through the Chartered Institution of Building Services (CIBSE) and others in talking at career events in schools, to highlight the opportunities. It is important to try and make a career in building services and energy management sound interesting, and highlight the importance of tackling climate change.

WINNERS ANNOUNCED

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Energy Management Awards 2024

The EMA Energy Management Awards give prominence to those leading the energy management industry and inspire other professionals to follow in the same footsteps.

We are pleased to introduce our 2024 winners:

ENERGY MANAGER 2024

Astley Fenwick, Senior Consultant, Astley Fenwick Consultancy

Astley is a chartered professional and electrical engineer, and has over 50 years' experience within the building services sector and 35 years' experience with industrial facilities. His previous role was as a Site Electrical Engineer and Energy Manager at GSK. His specialities include power distribution, lighting, motor drives, HVAC controls, compressed air systems, building services design and maintenance as well as running stakeholders' engagement campaigns in his previous role at GSK. Leaving GSK in 2004, he became an Energy Management Consultant carrying out design, installation and commissioning electrical services, energy management audits, reporting and overseeing projects improving energy efficiency. To date, he has carried out over 230 energy audits ranging from SMEs to large organisations. He has a wealth of knowledge regarding energy matters and also advises on the road to Net Zero, and transition methods to replace fossil burning energy equipment. He is passionate about reducing energy consumption and improving sustainability to maintain the earth's resources for future generations.

SUSTAINABILITY MANAGER 2024

Kuram Gwakyaa, Head of Sustainability, Mitie

Kuram is a passionate environmentalist and a chemical engineer experienced in renewable energy, environmental management, fire safety and quality management. His role as a Head of Sustainability on Mitie's Department for Work and Pensions (DWP) account involves leading and accelerating the delivery of the sustainability agenda for DWP's estate, comprising of 800+ sites. This encompasses steering key projects and ensuring best-in-class compliance, monitoring and reporting across the board. In his quest to deliver impactful sustainability change, Kuram is harnessing the Mitie's Plan Zero blueprint in conjunction with his broad experience to ensure DWP meet their net zero targets and Greening Government Commitments. Kuram is committed to driving social and environmental change and is actively involved in charitable causes and climate action advocacy to help to create a more just and sustainable world.

EMA MEMBER 2024

Craig Love, Director, Impact Assessment & Reporting, Scottish National Investment Bank

Craig leads on defining the Bank's Net Zero ambitions and wider environmental reporting, in relation to both operational and investment activities, while supporting the wider work of

the Impact team. This includes coordinating the Bank's efforts to define and deliver a climate strategy that will allow the Bank to support the transition to Net Zero at a portfolio level, and to drive progress towards Net Zero corporate structure and ambition. He provides guidance and input into investment due diligence and portfolio management and has developed a reporting platform which can support investees on their own carbon management journey. Craig also leads on the evaluation and reporting of the Bank's corporate environmental and climate performance, including statutory requirements, the preparation of Climate Risk Assessments, and Task Force on Climate-Related Financial Disclosures reporting.

ESOS ASSESSMENT 2024

Co-op Group with Michael Greer as the appointed ESOS Lead Assessor

The ESOS Assessment, led by an in-house ESOS Lead Assessor, was executed with precision and successfully engaged both energy and non-energy personnel within the organisation to pinpoint energy-saving opportunities. By consistently implementing energy management practices, this assessment not only uncovered ongoing opportunities, but also accelerated efforts to decrease energy consumption, met compliance requirements, and achieved substantial cost savings and environmental benefits through strategic energy management practices.

ENERGY EFFICIENCY PROJECT 2024

Optopia and Portsmouth Water for their Northbrook Water Treatment Works Energy Efficiency Project

The Northbrook project is a great example of where Optopia and Portsmouth Water (PW) worked collaboratively to complete a comprehensive, systems based review of its site operations. Looking at the whole system allowed for a much better understanding of the system characteristics. In particular this identified the exponential rise in friction losses in the system as flows increased and water levels changed. This highlighted an opportunity to install pumps with lower flows which were matched to the system curve, were more efficient, and took account of varying water levels through the year, maximising efficiency and optimising operations. By collaborating with pump manufacturers and various suppliers, the most effective solution was found to ensure a delivery of the projected efficiencies in real-world applications. This solution delivered significant energy efficiency with an estimated payback period of <2 years and further benefits: reduced pump cycling, lower flow velocities (minimising water quality issues), and the introduction of Variable Speed Drives (VSDs) to further enhance efficiency and water quality.

NET ZERO STRATEGY 2024

Liverpool John Moores University for its Carbon Management Plan

ENERGY MANAGEMENT CONSULTANCY PARTNERSHIP 2024

CBRE and Vestas

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ENERGY MANAGEMENT AWARDS
winner 2024

WINNERS ANNOUNCED

ENERGY DECARBONISATION PROJECT 2024

University of Reading for its Business Travel Carbon Budgets

The University's decarbonisation project focused on reducing its carbon emissions from business travel across the organisation through the introduction of travel carbon budgets for business travel for each School and Directorate alongside a new monitoring and reporting process. The project stemmed from a sustainable travel working group set up post-COVID pandemic, which led to a new Travel Policy introducing carbon budgets 30% below historic levels with a 50% stretch target. The Policy also banned non-economy flights and mainland UK flights, as well as mandating train travel for international destinations reachable within 8 hours of London. The initiative has seen colleagues across the University changing behaviours to successfully deliver savings of 5,248 tCO2 against pre-COVID levels in its first year; another significant step in the University's decarbonisation journey.

ORGANISATION 2024

Mitie

Decarbonisation is central to Mitie's business strategy. Through Plan Zero, launched in 2020, they've established a robust framework to reduce their carbon footprint and help their customers do the same. This approach focuses on decarbonising the fleet, optimising the buildings, enhancing biodiversity, and shifting to a circular economy to eliminate non-sustainable waste. With one of the largest electric vehicle fleets in the country (approaching 6,000 vehicles) and all Mitie-controlled buildings powered by renewable energy, they're committed to achieving net zero operational emissions by 2025, and non-operational emissions by 2035 — the most ambitious targets in their industry. Their commitments have received validation from the Science Based Target initiative, underscoring the near-term and long-term net zero goals. Guided by their "Do, Lead, Deliver" ethos, they apply sustainable practices within Mitie, lead the industry by example, and use this expertise to support customers nationwide on their own decarbonisation journey.

Congratulations to all our 2024 Winners and Highly Commended.
View the full list here.

ENTRIES FOR THE EMA ENERGY MANAGEMENT AWARDS 2025 WILL OPEN IN JUNE.

From Passion to Profession: My Career Journey

William Begg
Energy Manager
Kingston University

An interview with William Begg, the recipient of the 2019 Young Energy Management Professional of the Year award in the Energy Management Awards.

What inspired you to pursue a career in energy management and sustainability?

I studied Environmental Science at undergraduate level with a research focus on the potential release of heavy metal contamination of brownfield developments. I have always had an interest in climate cycles and the anthropogenic impacts on the environment. Shortly after graduating in 2016, I began my professional career interning at my local council's Climate Change and Planning Services department. During this time, I was introduced to energy management and wider sustainability issues in the built environment. I worked on their Local Enterprise Partnership which further introduced me to the Low Carbon Economy sector. I was immediately drawn to the diverse nature of energy management, its innovative methods and the technologies that could be used to drive efficiency and reduce CO_2 across the built environment. Shortly after interning, I joined Kingston University as a Graduate Energy Assistant, where I supported the Energy Manager and wider estate functions in achieving the organisation's 2020 operational carbon target. During this role, I became more motivated and passionate about energy management and sustainability in the built environment. Coming from a scientific background, I have always been data driven; seeing carbon emissions reduce as a result of an energy conservation project has and still motivates me. Whilst in the role, my employer and direct management continuously supported my professional development. I completed technical courses, shadowed senior colleagues and undertook a part-time MSc. Throughout my career, the sector has evolved but my motivation for the field has only increased. Fast forward to 2024 and I'm the Energy Manager at Kingston University developing our decarbonisation strategies aimed to achieve operational Net-Zero by 2038. Currently, the university has reduced 68% of its operational tCO_2 from a 2005/6 baseline.

You won the EMA's Young Energy Management Professional award in 2019. What did it mean for you?

The EMA Young Energy Management Professional award in 2019 boosted my motivation. It's hard to believe that it has been 5 years since the award. Looking back, it's clear that the award gave me confidence to put myself out there, and I have been fortunate enough to progress my career at Kingston University as their Energy Manager. Since the award, the energy management sector has accelerated and has faced unprecedented challenges. These include grappling with Net-Zero ambitions, maintaining efficiency during COVID-19 and the more recent energy crisis. I feel that the award gave me the confidence to face these challenges head on and succeed.

Can you identify a particular influence that most shaped your career in the industry?

There are a number of influences that have shaped my career to date, from events to individuals. One of my greatest influences would actually be my (now retired) manager – Nigel Heugh, (formerly) Head of Operations and Compliance at the organisation. Throughout my career, he has been an invaluable mentor to me and over the years has distilled a wealth of technical information to me. As a chartered engineer there was rarely a

technical issue or matter that could not be addressed. I am very grateful to have the mentorship of such a knowledgeable individual (so if you are reading this... thanks).

In your experience, what are the three most important skills energy management professionals need for their day-to-day job?

An often-misquoted phrase says: "jack of all trades, master of none". The full quote actually reads "a jack of all trades is a master of none, but often times better than a master of one", this quote perfectly depicts the key skill required to succeed as an Energy Manager. The ability to manage a plethora of different types of tasks, activities and challenges whilst maintaining a positive, can-do attitude is paramount for success in the role. An Energy Manager covers Technical and Operational matters to Strategic Planning, Procurement and Risk Management to engagement with staff and students to promote good practice. You must be able to prioritise and multi-task diverse workstreams.

Strategic planning is an essential skill for my role as an Energy Manager. Within the industry, over recent years there has been a spotlight on Net-Zero. This has become a critical issue for my role to focus on; I lead on the operational Net-Zero at the University. I have been instrumental in developing the strategic heat decarbonisations plans for the University's building portfolio. The plans have been developed to align with the depreciation of existing assets, minimise disruption, maximise efficiency and where possible to be technologically agnostic. This philosophy of being technology-agnostic allows the university to develop strategies without being tied or reliant on one single technology. This approach allows for flexibility in adopting technologies and allows the organisation to adapt to new innovations in the future.

Finally, and by my no means last, is Energy Monitoring and Data Management; it is an essential skill for daily success. I'm a firm believer of using data to drive decisions and to validate the success of projects. In the day-to-day role as an Energy Manager and for other energy management professionals, it is vital to be able to have the ability to manage, analyse and disseminate large data sets. A day-to-day aspect of the role is monitoring the sub-metering platform and Building Management System at the university to identify trends, anomalies and areas of improvements. This can be summarised with the classic process of plan-do-check-act.

How would you explain what it is like working in the energy management industry to a Martian?

Energy management is a diverse and continually evolving multi-disciplinary industry. It involves the optimisation of how organisations use energy and other resources to ensure efficiency, fine-tune operations and reduce costs. All whilst contributing to long-term environmental targets and compliance obligations. Many people that are unfamiliar with energy management may not fully understand and appreciate the importance and value this function brings to an organisation.

Energy management is crucial for an organisation. Regardless of the size and complexity, every company relies on energy to operate, whether it is serving office equipment, production lines or research in category A laboratories. Without proper management inefficiencies arise, poor operating practices can occur and ultimately energy gets wasted. This can result in a significant expense and impacts the organisations' bottom line figure. By managing energy effectively, organisations can optimise operations, reduce waste and reduce costs – whilst reducing

the environmental impact due to associated emissions.

Beyond the operational financial savings, energy management also can allow companies to become more resilient to external risks, such as energy price fluctuations and navigate periods of uncertainty – by establishing a long-term energy procurement strategy. This is particularly important in the recent years with the energy crisis. Energy management also enables organisations to comply with and meet regulatory requirements, and work towards sustainability commitments. All of which can improve the reputational image of an organisation.

As mentioned before, energy management is multi-disciplinary and requires those involved to adapt to external pressures, innovate with technology and navigate new and varying challenges. To be effective, those in energy management need to be able to take on differing roles depending on the task in hand including but not limited to: Technical Expertise, Data Analysis, Financial Management, Project Management, Compliance and Regulation, and Stakeholder Engagement.

Energy management covers a plethora of responsibility and is a diverse field. The unique aspect of energy management is that it's one of the few, if not the only function, that can cover all areas of an organisation and it is a function that can bring continuous benefits to an organisation in the short, medium and long-term. However, it is often a field that is somewhat unknown and often goes under the radar.

Is there an area of energy management or sustainability that you wished you did more of?

In recent years, I have been leading the development of the campus wide strategies to tackle the decarbonisation of heat challenge. I really enjoy the process of developing long-term strategies. Energy management can sometimes be very granular, so I like to have the opportunities to take a step back and look holistically at the bigger picture. I would like to create further strategies and energy master planning, however the boundary and building stock of my organisation is finite.

Another area of sustainability that I would like to do more of would be related to climate adaption and implementing measures to ensure climate resilient building stock. It is expected that 80% of the UK's existing building stock will be occupied in 2050. Not only will it need to be operating to Net-Zero, but it will need to be able to withstand threats of a future climate, including overheating and risks of repetitive flooding. This is a challenge that is not going to go away.

What sustainability or energy management actions do you use in your personal life?

Ultimately, I am really passionate about the environment. All my hobbies relate to the outdoors, so I want to protect it. In my personal life, I try to practice what I preach when it comes to sustainability/ energy management. There are a few effective actions I follow. I love using my smart meter – some people loathe the moment the dial shifts to red as you boil the kettle for your third coffee on a Monday morning, but for me it reinforces good practice even at a domestic level (I don't boil it 3 times). I encourage my household to 'wear a jumper' before turning the heating up. I have a passion for cycling, so you won't see me commute by car through the ULEZ zone. I also try to re-use and buy items second hand, and always avoid 'fast fashion'. It's easy to be overwhelmed when you look at sustainability and the threat of climate change, but I find it's pretty easy to incorporate good practice into our daily lives. As an outdoor enthusiast, I'm biased and feel we have a moral duty to protect it.

An Ideal Match for my Core Values: My Career Journey

An interview with Rebecca Marino, the recipient of the 2017 Young Energy Management Professional of the Year award in the Energy Management Awards.

Rebecca Marino
Energy and Sustainability Manager
CBRE

What inspired you to pursue a career in energy management and sustainability?

I've always been drawn to understanding how we impact the world around us. I wanted to know what changes we could make to reduce that impact, so when I saw how much energy usage was a major contributor to how we impact our environment (not only the type of energy but how efficiently we use it), I knew energy management and broader sustainability was the right path for me. My journey in this field feels like a natural fit for my values and personal drive to make a difference.

It all started with my studies. I chose Geography for my undergraduate degree, then pursued a master's in Environmental Protection and Management. These programmes gave me a foundation in sustainability principles, data collection and analysis, and opened me up to a network of likeminded people. After university, I spent a year working at marine conservation NGO in the Greek islands as an Environmental Scientist. There, I analysed the impact of small-scale fishing on marine ecosystems. A main part of that role was working alongside local fishermen to encourage sustainable fishing, which taught me that sustainability thrives when people work together.

When I joined Tesco as an Energy Engagement Manager, I was excited to bring that collaborative spirit into a larger organisation. I worked with over 120 stores in Scotland, engaging teams on how they can adapt the way they work to save energy. After a year of working on the project our efforts were recognised with an Edie Sustainability Leaders Award in 2015 for Employee Engagement and Behaviour Change. From then, my role evolved to managing energy projects across the stores, responding to energy alerts, improving energy efficiency within in-store bakeries and handling climate change agreements. It was incredibly motivating to see how even small changes, when scaled across hundreds of stores, could make such a big impact.

You won the EMA's Young Energy Management Professional in 2017 when working at Tesco. What did it mean for you and how was it received by the organisation?

Winning the EMA Young Energy Management Professional award in 2017 was such an incredible honour—it felt like validation for the hard work I'd been putting into my role even when I still felt so new to the field. Personally, it was a huge confidence boost, and it encouraged me to continue sharing what I'd learned with others. On the organisational side, the recognition highlighted how impactful energy management could be.

The award helped me advance into a Work Level 2 position, which opened the door to new projects and larger-scale initiatives. It gave me visibility within Tesco, which early in my career meant I could connect with senior leaders and make a case for even bigger energy-saving initiatives. This award truly helped shape my path, providing the confidence and credibility to pursue more ambitious projects.

Can you identify a particular influence that shaped your career in the industry?

I've been lucky to have mentors who really believed in me and their support made a huge difference. Early on, I sometimes felt like an outsider in a field with a lot

of engineers - I wasn't sure my background would be enough. But my mentors helped me see that there are many ways to approach energy management and that fresh perspectives are needed to drive change. Their encouragement to step out of my comfort zone and keep learning was invaluable. I wouldn't be where I am today without that trust and guidance.

In your experience, what are the three most important skills energy management professionals need for their day-to-day job?

• Data Analysis and Storytelling: Data is essential in energy management, but it's not just about collecting numbers. Turning data into insights that tell a story and reveal opportunities for improvement is where the magic happens. This skill has grown with technology and each new tool makes our analysis even more precise.

• Strategic Thinking: It's important to look beyond individual systems and consider the whole building, how people use it and how to balance comfort with efficiency. A strategic approach allows you to see where adjustments will have the most impact.

• Stakeholder Engagement and Behaviour Change: Getting people to care about energy efficiency is half the battle. Building a culture around sustainable practices requires strong communication and an ability to motivate people to come along for the journey. Engaging teams at every level of an organisation makes long-term change possible.

What do you think is the answer to a net zero world?

A net-zero world will require a combination of innovation, collaboration and policy support. We need to shift to renewable energy, improve efficiency and embrace a circular economy. It's not just about reducing emissions but about creating systems that restore and regenerate. Achieving this will take cooperation across industries and communities, with strong policies to support these efforts.

What energy management actions do you use in your personal life?

Many of the practices I promote at work have flowed over into my personal life. I use a smart meter and tracking apps at home to understand my energy consumption, and find ways to reduce it. I also have solar panels, which allow me to generate green energy right at home. Simple changes, like running appliances (like washing machines and dishwashers) during off-peak hours, help lower demand on the grid.

In a broader sense, I try to embrace sustainability in everyday life. For example, I've started sewing to repair clothes instead of throwing them out, which reduces waste and extends the life of what I already own. Each small choice adds up, and it's rewarding to see the positive impact in both my work and personal life.

What are your aspirations for the future?

I'd love to keep expanding my impact in the sustainability space and inspire others along the way. In my role now as an Energy & Sustainability Manager at CBRE, I work across various industries, which has given me the chance to learn and innovate in ways I never expected. Ultimately, I'd like to become a thought leader in sustainability, encouraging organisations and individuals to make meaningful changes.

Mentorship has been such a positive influence in my career, so I also hope to support the next generation of energy and sustainability professionals. Whether through formal programmes or simply by guiding colleagues who want to learn more. I want to pay forward the support I've received. Sustainability is a journey, and every person who joins adds new ideas and energy to the movement. It's an exciting field and I can't wait to see where it takes us all.

By Jason Joseph, Energy and Water Manager at CBRE, and
Andrew Creamer, Group Energy Optimisation Manager at Greencore Group plc

Shaping Futures: The Role of Mentorship in Energy Management

Mentorship plays a crucial role in shaping futures by providing individuals with guidance, support and valuable insights necessary for personal and professional growth. The following interviews provide a glimpse into a recent mentorship experience, and offer useful tips for current and prospective candidates.

Jason Joseph
Energy and Water Manager
CBRE

How did you start your career in energy management and sustainability?

I studied Electrical Engineering in Trinidad and Tobago and began my professional journey in the oil and gas sector in the Caribbean back in 2003. In 2017, I relocated to the UK where I shifted my focus to the waste-to-power industry and manufacturing. When I was presented with a job opportunity within the Energy Department, I eagerly accepted the challenge, despite some uncertainty about what to expect. With two decades of experience as an electrical controls and instrument engineer, I hoped that my skills and knowledge would be valuable assets in the role of a sustainability engineer.

What is your experience with mentorship?

I experienced mentorship from both perspectives as a mentee as well as a mentor prior to entering the field of energy management and sustainability. In the early stages of my career, as I transitioned from an instrument fitter to an electrical engineer, I held various roles in facilities management and maintenance. During this time, I was exposed to new concepts, technologies and knowledge, and I was fortunate to have individuals who served as mentors and guides. As my career progressed into more senior managerial positions, I gained a deeper understanding of the significance of mentorship and leadership from the other side of the spectrum as well, when at one point I was a team leader for 16 people.

When the opportunity arose for me to transition into the sustainability role, I sought guidance from Andy, who was overseeing the recruitment process. I recognised in him a mentor figure whom I could once again learn from, which ultimately influenced my decision to make the career shift.

Andrew Creamer
Group Energy Optimisation Manager
Greencore Group plc

How did you start your career in energy management and sustainability?

After completing my education, I began my career at BT as an engineer. Over the course of nearly three decades, I held various technical, commercial and support roles, each contributing to a diverse skill set.

My interest in the field of energy management was sparked by a project management role that I accepted with a company involved in sub-metering projects. When my line manager departed, it became apparent that no one within the company was overseeing energy management. I advocated for myself to take on the role of the energy manager and I have now been in energy management, or subsections of it, on and off for about 15 years.

Reflecting on my journey, it is remarkable to see how the landscape of energy management evolved. What was once a niche area is now a vital component of business operations.

How and why did you become a mentor?

Interestingly, in many ways, I have always been that way inclined. During my time at BT, I held the role of technical lead for various groups, where I was tasked with overseeing the apprentice scheme within my team. Each year, I would have 3 apprentices for a month with me and I very quickly learned the best way to teach for the given person. Mentorship, to me, is more than just sharing knowledge - it is about presenting information in a way that is easily digestible and engaging for the learner. Unfortunately, I often encountered disillusioned apprentices who had previously been under the guidance of leads who simply had them perform menial tasks for a month. In contrast, I made it a point to involve my apprentices in more technical

How did having a mentor help you in your everyday role?

When I started the role, Andy provided invaluable practical guidance and strategic insight that facilitated a smooth transition. His assistance was instrumental in clarifying my goals and objectives, ensuring they were both realistic and achievable. To enable me to transition effectively, Andy offered lots of guidance about the day-to-day job, but we also discussed other aspects, such as training and networking, which was a new concept for me.

Reflecting on the past, I now realise that he established a sustainable environment for me to work in, while also giving me the autonomy to manage my own time. He would check in periodically, recognising what motivated me and pushing me to excel. This style of mentoring was new to me, and Andy has proven to be the most exceptional manager I have ever had the privilege of working with.

Andy's leadership style created an environment where I thrived and was motivated to achieve more than I set out to do. This was not only recognised in my daily responsibilities, but also by him nominating me for the

Young Energy Management Professional award, which I won last year. I was truly inspired by his approach to leadership and mentorship. As my knowledge grew through training and experience, I required less day-to-day support, so the support transitioned to a more ad hoc basis.

Having been mentored in-house, how would you compare internal and external mentorship?

Understanding the company's culture, values and operations is a key advantage of internal mentorship. This knowledge allows for a deeper insight into what is required for success within the organisation. Additionally, the ease of organising regular meetings and stimulating projects, sparking their interest and fostering a passion for learning.

What is involved on a regular basis?

That largely depends on the quality of the mentee and the subject being mentored. For instance, when I first started mentoring Jason, there was understandably a significant disparity in our knowledge levels. Initially, it required a substantial amount of my time to keep him informed and guide him through the subject matter. However, as time progressed, the need for intensive guidance lessened. It is important to note that mentoring cannot be approached with a one-size-fits-all mentality. Each individual and each subject may require varying amounts of time and attention. For example, one of the individuals I am currently mentoring in a non-technical field only requires a monthly hour and a half conference call to discuss and implement necessary strategies. On the other hand, another mentee who is training to be a food bakery technician requires approximately 2 hours of mentoring per week to focus on managerial skills, as technical training is covered by the school curriculum.

In conclusion, effective mentoring involves adapting to the needs of the mentee and the specific subject matter being addressed. It is essential to invest the appropriate amount of time and effort to ensure the mentee's success and growth. Whenever I am asked how long do I spend mentoring people? I always say: "As long as it is needed".

What is your mentoring style?

I would describe my mentoring style as collaborative. I prefer to show empathy, rather than sympathy, which implies they have done something wrong, but empathy shows that you understand their position. I like to use the old training epithet of: **"Tell them what you are going to tell them, tell them, and then tell them what you told them"**, because telling it in threes reinforces it. This principle not only facilitates comprehension but also fosters a two-way dialogue. My goal is not to simply instruct, but to engage in meaningful conversations that result in a valuable expansion of knowledge for the individual I am mentoring.

How did you become Jason's mentor?

I recognised Jason's talents and transferable skills long before a position for a sustainability engineer opened up through a commercial need within the business. However, it was at that point that I took the initiative to actively recruit him for the role, and the mentorship

with an internal mentor can facilitate a more consistent and impactful mentorship experience.

However, internal mentorship can also have its drawbacks. In some cases, the focus may be solely on the company or client's needs, neglecting the personal development of the mentee. Furthermore, conflicts may arise within departments if both mentor and mentee have overlapping personal goals, such as aspiring for the same position. It is something that I observed but luckily not experienced myself.

On the other hand, external mentorship offers a fresh perspective from individuals with diverse backgrounds in different companies, sectors and industries. This can provide the mentee with a broader range of knowledge and best practices to draw upon.

Ultimately, there are pros and cons in both, and the choice between the two will depend on the specific needs and goals of the mentee, as well as the availability of mentors.

What advice would you give to someone considering a mentor?

Identify your objectives, so that you have an idea of what you want to achieve personally, at least on some level, before discussing it with your mentor. Additionally, **consider what leadership style** would best suit you. Your mentor may have a different perspective, so it is crucial to keep an open mind, however, having a general idea of your preferences can naturally followed. Essentially, this was because I was taking on an untrained individual to perform the duties of a trained professional. To bridge this gap, we implemented strategic planning and external/off-the-job training to expedite his learning processes quicker than you might normally have done. I was very careful to guide Jason along the right path as I've witnessed too many times mentors leading individuals at a tangent. Therefore, I was acutely aware of the need to steer Jason in a prescribed direction that would equip him with the necessary tools and resources to excel in the role I'd taken him on to do.

In my experience, there are various types of individuals - some can be led, some need to be pushed, and some may struggle to succeed. Jason fell into the category of individuals I could lead as I recognised his capacity to absorb knowledge and apply it effectively. Initially, I provided close supervision without being overly intrusive, making myself available to address any queries without micromanaging his work. As Jason's training progressed and his proficiency grew, I gradually stepped back, meeting with him on an ad hoc basis depending on the tasks assigned. This approach struck a balance that allowed Jason to thrive, as he was motivated and eager to excel.

What advice would you give someone considering to become a mentor?

As a mentor, your goal should be to inspire and empower the next generation of professionals, guiding them towards a successful and fulfilling career in the industry. To be a mentor, you have to have a certain outlook. You have to be patient. You have to be understanding. Mentorship is not suited for everyone and just because someone asks you to be a mentor or the organisation wants you to mentor someone, it's not a given that you have to do it. It is important to feel comfortable with the responsibility and to consider the mentee's outlook and attitude before committing to the role.

If a mentoring relationship is not working out as expected, it is important not to dwell on it. It is simply a part of life. What may not resonate with one individual may be exactly what another person needs. Understanding that each mentee is unique and may have different needs or paces of learning is crucial in the role of a mentor. It is common for some individuals to sometimes struggle to grasp certain concepts or to feel

save time and ensure that you find someone whose values and leadership style align with yours.

In your interactions with your mentor, it is essential to **be open, honest, proactive**, and I would also say **grateful**. Remember to give back and respect your mentor's time as they also have their own responsibilities to fulfill. While there may be opportunities for discussions, it is important to understand that they may not always be available when you need them.

Why is mentorship important in the energy management/sustainability industry?

I think mentorship plays a crucial role in energy management especially due to it being such a complex discipline. You require a deep understanding of the technical aspects, regulations and best practices, and for those new to the industry, this can be overwhelming. Mentorship plays a key role in helping navigate these complexities and guiding individuals towards a better understanding. A mentor can provide practical experience and insights into an industry that is constantly evolving and expanding.

Author's profile:

Following two years under Andy's mentorship, Jason moved into the role of Energy and Water Manager. He is now responsible for mentoring two individuals, a seasoned electrician and a graduate. His primary focus is to develop their skills in data analytics with heavy emphasis on data accuracy and validation within a prototype management system.

disconnected from their mentor. It is important to remain flexible and open to change in order to best support those you are mentoring. Recognising when a mentoring relationship is not progressing as desired is essential. If you find yourself struggling to connect with your mentee or feel that the relationship is not benefiting them, it may be time to reevaluate the situation. It is important to prioritise the mentee's interests and goals above all else. The last thing you want to do is discourage someone from pursuing their passions.

Why is mentorship important in the energy management/sustainability industry?

Energy management and sustainability professionals operate within a relatively young industry compared to electricians, mechanical engineers, or automobile engineers who work in well-established industries. The field of energy management may be constantly evolving but there are aspects that remain the same, and there is no need to reinvent the wheel every time which is why it's so important for experienced professionals to pass on their knowledge to the next generation to prevent them from experiencing the same issues. Consistent guidance and persistence are key in mentoring as it is essential to communicate information in a way that the mentee can understand and apply.

In a recent conversation with my boss, I mentioned an issue that needed addressing elsewhere in the company that was being overlooked by another team. When I expressed my intention to persist in mentioning the issue until it is resolved, my boss questioned whether it would become tiresome. I explained that it may become tiresome for the recipients to hear the same message repeatedly, but it appears that it is necessary for their understanding. The principle of mentoring in energy management is similar to the concept of repetition and reinforcement. It is important to communicate information clearly and consistently to ensure that it is understood and retained, which brings me again to the principle of: "Tell them what you are going to tell them, tell them, and then tell them what you told them".

Author's profile:

Andy is responsible for all facets of energy management and decarbonisation in a large food business. The portfolio consists of 16 operational production sites and 16 transport and logistics sites. Current initiatives include a wide ranging number of projects, for example heat pumps for heat and steam, solar PV, voltage optimisation and sub-metering.

By Energy Management Team at Coventry City Council

Energy Management Team at Coventry City Council: Harnessing Energy Efficiency for a Greener Future

The value of energy management teams is undeniable, offering organisations a wide range of benefits that extend beyond financial savings. The teams play a crucial role in reducing environmental impact, ensuring regulatory compliance, and improving overall operational efficiency. By prioritising energy efficiency and reducing carbon emissions, energy management teams help organisations not only lower costs but also contribute to broader sustainability goals. In this article, we'll explore the vital role of the Energy Management Team at Coventry City Council, shedding light on their strategies, achievements and how they drive long-term value for the organisation.

What does energy management mean at Coventry City Council?
Energy management at Coventry City Council means working towards reducing our energy consumption and reducing our impact on the environment to improve the wellbeing of those who reside in the city and contribute to the financial sustainability of the Council.

It means doing everything in our power to deliver on our commitments and work towards more sustainable energy usage. It's about striving towards a preventative approach to energy management, rather than a reactionary one, to ensure that we remain resilient to the changing energy landscape and that we can keep providing important services to the most vulnerable members of the community.

Therefore, we engage in a variety of important activities from monitoring consumption of energy at our sites and validation of invoices (from residential buildings to offices and schools) to identifying opportunities to reduce our impact across all 3 emissions' scopes by exploring project opportunities, many of which are funded by grants, and delivering/ managing projects from solar to heat decarbonisation across the city.

This enables us to act sooner to identify issues and future proof our portfolio, which can be particularly valuable for schools and community centres with limited budgets.

Can you explain the return-on-investment that the Energy Management Team brings to the organisation?

The energy management team at Coventry City Council strives to reduce the financial impact of uncertain energy markets by ensuring that we monitor our consumption and reduce our usage wherever possible.

As part of this we have engaged in many strategies to reduce our bills that may have otherwise gone unnoticed. Operationally, the organisation spends over £6 million annually on energy. Reducing this, therefore, can have a direct impact on the ability of the Council to deliver other key services. The Energy Management Team's responsibility is to manage the day-to-day utility activities such as meter readings, acquisitions and disposals, and invoice validation to ensure accuracy of spending incurred. Since 2018, this activity has saved the Council in excess of £1.3m.

The organisation has seen significant reductions in both energy consumption and emissions over the past 15 years. Prior to 2020, the majority of the reductions were as a result of significant investments in property rationalisation and street lighting improvements as well as the falling emissions associated with the UK electricity grid.

Following the UK's adoption of a commitment to reach Net Zero, the Energy Management Team's remit has expanded beyond utility management to also lead on delivering actions to transition the Council towards Net Zero. The additional resource put into Energy Management has resulted in the Council securing over £10m of grant investments in a number of initiatives such as lighting, solar and low carbon heating projects.

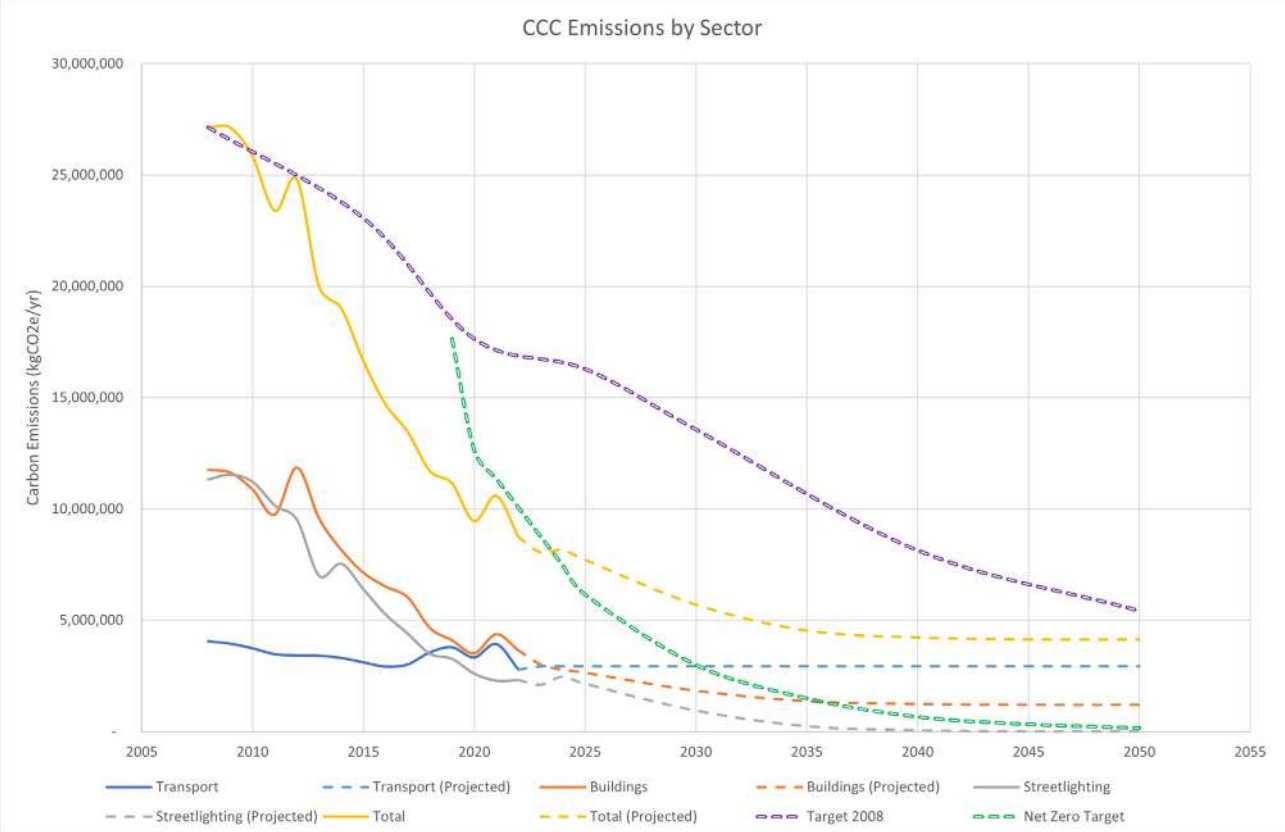
These projects, facilitated by the Energy Management Team, have not only delivered significant financial savings, but also been the main driver behind the 30% reduction in emissions associated with the Council buildings since 2021, which the Council may not have otherwise had the resources to pursue.

How are responsibilities shared in the team?

We are comprised of six people that are responsible for different areas of energy management, but also engage in and share the responsibilities to ensure that the Council is meeting its targets, and remains compliant with regulations.

The Head of Energy Services is responsible for the strategic direction of the team and is primarily responsible for engaging with senior managers across the organisation, and with external stakeholders to ensure the services provided by the team meet the changing needs of the organisation.

Our Energy Manager is responsible for the billing and consumption



of the portfolio, which provides valuable insight into the operation of the hundreds of sites and meters across the portfolio with the support of a Technical Energy Assistant. The portfolio is comprised of hundreds of sites of different sizes and functions, including libraries, community spaces, office buildings, fountains, housing and industrial sites, to name a few.

Our Decarbonisation Officer is responsible for identifying opportunities for improving the efficiency of our sites (and partners) and the keeping up to date with the Council's energy-related compliance requirements. This can involve site energy audits to identify areas of improvement to reduce emissions as we move away from natural gas heating or gathering information that can be used as evidence for project fund bidding for heat decarbonisation projects.

Our Energy Project Manager works alongside different contractors to install renewable energy systems and other retrofit projects to our buildings as well as support with other emerging requirements, such as EV charging infrastructure. This entails several elements including participation in project design and management. In addition to this, he is responsible for the monitoring of the installations to ensure that they are operating to an expected standard and reporting on the generative capacity of the installations, and the accompanying energy/cost savings.

Our Energy Coordinator supports across the team, helping to ensure the large amount of data from each of the areas of focus is collected, recorded and made available to the team to use. They also provide onsite support to both internal Council departments and external stakeholders, such as schools.

How is information regarding energy management and the work that the team undertakes communicated to various stakeholders in the organisation?
Coventry City Council has several stakeholders, both internally and externally.

We engage with stakeholders in several ways, from regular internal updates, including those delivered to councillors, to providing emissions statistics to the Council's Sustainability Team for the annual climate change reporting. Further example includes supporting the drop-in sessions organised by the Council's Sustainability Team to discuss important climate plans, to see how this will impact the wider community, and take on board advice and criticism that is raised at these events.

Reduction of carbon emissions is now a corporate priority for the Council and therefore a quarterly report to the Leadership Team with any headline updates is provided. This is supplemented by an in-depth Annual Performance Report that is circulated to senior management. This sets out not only the achievements of the Energy Management Team over the year but also any future issues, such as changes to legislation that need to be considered.

Energy management also has a direct representation in many of the key strategic working groups at the organisation, so our team is vital for wider engagement throughout the year.

Our team engages with different stakeholders, such as the Education Estates Team, to help to support on projects with energy and provide an insight into energy considerations. This is vital to facilitate changing behaviours surrounding energy as part of the ongoing companywide focus on climate and efficiency.

Internal services are strongly encouraged to consider their energy budgets and planning to ensure that they are working towards improving their impact on the energy consumption of the organisation, and these mean that our team is involved in many areas of the Council's operations. The

Energy Management Team is now responsible for providing budget holders with regular updates in relation to their energy spend. By providing clear and targeted visualisation of energy data, we are better suited to frame challenges and considerations that could otherwise have been overlooked. With this, we are better able to navigate legislation and compliance needs that facilitate smoother delivery of the stakeholders' goals. This encourages a greater focus on energy in day-to-day operations across all services.

The team has won several awards in the past. How were these accomplishments received within the organisation?

Winning the awards has meant a lot to the Energy Management Team and the wider organisation. It has been an important morale booster to be recognised for the contributions we make towards net zero and demonstrating that we, as an organisation, are committed to the values outlined in our strategies and plans. It raises awareness of the importance of the team and demonstrates to senior management that the team is delivering to a high standard. Particularly, as energy costs are so high which encourages greater investment into the initiatives that will drive us into a greener more resilient future.

It highlights and provides evidence to the wider community of the Council's commitment to tackling climate change and improving the outcomes of the community that live and work in the city, while motivating internal change and building awareness to other teams in the organisation.

It also helps to add weight to our recommendations as the awards act as a peer review of the team's activities and practices.

Can you describe a recent project that highlights the team's work?

This last year has seen the completion of several solar projects set to generate an estimated additional 300,000 kWh more of clean electricity than the previous year, for the operational sites of the organisation, reducing our reliance on grid energy and improving resilience. This is in addition to completed solar projects for schools saving 327,624 kWh on electricity in 2023-2024.

Whilst the Solar PV rollout has been significant, the team has also successfully delivered an £8m program of other retrofit measures, ranging from LED lighting to heat pumps and battery storage across more than 30 sites. However, not all of the impactful projects are as high profile or capital intensive as this.

We have also delivered less glamorous work, like surface water drainage reviews at a number of sites across the city. These identified several sites that were not connected to mains drainage as was historically assumed and resulted in sizeable refunds, and continued savings following successful banding reviews with the water wholesaler. This goes to show that not all savings have to come from large capital investments.

Most recently, the Energy Management Team is supporting the Strategic Energy Partnership between E.ON and Coventry City Council which began last year. This first of a kind partnership aims to improve infrastructure of the city and encourage continued innovation in the green energy space at a pace and scale needed to achieve Net Zero.

From retrofitting buildings for efficiency to the installation of new electric charging points to improve accessibility and supporting a "just transition", the Partnership is looking to deliver innovative solutions to tackle the challenges faced by the City of Coventry. The Energy Management Team is a key contributor to this wider project providing local knowledge, engagement support and much needed data to develop the solutions.

This will provide further opportunities for solar installations and heat decarbonisation on scales that were not previously viable and all of this is geared at improving the access to cleaner more locally sourced energy, and helping to

reduce the inequalities within our communities.

What professional development is offered to the team and wider staff?

The Head of Energy is passionate about ensuring the upskilling and professional development both within the team and outside of the team. This includes hiring apprentices and training the energy managers of the future.

Additionally, the team is actively encouraged to seek out training opportunities that will improve our service. For example, several members of the team have or are currently working towards qualifications on apprenticeship programmes from data analysis to sustainable business development as well as training to become DEC and EPC assessors.

Continuous professional development benefits the team and the organisation, while also allowing us to engage with new ideas and strategies to ensure we can continue to deliver on our promises, and are able to identify new avenues for exploration and energy savings.

More broadly, the Energy and Sustainability Teams have encouraged carbon literacy training. Initially, this was trialled on a small scale to see if it would be useful for other employees in the organisation. This was geared largely towards improving awareness of our individual impact on the environment and to draw attention to the things that we can do at the workplace, which can reduce the organisations carbon footprint.

How are the team's achievements acknowledged by the organisation?

The team's achievements are celebrated both within the team and recognised by the wider Council through newsletter updates which further serves to highlight the importance of energy management to the wider organisation, both in terms of sustainability and in highlighting the improvements that energy management contributes to. Whether that be lighting, building fabric improvements or the completion of new decarbonisation projects (heat pumps, solar, etc.), and energy saving projects delivered to schools and buildings throughout the city.

The most important acknowledgement has been through the senior leadership's increased engagement with and support for the team. The energy crisis threw the spotlight firmly on the topic of energy management which has led to a far greater appreciation of the activities we are delivering behind the scenes to mitigate the impact of external factors on the Council.

What are the plans for the future?

The next few years are going to be busy. We are entering a period of significant change within the energy sector and for Coventry specifically. There is a raft of external changes on the horizon ranging from regulations such as Heat Network Zoning, Market Wide Half-Hourly Settlement and the Future Homes Standards. More politically, there's the West Midlands Combined Authority (WMCA) Devolution that we will have to respond to. Meanwhile in Coventry, there are other just as important upcoming changes such as the redevelopment of the City Centre, changes to Council service demands, and the continued shift away from fossil fuel vehicles in the Council's fleet that will also have an impact on the direction of the Energy Management Team.

We have recently also engaged more with schools and wider organisations, as well as important community venues such as libraries and community centres to ensure that they are able to adapt to the challenges of the energy landscape. Whether this be through audits, retrofitting or green energy initiatives so that they are able to continue to support our most vulnerable communities. The team will have to keep innovating and developing its services as we strive to keep up with these changes within the well-publicised context of tightening local authority budgets.

The Strategic Energy Partnership is set to start delivering projects very soon and this will see a potential step change in the scope and variety of work that we support on. This will be an exciting but challenging prospect for the team.

By The Energy Managers Association

Essential Information for a Fully Compliant ESOS Action Plan

From the third Energy Savings Opportunity Scheme (ESOS) compliance period (and only after the submission of the compliance notification, if not yet done so) all qualified ESOS participants must produce and submit an action plan setting out what measures they intend to implement to improve energy efficiency. The purpose of the action plan and subsequent progress updates is to increase the ESOS participants' accountability for taking action to reduce their energy use.

Who is required to produce an action plan?

All participants who qualified for ESOS in a given compliance period are required to subsequently produce an action plan and report against it unless they had no energy responsibility during a compliance period, and provided a compliance notification stating this. Action plan requirements are the same for all participants, regardless of compliance route.

What is required to report in an action plan?

In the action plans participants should set out what measures they intend to implement to improve their organisation's energy efficiency.

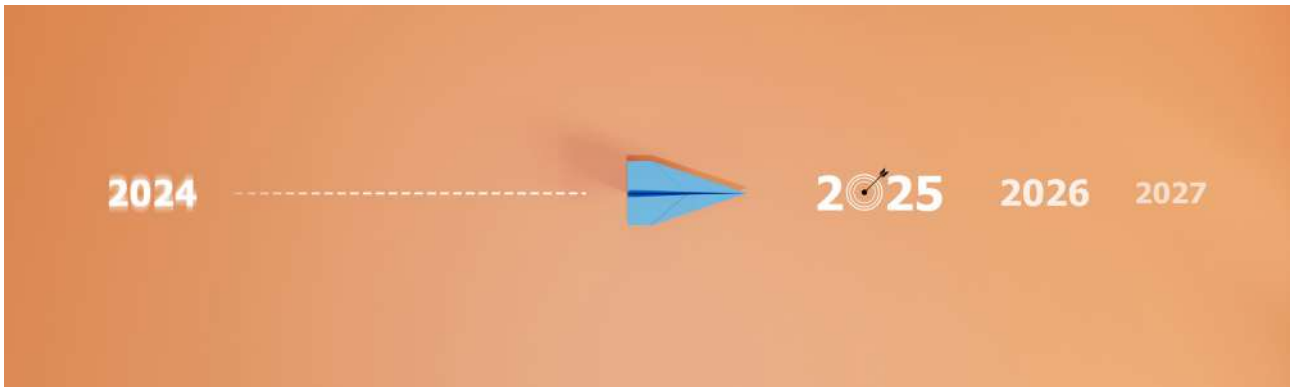
Each listed measure should specify:

- When the company intends to do it/implement it: the month and year by which they intend to have implemented the measure;
- Whether the measure was recommended as a result of an ESOS or any other energy audit or alternative compliance route or else;
- What energy savings the company expects to achieve over the four years covered by the action plan by implementing the measures: an estimate of the total energy savings (in energy measurement units) they reasonably expect to achieve during the relevant compliance period through implementing the measure;
- A breakdown of those savings by organisational purpose (buildings, transport, industrial processes and other energy use): an estimated breakdown of the total energy savings they reasonably expect to be achieved for each measure during the relevant compliance period by organisational purpose (as above);
- How these savings were estimated: the method and source of data used for the estimated energy savings.

If participants do not intend to take any action to reduce energy consumption before the next compliance date, they still must submit an action plan that states that they don't propose to implement any measures.

Identifying measures to include

Any measures that are included in the action plan are for the benefit of the organisation to make public



its commitment to save energy and they must be prepared to provide annual progress updates against them. In order to identify what to include in the action plan, participants should look at the recommendations in their ESOS report and other outputs of their energy audit or alternative compliance routes, and consider what measures they wish to implement. Participants can also consider whether there are any other measures which were not identified through their ESOS assessment that they want to take to save energy. Up to 100 measures may be included in the action plan.

Participants can discuss their measures with their ESOS lead assessor or carry out additional feasibility studies, but this is not required for the action plan.

Participants also need to include dates by which they expect to implement each stated measure. It is recommended that existing commitments to targets or action plans for the purpose of reducing energy consumption under other mandatory or voluntary schemes besides ESOS are included as measures in the action plan, creating a single source of all measures and savings to be taken to address energy consumption in the relevant compliance period.

These schemes could include:

- Climate Change Agreements (CCAs);
- Streamlined Energy and Carbon Reporting (SECR);
- UK Emissions Trading Scheme (ETS);
- UN Race to Zero;
- Science Based Targets Initiative (SBTi);
- Carbon Reduction Plans (required in the procurement of major Government contracts).

It is recommended that the description of any measure that relates to reducing the energy consumption under other mandatory or voluntary schemes refers to the name of the non-ESOS scheme that it falls under.

Participants should ensure any measures (including any they have aggregated for the purpose of describing them as a single measure) are not reported more than once, to avoid double counting of the energy savings. They may include only measures from other schemes that are proposed to be carried out during the relevant compliance period. Any measure which has already been carried out before the start of the relevant compliance period (6 December 2023 for the third compliance period) will not meet the requirements for inclusion. Where implementation of a measure is not due to be completed until after the relevant compliance period ends (5 December 2027 for the third compliance period), it is recommended that where possible, the participant breaks it down to identify any smaller measures that are due to be delivered and result in energy savings within the relevant compliance period, so that the work due to be completed can be included in the action plan.

For example, a measure to install energy efficient lighting across all of a participant's buildings could be broken down on a site basis, enabling identification of sites where the lighting will be installed and achieve energy savings within the relevant compliance period. If a large measure cannot be broken down this way (for example because it has a lengthy development time and so will not be completed and achieve savings until after the relevant compliance period) the measure would not be suitable for inclusion in the action plan, but could be included in a future action plan relating to a different four-year relevant compliance period.

Estimated savings

Having considered what measures to take, for each measure the participant must estimate the total energy that they would reasonably expect to save from implementing that measure. Energy savings must be stated in energy units. The savings must

be estimated for the whole of the relevant compliance period, which for the third compliance period is 6 December 2023 to 5 December 2027. Where the participant plans to implement a measure part way through the relevant compliance period, they should estimate the energy savings from the date of implementation until the end of the relevant compliance period, for example by calculating pro-rata savings based on estimated annual savings. Participant must identify in their action plan whether the estimate of expected energy savings is based on:

- Data from the ESOS audit;
- Data from an alternative compliance route;
- Another reasonable estimation method (for example, survey data or quotes).

Participant must keep records in their evidence pack of the calculation method for any estimates they used. Where they have used a reasonable estimation method that is not based on data from an energy audit or alternative compliance route, they must record a brief description of the estimation method in the action plan and record in the evidence pack the reason for using this method. This may be necessary if they do not have access to quantified savings, which may be the case where, for example, a Display Energy Certificate was used to comply with ESOS. The estimated savings from measures are expected to be indicative.

When the participant submits a notification of compliance for the next compliance period (by 5 December 2027 for the fourth compliance period) they will be required to report an estimate of all energy savings achieved in the relevant compliance period. This will include all the energy savings from any measures they have implemented during the relevant compliance period, which will enable a total estimate to be provided based on actual data where available.

Evidence pack

It is recommended that participants include information in the evidence pack to give context to the measures in their action plan. This could include information on why the measures have been chosen. This information is for the benefit of the participant to give context to the action plan. They may also include any measures in the evidence pack that they intend to take or have taken during the relevant compliance period which do not fit the format set for the action plan.

These might be, for example:

- Energy saving or greenhouse gas emissions reduction targets which they intend to meet but for which they are not committing to specific measures;
- Measures to reduce greenhouse gas emissions they intend to take during the action plan period which do not have an energy saving attached.

Sign-off and responsibility

The action plan must be signed off by one or more directors and submitted via the online notification system (MESOS).

The number of directors (or equivalent individuals with management control) required to sign off the finalised action plan before it is submitted through the online notification system is the same as the number who were required to sign off the ESOS compliance notification, although they do not need to be the same individuals (two directors are required where an internal ESOS lead assessor reviewed the ESOS assessment or where a lead assessor was not appointed due to the total energy consumption being less than 40,000 kWh).

The director(s) must confirm that they:

- Have seen and considered the action plan;
- Are satisfied, to the best of their knowledge, that the organisation has complied with the requirements

relating to the action plan.

Who should submit an action plan?

As mentioned earlier, all ESOS participants (except those whose compliance notification reported zero total energy consumption during the reference period) must, following the submission of their notification of compliance, submit an action plan and progress updates against the action plan which cover the subsequent four years, termed the relevant compliance period.

The responsible undertaking which submitted the participant's notification of compliance is responsible for producing and updating the action plan. Any undertakings that leave their qualifying highest parent group or participant during the relevant compliance period are still required to comply with the requirements relating to an action plan and progress updates, if they met the criteria for ESOS on the qualification date.

The Department for Energy Security and Net Zero (DESNZ) have decided not to enable ESOS participants to add restricted users (external lead assessors) to their MESOS accounts to provide action plans. This decision also recognises that there are fewer information requirements on action plans compared to those for the ESOS notification of compliance (NOC), and the time commitment required for ESOS participants to enter the information into MESOS is expected to be relatively low.

Submission deadline

For organisations qualifying for the third compliance period of ESOS, the action plan submission deadline is 5 December 2024 and organisations should aim to meet this deadline. However, the Environment Agency and Regulators will accept the action plan submissions by 5 March 2025.

Action plan compliance periods and progress updates

The period covered by the action plan is the four years following the compliance period (which coincides with the subsequent compliance period). The action plan for the third compliance period (due on 5 December 2024 but no later than 5 March 2025) covers the period between 6 December 2023 - 5 December 2027.

Participants are required to provide progress updates on any measures they intend to implement before the end of the fourth compliance period (5 Dec 2027).

- 1st progress update: due by 5 December 2025;
- 2nd progress update: due by 5 December 2026.

Each progress update will relate to the 12 months preceding its deadline.

Publication

Action plans and annual progress updates will be published by the Environment Agency within 6 months of the deadline for notifying them, or within 6 months of them being received, whichever is later.

The provided information has been extracted from the Environment Agency's Newsletters. Issue 30 of the Newsletter provides further details on Optional Information. Issue 31 provides the Action Plan Guidance on how to compile and complete the action plan in the 'Action Plans data requirements' template. The template is provided to enable offline preparation of information required for the action plan. There is no means to upload the action plan Excel template in MESOS.

For any Frequently Asked Questions, please review Issue 32 of the Environment Agency's ESOS Newsletter.

By Daniel Levene, Co-Founder at Two Blues Solar

Capex-Free Solar: Too Good To Be True?

Can businesses access the cost and carbon savings associated with on-site solar without any upfront capital or is it too good to be true?
We'll take a look at the funding options available to businesses, how they differ and who they're best suited to.

Asset Finance:
Asset finance offers a solution in which the leasing company buys the asset and then "rents" it to you for an agreed period, typically 5-15 years.

If you're not an energy intensive business or have a small roof, asset finance can be a great option, providing predictable payments and manageable cash flow. However, asset finance costs have risen along with interest rates and it's therefore possible you may not see immediate financial benefits. You may also be responsible for maintaining and insuring the system.

Power Purchase Agreements (PPAs):
In a PPA, a business (tenant, landlord or owner occupier) leases the airspace above its roof to a provider who then installs the panels for free. This PPA provider sells the solar energy back to the business at a price which is typically considerably lower than available market prices.

Typical terms are 15-25 years, however some flexible PPA providers can offer shorter agreements to match lease lengths.

PPAs are best suited to commercial and industrial businesses with a reasonably sized roof (2,000 sqm +) and consumption of c. 400,000+ kWh/year.

Businesses can benefit from day-1 opex savings and a hassle-free process where installation, insurance, monitoring and maintenance are all covered by the PPA provider.

Community Energy:
Community energy refers to community-owned projects intended to generate, manage or reduce energy consumption. Community groups raise finance for a solar installation and then sell the energy to the host site through a PPA.

It's particularly suited to local businesses such as schools and village halls. It is increasingly popular but still exist at a relatively small scale.

Self-Funded:
So, if there are so many great options available, offering protection from rising energy costs alongside CO_2 savings, should you consider the self-funded route at all?

Well, if you have the available capital to roll out solar across your whole portfolio, self-funding your system will almost always generate the highest total savings over the long-term (15 + years).

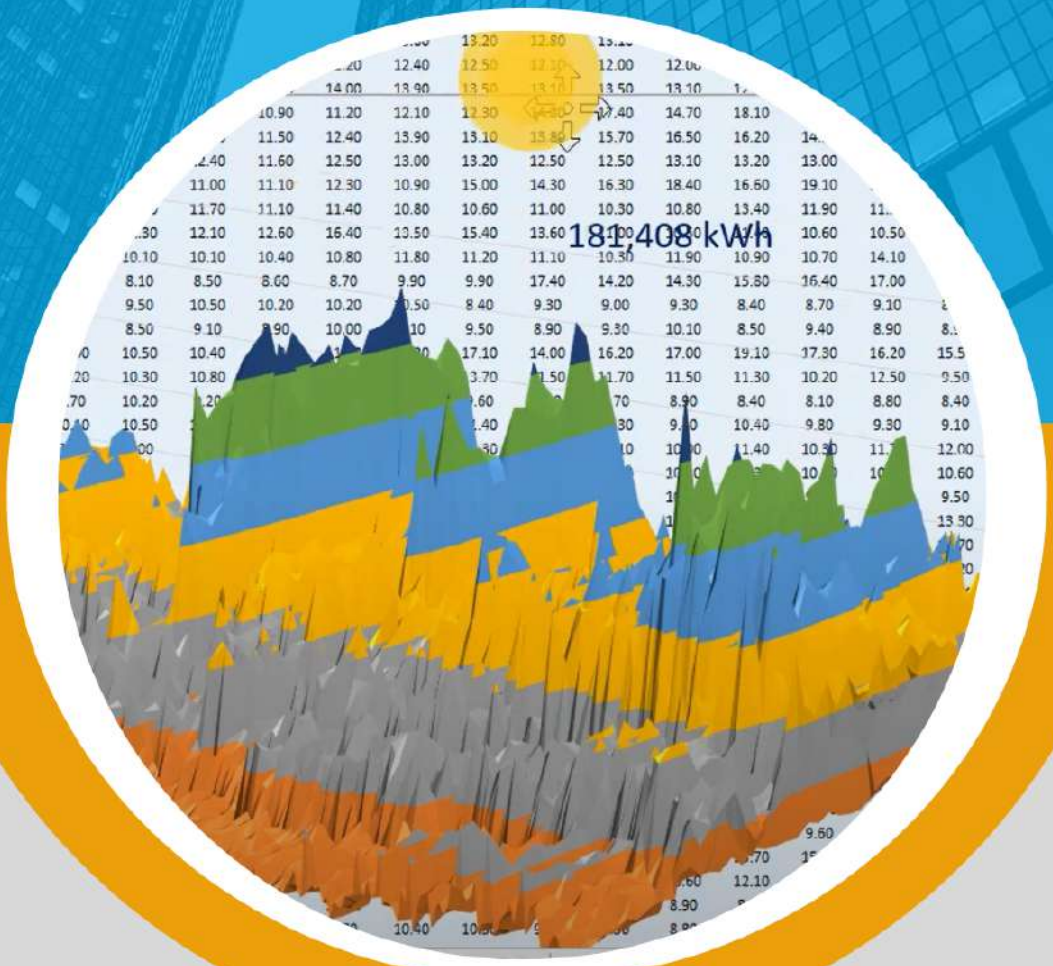
However, if, like many businesses, you have other priorities for your capital, a financing option can be a great solution. Solar is currently the cheapest form of electricity and the sooner it's installed, the sooner you can generate energy and carbon savings.

To find out more about installing on-site solar for your business, check out our recent webinar.

ema
energy managers association

HALF-HOURLY DATA

SUPPORT SPREADSHEET



- **SUPPORTS A REVIEW OF THE HALF-HOURLY DATA**
- **INCLUDES ACTUAL DATA FOR MORE REALISTIC ANALYSIS AND MUCH MORE...**

https://www.theema.org.uk/product/half-hourly-data-support-spreadsheet/