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FEATURE

Looking Back

The EMA Magazine 50th EDITION

Through the *'What Not to Do'* feature series, the EMA has, over the years, explored the core disciplines that underpin effective energy management, drawing on the practical experience of industry professionals. Past features have examined lessons learned in energy procurement, waste management, energy management strategy, behaviour change and energy auditing.

In this updated feature, we return to the topic of energy auditing, first published in 2020, with one of our original contributors – Peter Lindersen who revisits his original points and considers what, if anything, has changed.

Peter Lindersen, Associate - EMEA Sustainability Consulting at JLL

What Not to Do in Energy Auditing – Five Years On

***Q:* When gathering and analysing pre-audit data, what should you never do?**

2020 advice: Don't accept customer data without scrutiny.

2026 reflection: That advice remains critical, but what's changed is the volume and complexity of data available. The stakes are now higher, with energy costs fluctuating rapidly and decarbonisation targets becoming more aggressive, inaccurate baseline data can lead to costly miscalculations.

The fundamental principle remains the same: always sense-check data against benchmarks and verify it further where needed.

KEY TAKEAWAY: Always scrutinise and sense-check customer-provided data before using it.

***Q:* When selecting the most appropriate auditing technique, what should you never do?**

2020 advice: Avoid a one-size-fits-all approach to auditing. Engage site teams to help unlock valuable insights and gather the most useful information to produce a robust audit report.

2026 reflection: The challenge today is building rapport with different stakeholders quickly and drawing out their insights efficiently when conversations now happen under greater time pressure as site teams juggle multiple priorities. Adapting your approach to suit different stakeholders remains essential to capturing meaningful input and delivering a high-quality audit.

KEY TAKEAWAY: Relationship building remains crucial but must happen faster in today's high-pressure environment.

***Q:* When auditing a building's lighting, what should you never do?**

2020 advice: Never rely solely on what you see when the lights are switched on.

2026 reflection: The complexity of lighting systems is evolving. Modern buildings increasingly feature smart lighting with automated controls and occupancy sensors that weren't as widespread in 2020.

Today's auditors may navigate LED retrofits that may not match original specifications, integrated lighting controls that interact with HVAC systems, and hybrid lighting strategies combining natural and artificial light. Always talk to the maintenance team or office personnel when they show you around as they may have knowledge of specifications, replacements or operating practices, which can add valuable context that complements what you can observe on site.

KEY TAKEAWAY: Verify observations with on-site checks and engage staff to confirm

equipment and operation.

Q: *When auditing a building's heating systems, what should you never do?*

2020 advice: Never rely solely on what the onsite maintenance team tells you. Verify information first-hand by inspecting the equipment yourself and review how it is configured within the Building Management System (BMS), where available.

2026 reflection: Heating systems are becoming more sophisticated, with more heat pumps, hybrid systems and smart thermostats in operation but the original advice still stands. With more information now digitised, name plates, user manuals and asset databases that were harder to access in 2020 may now be more readily available. Online resources for equipment specifications have also expanded, helping to build a more complete and accurate picture of system performance.

KEY TAKEAWAY: Inspect equipment and review supporting documentation to fully understand system setup and operation.

Q: *When auditing a building's cooling systems, what should you never do?*

2020 advice: Don't just work with information provided by onsite teams. Verify cooling systems for yourself by inspecting the equipment and reviewing its setup in the BMS, if available.

2026 reflection: Auditors must still gather as much on-site information as possible, including taking photos of equipment. These can be shared with colleagues for discussion when you encounter unfamiliar components or configurations, helping to ensure a thorough and accurate audit.

Smarter buildings may now integrate cooling systems with broader building energy management platforms. This interconnectedness means auditors must think holistically about cooling performance within the entire building ecosystem.

KEY TAKEAWAY: Combine on-site observation with documentation and photos to understand system performance.

Q: *When auditing a building's pumping systems, what should you never do?*

2020 advice: Don't assume all information you're given is correct. Map connections between the pumping systems and heating, cooling and domestic water systems, such as toilets and sinks to provide accurate input for energy balance calculations.

2026 reflection: As buildings get smarter, pumping systems are becoming increasingly intelligent. Variable speed drives are becoming standard and predictive maintenance sensors can provide real-time performance data that wasn't available in 2020.

However, this technological advancement has created a new trap – over-relying on system diagnostics without understanding the physical reality of pump operation and system hydraulics. If drawings exist, they can provide valuable context and should be used alongside a detailed on-site examination, with observations documented through photographs for reference when preparing the report.

KEY TAKEAWAY: Map connections and use drawings or photos to accurately inform energy balance calculations.

Q: *When auditing a building's ventilation systems, what should you never do?*

2020 advice: Don't just focus on how air is supplied to the site – you should always understand where airflow comes from and how the ventilation equipment operates.

2026 reflection: If the site has a BMS, it will show how airflow

operates. However, findings should always be confirmed with a walkaround; mismatches between the BMS and what you see in reality can happen. As smarter buildings adopt demand-controlled ventilation and air quality monitoring, this verification becomes more critical as systems adapt to air quality requirements and integrate with broader building controls.

KEY TAKEAWAY: Cross-check BMS layouts with physical walkthroughs to ensure accurate understanding.

Q: *When auditing a building's compressed air generation, what should you never do?*

2020 advice: Don't focus solely on compressors. Instead, trace how compressed air is distributed throughout the site and look for potential leaks.

2026 reflection: Today, two key factors remain central to optimising energy consumption of a compressed air system: setting the system to the required pressure and understanding how the compressor(s) operate, combined with identifying leaks through a thorough survey. Only by understanding the system, can you optimise it.

KEY TAKEWAY: Understand system operation, pressure requirements and leaks to optimise energy use.

Q: *When auditing a building's control systems, what should you never do?*

2020 advice: Don't just observe the system without seeing how it's being used by onsite maintenance teams. This helps assess whether the system is being used correctly, as many sites have a BMS but only a few are operated effectively.

2026 reflection: A proper BMS analysis often reveals significant energy savings, especially when systems were installed but never fully optimised for the building's operations. The auditor's role has evolved from simply identifying manual operational improvements to understanding whether sophisticated automated systems are delivering their potential value.

KEY TAKEWAY: Engage with staff and analyse the BMS to spot operational errors and missed optimisation opportunities.

Q: *When writing an energy audit report, what should you never do?*

2020 advice: Focus on only providing information that's useful for the reader and enables them to understand the audit, including analysis such as energy data, energy balances and identified energy-saving opportunities.

2026 reflection: Today, keeping reports concise and focused has become even more critical. Decision-makers are now dealing with multiple competing priorities around energy, carbon, compliance and cost management. They need clear, actionable recommendations more than ever.

The audience for audit reports has also changed. Five years ago, energy audits were often reviewed primarily by facilities teams. Now, they're increasingly scrutinised by senior management, sustainability teams and financial decision-makers who may have less technical background but need to make rapid decisions. The challenge is crafting reports that serve multiple stakeholders while remaining focused and actionable by explicitly connecting technical findings to business outcomes.

KEY TAKEAWAY: Audit reports

should be concise, actionable and clearly linked to business outcomes for a broader decision-making audience.

Q: *When including technical information in an audit report, what should you never do?*

2020 advice: Never copy and paste directly from technical documents. Details such as equipment dimensions from a datasheet are rarely relevant for an energy audit report.

2026 reflection: Too often, reports are overloaded with technical information that serves no practical purpose, which can distract from the analysis and recommendations. You need to understand what the technical information tells you and include only what is necessary and relevant for your report.

KEY TAKEWAY: Include only technical details that are necessary and relevant to the audit.

Q: *When including financial information in an audit report, what should you never do?*

2020 advice: Never claim that financial information is 100% accurate, as costs can change rapidly. Estimates for energy-saving opportunities should give clients a general sense of potential investment, not the exact cost. Precise figures can only be confirmed through a detailed follow-up study.

2026 reflection: Financial information should always be included with additional context, so clients can understand how you arrived at the numbers given. Providing this transparency allows reviewers to interpret the estimates correctly and check or adjust them as part of their own analysis, if something seems unusual.

KEY TAKEWAY: Provide estimates with context and avoid claiming absolute accuracy.

Energy Auditing in 2026

Looking across all these areas, the fundamental skills and principles of energy auditing haven't changed. Systematic auditing practices combined with effective communication produce the best outcomes. What has evolved is the context in which these skills are applied. Energy auditing has shifted from being primarily a cost-reduction exercise to part of broader organisational strategies around decarbonisation, compliance, and resilience. Today's energy auditors are operating in a higher-stakes, faster-moving environment where the consequences of both action and inaction are more significant. This elevates the importance of getting it right while adding pressure to deliver results quickly.

Author's profile:

Having originally trained as a chemical engineer, Peter has spent the last decade working as a consultant in the energy sector, performing energy audits and assurance of ESG KPIs. Peter has extensive knowledge of ESOS and the EU Energy Efficiency Directive - Article 8 (now 11), and has carried out numerous energy audits across the UK and Europe.

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In this updated feature, we return to the topic of energy management strategy, first published in 2020, with one of our original contributors – Leigh Hitchens who revisits his original points and considers what, if anything, has changed.

Leigh Hitchens, Director at Coral Energy

What Not to Do in Energy Management Strategy - Five Years On

Q: When securing a commitment for an energy management strategy from senior management, what should you never do?

2020 advice: Over-estimate potential savings or shorten payback periods. Be realistic with what you are trying to achieve and back up proposals with scientific facts and figures, for example life-cycle cost analysis for new equipment installations.

Five years on: I would stand firm on this point. If anything, I would stand even stronger because there is ever more focus on energy management/reduction/legislation, and therefore it is important to be realistic.

Q: When setting energy management goals, what should you never do?

2020 advice: Overstretch targets. These should be honest and realistic, challenging but achievable otherwise expectations for delivery will likely be greater than can be achieved.

Five years on: I stand firm on this point. The points above are as relevant today as they were 5 years ago.

Q: When identifying consumption patterns, what should you never do?

2020 advice: Always understand why the 'shape' is as it is. It is particularly important to understand why the patterns are showing what they are. For example, an increase in night consumption could be due to a malfunctioning piece of equipment, incorrect control settings or perhaps a new night shift introduction. It is key to understanding operational processes in detail.

Five years on: I stand firm on this point. In fact, I believe it is even more critical today. With demand-side management becoming increasingly significant and growing requirements around ESOS, SECR and emissions reporting, access to accurate, high-quality data is essential.

Q: When setting 'smart' targets, what should you never do?

2020 advice: Rely solely on one methodology to achieve your goals. SMART goals should be specific and measurable so evaluation can be objective. However, if applying the same

criteria to measure success or failure, it can motivate people in the wrong way, which can be problematic. Have back up target methodologies.

Five years on: I would probably re-think this in light of the need to have accurate data. Whilst SMART absolutely still applies, because so much starts from the need to have accurate data, perhaps having smart meter readings/half-hourly data/ sub-metering data will allow SMART targets to be even better or more informed.

Q: *When developing a business case, what should you never do?*

2020 advice: Over-commit. A business case must be tailored specifically to the business and personnel that will be evaluating your proposals, likely to be senior or board level members. Do not seek the perfect ROI, ignore internal personnel costs, or believe you have finished when the case has been submitted. The business case should be an on-going roadmap or long-term plan for success requiring continual review and analysis to keep on track.

Five years on: I stand by this completely, However, with increasing scrutiny in this area and that focus only set to grow, there is a need to continually reassess the approach. Be absolutely clear on the business case, base it on the most accurate data available and never overcommit. Be ambitious, but realistic.

Q: *When structuring an energy management strategy, what should you never do?*

2020 advice: Assume you know all the answers. Organisations should begin by appointing a dedicated energy manager or an outsourced energy management specialist to lead and support the strategy. From there, it is essential to fully understand the challenges at hand and identify practical solutions. A structured, project-based approach should be adopted to plan and organise delivery, with a clear strategy that is regularly reviewed against defined milestones.

Five years on: I stand firm. My experience is that the area of 'sustainability' is growing, which encompasses energy. Therefore, with more focus, it is crucial that you do not assume you know all the answers but obtain as much information as possible to inform and shape a well-founded strategy.

A strong energy management strategy includes:

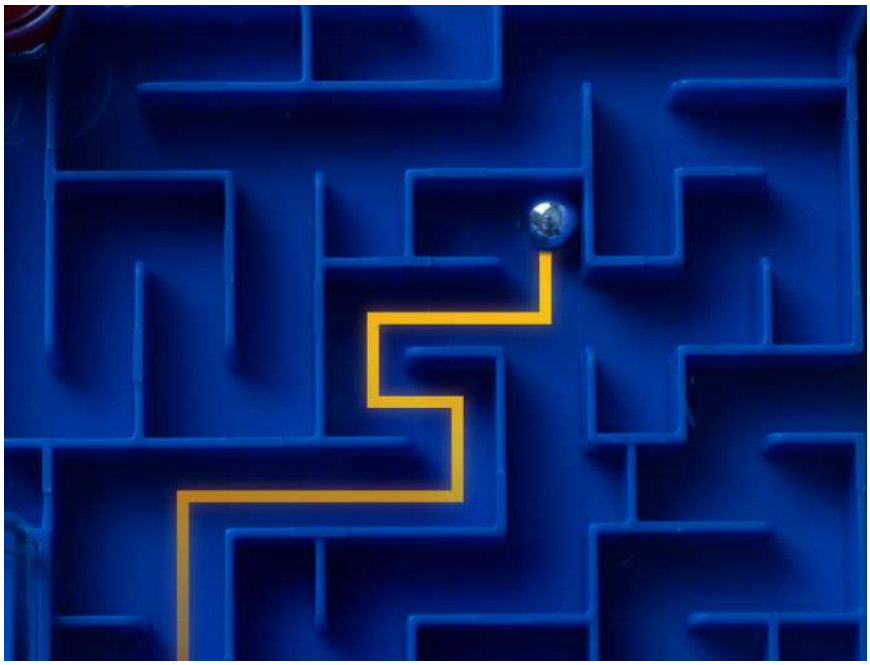
- **Goals and target (efficiency) setting:** SMART – specific, measurable, achievable, relevant and time-bound.
- **Benchmarking:** Comparing against industry standards and published data.
- **Capital expenditure review:** Understanding investment requirements.
- **Monitoring and targeting:** Using smart meters, sub-metering and analytics.
- **Technology assessment:** Evaluating innovations, such as renewable generation, IoT, green hydrogen, etc.
- **Behavioural change:** Engaging all employees to align with energy objectives.
- **Continuous review:** Regularly assessing progress and refining the strategy.

Even small actions, accurate metering, correct thermostat settings, regular maintenance and energy-efficient equipment are critical for success.

Organisations frequently stumble by:

1) Ignoring or failing to understand energy data: Not undertaking regular reviews of consumption and patterns will lead to energy wastage and inaccurate reporting. Regularly not assessing consumption patterns leads to increased energy or at the very least not reducing it.

2) Not undertaking regular energy audits and not acting where possible on recommendations will continually result in higher energy consumption and cost. Audits are often undertaken via third parties either for a desire to want to reduce



energy or as a legal requirement but then do nothing with the outputs.

3) Relying solely on estimated invoices without accurate consumption records leads to inaccurate assessments and poor decision-making.

4) Failing to regularly maintain equipment leads to energy wastage and excessive energy costs. Further, keeping with old, obsolete, poor efficiency equipment inevitably increases consumption. If a building energy management system (BEMS) is in situ, never ignore this technology.

5) Short and medium term thinking can lead to poor decision making as consideration is not given to operational processes and investment. Focussing on quick wins can lead to wastage and excessive energy spend.

6) Behaviour change (or lack of training/engagement) is an ever increasing aspect to energy management. Employees need to understand their role and where they fit in as a collective approach to reducing energy. If staff do not understand their role, this can lead to conflict and poor decision making. 'People' should always be considered in energy making decisions.

7) Procurement – many organisations focus on their buying of electricity and combustible fuels, however there are two things every organisation should consider – obtaining the optimum energy rates and contracts but also whatever they can do to reduce consumption. Procurement is important but so is reducing energy.

8) Not thinking about business implications. Legislation, supplier/trading relationships are becoming increasingly led by energy and sustainability credentials. Organisations need to consider that whilst reducing energy is important, how are they also perceived by customers, suppliers and people…

Following these guidelines helps organisations avoid costly mistakes and ensures their EMS delivers measurable results. Maintaining an EMS may be challenging, but it is essential. Small steps, starting somewhere, measuring accurately, maintaining equipment and involving employees form the foundation. In today's climate, a forward-looking EMS is not just best practice, it is vital for controlling costs, reducing emissions and protecting organisational reputation.

Author's profile:
Leigh recognised that the industry's future focus lies not just in energy purchasing but in reducing consumption, cost and emissions. In 2016, he founded Coral Energy Limited to address this. He is qualified across several areas of energy and building management, including an ESOS Lead Assessor, EPCs, Air Conditioning Inspector and an ENCo-certified Behavioural Change consultant.