



What Not to Do... In Energy Procurement

Energy management professionals usually define themselves as 'wearing many hats', which makes the profession interesting and dynamic but also requires an all-round knowledge and experience in key subjects. Whilst there is a plethora of information available out there in each topic, there are only so many hours in the day that can be devoted to reading and research.

Have you ever wondered what is the one thing that you should avoid doing when looking for a new supplier, undertaking a waste audit or



setting energy management goals? The EMA will be looking at key areas of energy management and asking those who focus on those areas at their organisations. In this issue, we have asked questions around energy procurement.

Jack Gale – Utilities Lead at Lush

When looking for a new supplier, you should never ever solely focus on price.

Customer service, account management, ethics and business integrity are all just as important when managing an estate directly with a supplier.

When renewing a contract, you should never ever just consider 1 year contract lengths.

There are often savings to be made looking at longer term options. If you spot a pricing dip in the market during your current contract, it can be beneficial to secure a new contract many months in advance of your contract end date.

When dealing with a bill validation, you should never ever skim over the minor details. Endless problems can be caused by incorrect addresses, dates and consumption figures. Check everything.

Paul Graham – Utilities, Waste and Sustainability Manager at Kingston Hospital NHS Foundation Trust



When looking for a new supplier, you should never ever give out your personal mobile number to all suppliers, they will call you.

When renewing a contract, you should never ever assume that their initial offer is the best value. It's always worth reviewing your options and testing the market first.

When dealing with TPIs, you should never ever believe they are as good as they claim without verification.

There are a wide range of good and bad practices out there, all of them claim to be the best at what they do. Get yourself clued up so you can tell a lemon from a peach, ask an expert for advice, ask for references and follow them up, make sure you have confidence that what they offer is good for you not just for them.

When dealing with a bill validation, you should never ever agree a flat fee payment unless you are sure they will find significant rebates.

Most will ask for a share of the rebate. Check their percentage against others before signing anything.

When budgeting, you should never ever assume next year will be the same as this year.

Finance departments like predictability but it pays off later if you encourage them to include a margin of error in their calculations. There's always the possibility that the market will be especially volatile and/or abnormal weather will increase your demand.

When forecasting, you should never ever assume you have all the facts up front.

Climate change is causing more exceptional weather events, wars in key energy producing countries

start quickly and have unexpected consequences, your organisation's site development plans change. It's worth building uncertainty and flexible strategies to plan for change as you go.

When dealing with tenanted properties, you should never ever make up fees (they often ask for backing) or forget to bill them if you provide their utilities (they don't always remind you).

Mark Taylor – Director at Taylor Made Energy Solutions



When renewing a contract, you should never ever forget to issue a written termination notice to your current supplier before the due date (although some will say they don't require it). If you don't do this, the supplier can roll you onto a new contract at a price of their choosing which you may not be able to get out of.

Terminating a contract does not force you to move suppliers but just allows you the choice to move if you wish.

When dealing with TPIs, try to avoid signing a letter of authority (LOA) that allows a TPI to sign contracts on your behalf unless it is strictly controlled and time limited. TPIs can use this type of LOA to sign further contracts that you may not be aware of and have not agreed to. Always agree under what circumstance a TPI can sign for you and try to agree parameters rather than letting them decide.



Phil Moran – Energy Management at University of Chester

When looking for a new supplier, you should never agree to enter into a contract without understanding the key points that could impact you.

- Your unit rates: These are unlikely to change on a fixed contract, however on a flexible tariff, your unit rate may change throughout your contract.
- All additional non-commodity charges: these include distribution and transmission charges, CCL, VAT and standing charges that can make up to 60% of your bill!



- The length of your contract: in most cases when your tariff/contract expires, your supplier will switch you to their standard rate. This is unlikely to be the most competitive tariff and may end up costing you a lot of money.
- The compatibility of your existing meters/AMR: not all suppliers' data collection systems are compatible with every type of meter or Automatic Meter Reader (AMR). Most suppliers encourage customers to install AMR on their supplies. Most suppliers include this service in your tariff. Metering helps you understand your consumption habits, identify waste or inefficiencies and only pay for the energy you use.

Never be afraid to ask questions about your contract. Most suppliers want to provide you with a good service and customer experience. If you work for an organisation that has a procurement or finance department, ask them to help. They will most likely have a procedure to follow depending on the overall cost, and experience in other areas of procurement that will help you be transparent with your selection process.

Never switch supplier without checking out potential suppliers' track record. Online reviews are a great place to view the experiences of current and previous customers.

When renewing your contract, you should never be afraid to switch supplier.

There are a variety of suppliers to choose from, offering tariffs to suit all requirements. From low unit rate costs, to ethical values. And excellent customer service to 100% renewable energy.

When dealing with bill validation, you should never assume you can't save money through checking historic bills. That said, never assume someone will be able to save you money either.

Take the time to understand your energy consumption and costs. If you have a multi-site portfolio, understand which buildings are less efficient or even unoccupied with the lights and heating on. Although it sounds unbelievable, it does happen regularly. There are a variety of service providers that can help you with this.

When budgeting, you should never expect your costs to stay the same.

A new tariff may offer a cheaper unit rate but have higher non-commodity charges. Assessing your whole or fully delivered energy costs should be considered. When budgeting you should never ignore the need to reduce your CO₂ emissions from energy. There is huge scope to be more sustainable by procuring

100% renewable electricity. Larger consumers can purchase their energy via a Power Purchase Agreement (PPA). This allows you to purchase a percentage, or all of your energy with 100% renewable electricity from a designated generator, whilst investing in future generation projects. Finally, when budgeting, never assume people will reduce their consumption just because they are told to, or that it's a good idea. In my experience, people want to be involved and shown the benefits of changing, shown how to change and be rewarded for their contribution. Creating ownership of energy and carbon emissions reduction is the key.

When dealing with tenanted properties, you should never include the cost of unlimited energy in the contract. This may remove the desire of the tenant to be efficient and responsible for their energy consumption. Encourage tenants to take ownership of their energy, provide them with the support and encouragement to be efficient and to identify and eliminate waste.

Consider offering incentives to encourage efficiency as this can lower your EPC rating making your property more efficient and also more desirable and attractive to tenants. This may in turn allow you to charge a premium for your energy efficient and sustainable property or space.





What Not to Do... In Waste Management

Energy management professionals usually define themselves as 'wearing many hats', which makes the profession interesting and dynamic but also requires an all-round knowledge and experience in key subjects. Whilst there is a plethora of information available out there in each topic, there are only so many hours in the day that can be devoted to reading and research.



**Paul Graham – Utilities,
Waste and Sustainability
Manager at Kingston Hospital
NHS Foundation Trust**

When mapping waste streams, you should never ever take people's word for what happens to each stream. It's much better to follow the waste through the process and observe the whole thing.

When undertaking waste audit, you should never ever let your

emotions about bad practice you see stop you from seeing the good practice. It's easy to get into a very negative mindset when auditing but to engage effectively with staff you should sandwich criticism between praise and encouragement. Don't shout at people (however much you may want to) - find a better outlet for your frustration away from the situation, we need to keep people positive about good practice.

When setting waste targets, you should never ever go too big or too small with your goals. Aim for something achievable but challenging. This way it will feel like an achievement if you get there (unlike an easy target) and won't be impossible.

When structuring a waste management strategy, you should never ever write it for you. I might find a long, complicated document satisfying to produce but it's easy to lose focus on how this document will serve my organisation. Keep it short, easy to read and useful to the people

you want to read it. Use relevant illustrations and charts to break up text, make your core messages clear and try to establish a flow of ideas across the whole document so people get your big idea or theme by the end and come away knowing what they can do to make it happen. Check in with the senior management team to see what they want to prioritise.

When measuring waste data, you should never ever think you can capture everything or that everything is worth capturing.

Only gather data that is actually useful and can be collected without excessive resourcing. Ask: 'Will the data you want to collect enable improvements to services or costs?'

When reporting waste data, you should never ever use over-optimistic assumptions, especially on recycling. Assuming that all the bulky waste in your skip is recycled or that 100% of the material in your mixed recycling scheme is recycled may come back to bite you. Most suppliers can

provide average proportions for their disposal facility, if not for your waste specifically. It's sometimes better to under-state than to have to write-down your recycling rates in the future because your assumptions were wrong.

When choosing a waste service provider, you should never ever not visit their disposal sites before sending them your first batch of waste.

In healthcare, we are always encouraged to check up on what happens to our waste. Regular visits can seem like a bit of a chore but it's one of the easiest ways to maintain compliance with the Duty of Care regulations. It can also be quite interesting to see how sites develop over time. We're seeing a lot of interest and innovation in waste at the moment and it helps keep you up to date with what your suppliers are doing.

When procuring for multiple sites or as a collaborative partnership with other organisations, you

should never ever assume all sites will receive the same price (unless you specify in the tender that prices should be averaged across them all).

Waste is more complicated than you think and it's important to specify up front what you want from the service. Is it just collection from a single point per site, do you need them to include moving waste around the site or collecting from multiple areas within a site, do you expect an onsite presence, training, monitoring/auditing, etc.

You may wish to do a more Competitive Dialogue procedure following the award where the best solution for each site/organisation is worked out in collaboration with the supplier. Otherwise, you should spend a lot of time and energy before the tender to define the exact service you want/need and what elements are a must have, should have or nice to have. There are many variables and you can either specify all of them up front or be ready for a lot of back and forth clarifications.

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Ethan O'Brien, Group Energy Manager at Klöckner Pentaplast

When mapping waste streams, you should never ever forget about the intangible waste streams in any organisation. The true cost of waste is not just the cost of taking it away. It's often buried in processes, practices and time that create waste in the first place. Use Lean Six Sigma tools and Value Stream Mapping to think about waste in its widest sense.

When structuring a waste management strategy, you should never ever think that anyone – at any level in an organisation – is too small or insignificant to make a difference.

Waste management is a particularly iconic, visible and tangible example of the impact businesses and people

have on the planet. Engaging your people can make all the difference. Individual change becomes a catalyst for discussion and promotes change in others. For the doubters that remain, ask them why they think improving productivity is a bad idea.

When implementing a waste management plan, you should never ever fail to connect two operations that are usually distinct – procurement of waste contracts and managing their ongoing delivery.

Typically, managers in the procurement part of the organisation focus on buying services at the lowest possible price; whereas sustainability managers elsewhere are working to reduce waste and improve efficiency. Coordinating both activities can save money, reduce risk and improve overall outcomes.

Anita Leite, Estates Energy and Waste Officer at West Suffolk NHS Foundation Trust

When setting waste targets, you should never ever do it without having a way of calculating/showing your progress. In many hospitals (in my area of expertise) it is common that targets are set without having a way of checking the progress.

When structuring a waste management strategy, you should never ever make it too long and complicated.

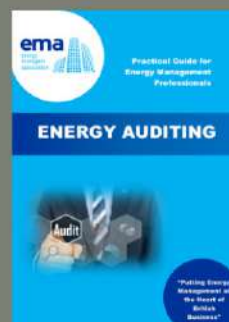
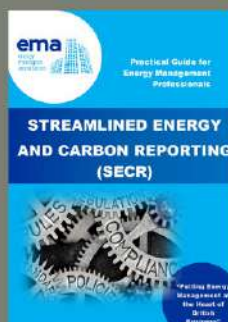
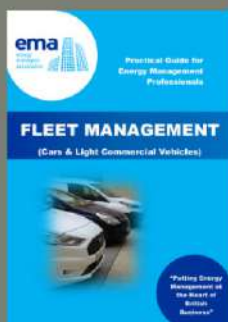
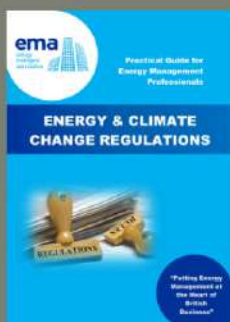
It is normal that the person writing it is the one with the best knowledge regarding that subject. This could turn the strategy very hard to understand for people that are not expert on that. The strategy should be simple and easy to understand by everyone, otherwise it will be harder to implement it.

When measuring waste data, you should never ever forget to introduce the assumptions that were made and the boundaries.

The strategy, the data collection, the waste policy must have a boundary and scope. You need to know where that data comes from and what is included.

When choosing a waste service provider, you should never ever forget to ask how they will share and collect the data you need.

As a waste manager it is important that you have data regarding how much waste is collected and where does it go. Some companies are very bad on sharing data the way that you need.



www.theema.org.uk/ema-guides-to-energy-management/

What Not to Do... In Energy Management Strategy



Energy management professionals usually define themselves as 'wearing many hats', which makes the profession interesting and dynamic but also requires an all-round knowledge and experience in key subjects. Whilst there is a plethora of information available out there in each topic, there are only so many hours in the day that can be devoted to reading and research.

The EMA is looking at key areas of energy management and asking those who focus on those areas at their organisations for their views and tips. In the last two issues, we tackled what not to do in energy procurement and waste management. In this issue, we turn our attention to energy management strategy.

Ethan O'Brien, Group Energy Manager at Klöckner Pentaplast



When securing a commitment for an energy management strategy from senior management, you should never ever forget to

start with the 'why'. Find out the intrinsic motivation your senior management stakeholders have to engage with energy, and go after it. What are those key drivers that shape unique position and vision of the organisation? Energy managers believe that from the boiler room to the boardroom, smarter use of energy benefits business at every level. Your job is to make the Executive Team believe it too.

When structuring an energy management strategy, you should never ever talk of energy efficiency as an end goal in itself. The use of the term 'energy efficiency' is unenticing to most people most of the time. A focus on energy productivity is easier to conceptualise for many people. Communicate the myriad of strategic benefits from increased energy efficiency – not just energy or cost savings,

but also health, safety, well-being and all-round improvements in productivity. Build on historic success of the business by using the levers that are already integrated into how things are done.

When measuring your performance against targets, you should never ever rely purely on specific energy consumption (kWh / kg) to measure performance in a manufacturing environment. This performance indicator can be very misleading if there are big changes in production volumes. Acknowledge that performance cannot be measured using a single KPI, and look for a more holistic approach. Have the imagination and clarity to think and see things differently.

Leigh Hitchens, Managing Director at Coral Energy Limited



When securing a commitment for an energy management strategy from senior management, you should never 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.

When setting energy management goals, you should never overstretch targets. These should be honest and realistic, challenging but achievable otherwise expectations for delivery will likely be greater than can be achieved.

When identifying consumption patterns, you should 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.

When setting 'smart' targets, you should never rely solely on this 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.

When developing a business case, you should never 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.

When structuring an energy management strategy, you should never assume you know all the answers.

What you should do is:

- Appoint an energy manager or outsourced energy management company to drive and support your strategy.
- Understand the issues; what are they, how can they be resolved.
- Plan and organise; create a plan and maintain a 'project' approach.
- Develop the strategy; plan accordingly but continually review and analyse progress and milestones.
- Involve stakeholders and relevant personnel.

Control, monitor and report on findings, feedback and progress.

When measuring your performance against targets, there are numerous key criteria that your KPIs should meet:

- KPIs should be intricately linked to not only performance but business impact i.e. company goals for energy.
- KPIs need to be quantifiable; if you are unable to easily reduce the number to a manageable number, there will be too much scope for variation and inconsistency.
- KPIs should relate to aspects of the business environment over which you have some control.

John Kyffin-Hughes, Low Carbon SMEs Business Engagement Manager at Aston University



I have been working in energy management for what seems quite a long time (approaching 20 years). Over this period, I consider myself fortunate to have had the opportunity to work for and influence a variety of organisations; supporting them to improve their energy management performance. Coventry City Council, the long since gone Peugeot Ryton Manufacturing site, and now numerous small and medium manufacturing companies, all number among the organisations I have helped.

Energy management has never been as important. Underpinning the step change in energy management necessitated by the journey to zero carbon should be a comprehensive and robust energy management strategy. Whether a public sector organisation, multinational



company or a small medium sized manufacturing company, an energy management strategy is nowadays essential to manage the business risks associated with increasing energy prices, security of supply and a changing energy landscape. However, developing and implementing an effective energy management strategy is not a given. I have witnessed and hopefully followed best practice, but now and then I have come across examples of poor practice, of what not to do and where results should have been so much better.

Therefore, I would like to share with you some of the errors to be avoided when embarking on developing, obtaining approval and delivering an effective energy management strategy. To make it somewhat more visual, I have likened the development and implementation of an effective energy management strategy to taking part in a 110m hurdles race. Hope you like my analogy and feel free to be creative and expand upon it.

When securing a commitment for an energy management strategy from senior management, you should never ever assume that senior managers will be supportive of the energy management strategy and are experts in energy management. Not doing your homework as to how energy management complements the objectives of the business and contributes to minimising business risks; coupled with offering a vague idea of the resources, costs and benefits of the strategy is a sure-fire

way of losing credibility and failing to gain senior management commitment.

However, even if you have done your homework thoroughly, if the strategy is overly technical and in a language that non experts find baffling, then expect some puzzled senior managers and a tough time getting the energy management strategy signed off.

Race analogy: Did not do your pre-season training and you start the race sluggishly then crash into the first hurdle. Race over.

When setting energy management goals, you should never ever ignore the principles of good energy management or the opinions of colleagues.

There is no need to reinvent the wheel, ISO 50001 provides a best practice framework for energy management; a simple gap analysis will identify your areas of weakness. Setting inappropriate goals that either do not reflect your organisation's level of ambition or are so ambitious that they are seen as totally unrealistic by colleagues will soon start to undermine the credibility of the strategy. Usually this scenario occurs when setting goals in isolation and not involving colleagues.

Race analogy: Missing a key element of running a good race like having no running shoes and finding out each hurdle is over 2m in height.

When identifying consumption patterns, you should never ever assume all data is good quality data. In computer science, there is a maxim Garbage in, Garbage out. Poor quality data leads to poor quality analysis and poor quality decisions. When analysing energy data, which gives unusual consumption patterns, always question the veracity of the data first before reaching any conclusions. Ask yourself, has the person supplying the data changed? Are meters working correctly? Are the metrics chosen to normalise

consumption against meaningful?

Race analogy: Told race start time is 3pm in London when it is actually 2pm in Birmingham.

When setting 'smart' targets, you should never ever forget that SMART stands for Specific, Measurable, Attributable, Realistic, Time bound. Ignore one of these attributes at your peril. Usually 'A' in SMART is given as standing for 'Achievable'; personally, I prefer 'Attributable' to establish ownership of a target. Also, never assume past performance is a good basis for setting new targets. Past performance is history. Evidencing where you have come from will give you an appreciation of the progress made but new targets should reflect current and expected future circumstances.

Race analogy: Running the race backwards and not looking towards the finish line.

When developing a business case, you should never ever ignore whole life costing. Initial project costs are important, but a business case needs to reflect financial and business benefits accumulated over the whole life of the project. Maintenance and energy consumption being the most common items that can swing a business case.

Race analogy: Having the power to move the finish line and height of the hurdles but not using it.

When structuring an energy management strategy, you should never ever fail to clearly communicate what is expected from all those that have a role to play in delivering the energy management strategy and never ever fail to include governance arrangements in the energy management structure. Avoid energy issues becoming the sole responsibility of the energy manager. The energy management strategy needs to be a strategy for whole organisation which everyone can relate to and understands their contribution.

Race analogy: Running with ankle weights and carrying a fellow competitor.

When formulating an implementation plan, you should never ever assign more than one person the responsibility to complete a task, assume other department's resources are at your disposal and set deadlines other departments without consultation.

Completion of a set task in the implementation plan task may well be joint effort between a number of colleagues and departments but the responsibility for delivering the task should be assigned to an individual or single department. Formulating the implementation plan needs to be a collaborative effort, involving those departments that will be required to contribute. Working in collaboration with key partners will engender support for the implementation plan making it more likely to be delivered.

Race analogy: Race delayed because the two race adjudicators are busy adjudicating another event. Race

ends in a photographic finish but the adjudicators cannot agree on who has won. It takes many hours of wrangling before the race result are given.

When measuring your performance against targets, you should never ever leave collation and analysis of performance data until the very last minute, just before you need to report on your progress. It is not very helpful finding out that the organisation is way off meeting its 2-year climate change reduction target with only 2 months to go.

Race analogy: Checking your race equipment 10 minutes before the start of the race to find out you have left your shorts behind.

When reviewing the energy management strategy, you should never ever accept a quick 5-minute informal chat with the senior manager given responsibility

to champion energy while they are having lunch as a substitute for a formal meeting involving the entire senior management team.

A review provides the opportunity to reflect on past performance, learn from successes and failures, adapt to changing circumstances, engage with senior managers, and provides a forum to where the organisation can demonstrate leadership. Another tip, never assume that the review board has read your review report before having the review meeting.

Race analogy: You have run a good race, but you know the next one will be more testing and that you still can improve. You seek feedback on how you should prepare from your nutritionist, performance coach, physiotherapist and physiologist, but all are unavailable apart from the physiotherapist's assistant.



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What Not to Do... In Behaviour Change and Motivation



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Have you ever wondered what is the one thing that you should avoid doing when looking for a new supplier, undertaking a waste audit or setting energy management goals? The EMA is looking at key areas of energy management and asking those who focus on those areas at their organisations. In previous issues, we tackled what not to do in energy procurement, in waste management

and in energy management strategy. In this issue, we focus on behaviour change and motivation.

Stuart McLeod, Project Manager at Oaksme Design



When identifying different options for a behaviour change programme, you should

never ever forget the following:

- What are you trying to achieve?
- It may seem obvious but you must keep your overall objective in mind and ask yourself whether each of your identified options will help you achieve your overall goals.
- Who is your target audience?

- Whose behaviour do you need to change in order to reach your goal, how will you communicate this and will any of your available options help to align their interests to yours?
- How will you encourage your target audience to take accountability for their energy consumption and how do you intend to ensure progress is measurable?

This could be a combination of budget responsibility and regular reporting; however, the optimum solution is likely to differ from organisation to organisation.

When identifying key stakeholders for a behaviour change programme, you should never ever solely focus on your target audience, i.e. the end users who have a direct effect on consumption.

Many of your other colleagues might have an indirect effect through their influence on the behaviour of others, some examples include:

- Marketing and PR teams can have a positive influence through sustainability and waste reduction campaign messaging. As the manager of an energy efficiency behavioural change programme you can help create a link in people's mind between the two.
- Although more often associated with carbon emissions reduction, finance and top management teams can influence how we travel for work and can encourage the use of public transport over diesel and petrol consuming company vehicles.
- You can feed specifications to procurement teams to ensure equipment is purchased with the energy conscious end consumer in mind, such as refrigeration display cabinets fitted with night blinds, speed-controlled motors on air handling plant and inverter-controlled compressors.

When preparing a business case for a behaviour change programme, you should never ever forget to include the entire range of benefits associated with a behaviour change programme.

Energy efficiency may only constitute one part of the argument for carrying out a behavioural change programme. For example, if colleagues are encouraged to be more mindful of closing cold room doors, in addition to energy efficiency benefits, you are likely to see lower carbon emissions, reduced maintenance costs, lower equipment downtime and a positive effect on food storage temperatures and therefore food quality. It is important to get this message across to non-energy professionals, to help them realise the wider financial benefits of energy efficiency.

When trying to gain approval for a behaviour change programme, you should never ever exclude reference to the ways in which your behavioural change programme will bring wider benefits to the business.

Perhaps more importantly, you must show how your proposed activity will

not impede the ability of colleagues to offer customers and clients the same level of service or product quality and that it could in fact bring additional benefits. We have already identified benefits to food quality, however behavioural change that helps improve operation of the HVAC system is likely to improve comfort for all occupants. To effectively communicate this message, you must have a well thought out execution and associated backout plan. You should also have the means to make continual improvements as you gather learnings from the process, this will help to give the approver confidence in your ability to manage the project.

When considering key elements of delivering a behaviour change programme, you should never ever forget that all elements in a behavioural change programme need to work together.

There is no use in building a fantastic communications plan only to realise you have no means of measuring success. You should also ensure that all key elements are scalable and have longevity. In order to continually benefit from changing behaviour, you must weave it into the cultural fabric of the organisation. You cannot achieve this with one-off energy usage reports or narrow stakeholder engagement.

When delivering a behaviour change programme, you should never ever lose sight of the original goal but also not to be afraid to make changes along the way.

Sometimes decisions made at the beginning of a project need to be revised as you adapt to changing contexts and environments. Wider business objectives might change the way your organisation operates but this doesn't mean energy conservation shouldn't remain at the forefront of employees' minds.

When continuously motivating stakeholders, you should never ever:

- Stop considering the personal and professional motivations of your stakeholders or trying to align this with your energy efficiency agenda.
- Stop celebrating success

and sharing learnings and improvements when things don't always go to plan.

When measuring the results of a behaviour change programme, you should never ever get disheartened by the difficulties involved in measuring the benefits of behavioural change.

Remember the wider set of criteria that may have been included in the business case and the long-term changes you are trying to affect. It won't happen overnight.

**Julie Smith, QHSE
Manager at Cepac Ltd**

When identifying different options for a behaviour change programme, you should never ever think one size fits all!

Changing behaviours is very challenging at times and there is no one size fits all. Employees all have differing motivations and to this end differing approaches are sometimes required. For example, it's easy with accounts department as you just tell them the cost savings! But of course, in a production area, operatives simply don't see running conveyors at breaks as a cost, it simply doesn't register so here you have to be a little more inventive and appeal to their motivation such as bonus schemes or awards for innovative suggestions. This all sits alongside the reliable close off checklist of course – daily, weekly and weekends can all have differing requirements. I have experienced some equipment that if turned off causes major set up issues on the Monday morning so it is important to work closely with the Engineering Department on site too.

When identifying key stakeholders for a behaviour change programme, you should never ever forget the operatives!

They are the ones with the equipment and use knowledge, and they are on the production line all shift so can keep an eye on things. I like to create ambassadors for energy. Giving ownership to the employees is a great way to engage with them.



I love using inhouse talent where possible, this often goes unnoticed and it is very rewarding when you speak with people and suddenly, they are volunteering to take the reins and support the drive. Listening is great as you learn so much, who knew that Operative A walked his village every day collecting aluminium cans for a charitable cause or Operative B ran a home composting system that fed his flourishing vegetable patch – win win! These people don't need motivation you just need to find a way to channel it.

When preparing a business case for a behaviour change programme, you should never ever overpromise!

Let's face it, we are never going to transform everyone, are we really? We have to set our objectives at a sensible level with gradual growth. The use of surveys is a great way to measure behavioural change; a set of simple quantitative questions that people can complete without thinking it's a test. It also provides some really interesting data and a useful qualitative comments box at the end, giving people the chance to have their say. How many empty suggestions boxes have you seen? Do a survey - it shows you are listening AND most importantly publish the results, investigate suggestions and give feedback. Sometimes that's all it takes. I am a great believer that the majority of employees do care, it's just how you reach out to them – respect earns respect!

When trying to gain approval for a behaviour change programme, you should never ever promise tenfold payback.

It's simply not going to happen overnight. A full behavioural change has a cost impact on the business, training even in-house has a cost and there is no specific payback to show so you must be prepared to have flat spots in the programme and realise it's a gradual process that doesn't always manifest itself in pounds, shillings and pence (yes, I am over 21)! Prepare the reasons for the behavioural change programme based on factual requirements. Was it a number of accidents driving the change? Was it excessive expenditure that now needs addressing? If you are zero incidents and run permanently under budget then why are you changing? The change has to be driven by something otherwise you will never be able to measure or have clear objectives.

When considering key elements of delivering a behaviour change programme, you should never ever expect too much!

Unless you have a degree in psychology (which in most cases you won't) then remember when necessary to call in The Professionals. I have attended a very expensive and a very well-known training course and to be honest.... waste of money. I find the best resources are very often free! It's a seek and source challenge! Look at your suppliers, what can they provide you with? I had a skin demo and free hand creams from a very large PPE supplier, a local counselling charity attended site and gave talks on some very sensitive issues - both free and both very effective. Employees were buzzing about the topics for a long time after, remember the touch point of if it helps at work it will help at

home! Supporting your employees is key in the driver to behavioural improvement!

When delivering a behaviour change programme, you should never ever rush!

It is important to feed the programme in to employees at a rate that is acceptable to them, too full on at the start is a recipe for disaster. Start small and when you establish your motivators in the group utilise their energy (no pun intended!) to help you gain momentum. Communicate key information in a simple format; don't confuse people with complex numeric equations. The thing I love is that I sell the idea that anything we do at work can also benefit employees at home. There are many unhappy teenagers who thanks to me no longer leave their TV on in the bedroom unattended – sorry kids!

When continuously motivating stakeholders, you should never ever bore them!

It is very important to deliver your messages in a positive manner. Nobody was ever motivated by repetition and dictatorship. Check out their understanding of your expectations, let's educate them and remember they may have lived under the old regime of poor management where they had tried, but 'nobody ever listened so I gave up'. If only I had a pound every time, I heard that one! Keep it fresh, ask them to bring you their ideas, turn it around and you support them!

When measuring the results of a behaviour change programme, you should never ever overcomplicate things!

Remember you will never win everyone over but you can improve the majority. As you progress along your journey introduce new methods of motivation. External speakers are a great way to motivate, who wants to listen to the same person droning on? Not me and when measuring, it's time to get that survey out again. Now you can compare, has 'not always' turned into 'most of the time'? Then you are getting somewhere!! Display those results, however small,

remember you will gain momentum as your team behaviours change and you'll soon be re-setting the target! A happy healthy workforce is a safe and productive workforce (not to mention efficiencies and cost savings!). Come on, what are you waiting for?!

Claire McGeechan, Director at Geb's Energy

When identifying different options for a behaviour change programme, you should never ever forget that behaviour change is not a one size fits all approach.

Tailor your programme to an identified objective and audience. Make sure you understand and are clear on why this corrective action is needed and what the intended outcome is.

There may be a simple linear solution but quite often it is more complex, not just involving people but companywide organisational processes, and operational plant and technology as well.

When identifying key stakeholders for a behaviour change programme, you should never ever assume it is only applicable to your own employees.

Would it be relevant to sub-contractors, outsourced service providers, suppliers, customers and/or the wider community? Ensure all interested parties who can have an impact on your organisation's energy use and performance are considered.



When preparing a business case for a behaviour change programme, you should never ever forget that it is implemented for a reason.

Be it a compliance or reputational risk, energy performance improvement opportunity or sales opportunity. All will have a financial aspect associated to them (which the 'C'suite will not normally ignore). Kilowatt Hours often mean nothing to those making the spending decisions but attach a £/p impact and you will get their attention.

For instance, an example I like to give is that for every kWh saved there may be an equivalent monetary saving, by at least 3 times, kWh Unit Cost, Standing Charge, CCL and VAT. Also, with energy and environmental regulation increasing globally, UK wide and within the regions, non-compliance often comes with an associated financial penalty.

Do not forget also to include how you will ensure that, as the programme progresses, it is delivering the objective. Always include a method of evaluating the programme's effectiveness. It should not become 'white noise' but should give those who have approved it confidence that it is being controlled and managed in a structured manner.

When trying to gain approval for a behaviour change programme, you should never ever ignore the potential risks of not implementing it.

Think PESTLE – political, environmental, social, technological, legal and economic. How might it affect your organisation if it is not undertaken and what would the impact be?

When considering key elements of delivering a behaviour change programme, you should never ever ignore the fact that, to maximise its effectiveness, you need to consider the following 360 degree approach:

- People – get the people doing the right things, through training, communication, awareness, and culture
- Process – make sure any processes are relevant, applicable, current, and effective

- Energy Consuming Plant, Tools and Technology – ensure the plant is efficient and operating at optimum levels so that there is no underlying reason for poor operating practices and behaviours.

When continuously motivating stakeholders, you should never ever let the message become stale, consider that effective communication is usually two way.

Think about how your audience interacts with you. How many times do posters become wallpaper, often covered by the next interesting thing, be it the next bake sale, charity sponsorship or forthcoming social event? Think about how digital media is delivered, is it on loop, will it become invisible? Keep your message relevant, fresh and tailored to your audience. Consider what motivates your intended recipients.

Often, we forget to communicate where we have had success. Remember to reference those individuals who have worked hard or significantly contributed to the result.

When measuring the results of a behaviour change programme, do not forget to ensure that you have a clearly defined objective with applicable targets and associated actions.

Make sure that you clearly understand the difference between objectives, targets and actions and how they are relevant to the programme.

- Objectives – the intended outcome, what are you trying to achieve (normally words i.e. we intend to reduce the fuel used in company vehicles against the previous year.
- Targets – measured results (numbers) i.e. 15% reduction in fuel consumption
- Actions – what you need to do to achieve your objectives e.g. 100% of company car drivers to undertake driver training, where effectiveness will be evaluated against the defined company benchmark or performance indicator.



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What Not to Do... In Energy Auditing

Energy management professionals usually define themselves as 'wearing many hats', which makes the profession interesting and dynamic but also requires an all-round knowledge and experience in key subjects. Whilst there is a plethora of information available out there in each topic, there are only so many hours in the day that can be devoted to reading and research.

The EMA is looking at key areas of energy management and asking those who focus on those areas at their organisations for their views and tips. Throughout this year, we tackled what not to do in energy procurement, waste management, energy management strategy and behaviour change and motivation. In this issue, we turn our attention to energy auditing.

Nasrin Khanom, Environment and Sustainability Manager at University of West London

When gathering and analysing pre-audit data, you should never ever assume that the data is accurate.

Have a closer look at the data to identify any gaps and if any has been estimated. It is helpful to gather the source of data so you can analyse it in advance and prepare questions to ask on the day of the audit.



When selecting the most appropriate auditing technique, you should never ever do the audit without following any official guidance on how to do an energy audit.

There is much well-known guidance such as ISO 50002, BS EN 16247 and EMA's Energy Auditing Guide that provides a useful structure to follow when conducting the audit and presenting the findings in a report.

When auditing a building's lighting, you should never ever forget to take a measurement of the lux level.

If you are recommending changing the existing lights to LEDs, then consider the impact the new fitting will have on the occupiers of that space as LEDs are generally brighter. Try to avoid recommending for a like-for-like replacement, and instead consider installing the LEDs based on a full lux level design for each space.

When auditing a building's heating systems, you should never ever neglect the potential savings from insulating the heating system, tank and pipework.

Insulation reduces heat losses and increases efficiency of the heating system. A good insulation could even generate an energy saving of up to 30%.

When auditing a building's cooling systems, you should never ever review the cooling systems setup without taking into account the outside air temperature.

In general, the climate of the UK is often cool and therefore there will be days when the cooling system does not need to be in operation.

When auditing a building's pumping systems, you should never ever ignore the potential savings associated with changing the pumps to Variable Speed Drives (VSDs).

Installing VSDs is the easiest and most efficient way to reduce the pump's power consumption. Reducing the motor speed by 20% could generate an energy saving of up to 50%.

When auditing a building's ventilation systems, you should never ever assume the fans are in good working condition.

It is handy to use an air flow meter during the audit as it will give you an idea about the fan speed. If you find the speed is low, then further investigation is needed. Also have a look at the PPM schedules to check when the fans were last cleaned.

When auditing a building's compressed air generation, you should never ever forget to review records of air leaks to determine if there is a pattern of continuous leaks and physically check the piping system.

On average, 15-50% of the air production flows through the leaks, and so it is important to repair leaks.

When auditing a building's control systems, you should never ever assume the HVAC plant configuration on the control system has been set up correctly.

There may be some plants and data that are not displayed correctly on the system, and some plants that are not controlled by the system. It is a good idea to double check the setup on the control system against other useful information such as schematics, O&M's and energy data as well against the information from a visual inspection of the plant.

When writing an energy audit report, you should never ever forget who the end user is.

Try to limit the information you present to what the end user would need to know in order for them to take it to the next stage.

When including technical information in an audit report, you should never ever write it in a way that is difficult for the end users to grasp.

Consider your writing style and the terminologies used and try to keep it simple by presenting key information. This is important so that the report could be understood by a large audience and it becomes useful enough to take further action. If you need to add more details, then maybe consider a separate report for a technical user.

When including financial information in an audit report, you should never ever forget to add any contingency costs such as the cost for follow-up technical design surveys, and VAT.

The end user needs to understand the full costs so they can make plans to set aside realistic budget to implement the energy saving measures.



**Peter Johan Bergh Lindersen,
Senior Consultant at DNV GL**



When gathering and analysing pre-audit data, you should never ever trust the data you received from the customer without asking additional questions to ensure the quality of it.

You should check if it makes sense based on the size of the site you are auditing and the work that takes place on the site.

When selecting the most appropriate auditing technique, you should never ever use the same fit-for-all for your audits.

You should adapt it to the people you will be working with as you would like to collect as much information as possible. People think differently and it is good to be able to adapt to the people you are performing the audit with. You are interested in as much useful input as possible to create a good audit report.

When auditing a building's lighting, you should never ever trust only what you see in the ceiling when the light is on.

Try to see if you can see which light bulbs or tubes are being used as there are often some replacement tubes and bulbs in the maintenance room. This should hopefully confirm what you see and can be used as input to your energy balance.

When auditing a building's heating systems, you should never ever only trust what the maintenance people on site are telling you about the heating system.

You should try to see it with your own eyes and check how it is set up in the BMS, if they have one.

When auditing a building's cooling systems, you should never ever only trust what the maintenance people on site are telling you about the cooling system.

You should try to see it with your own eyes and check how it is set up in the BMS, if they have one.

When auditing a building's pumping systems, you should never ever only trust what the maintenance people on site are telling you about the pumping system.

You should try to understand how it is connected to the heating, cooling and the domestic water systems like toilets and sinks. By working out how it is all connected, it should help you to get a good input for your energy balance calculations.

When auditing a building's ventilation systems, you should never ever only see how it is supplied to the site you are visiting.

You should always try to see where the air is supplied from and how these machines work as there are large differences in how ventilation can be supplied to a site.

When auditing a building's compressed air generation, you should never ever only see the compressors.

Try to see how compressed air is delivered and where there could be potential leaks. The better you understand the system, the better improvement opportunities you can suggest such as reducing the pressure as many systems use a too high pressure that creates wasted energy.

When auditing a building's control systems, you should never ever only see the system with your own eyes.

Try to speak to the maintenance people on site on how they use it and if they can show you how the system works. This allows you to understand if they are able to use the system and if they use it correctly. Many sites have a BMS, but only a few of them use it correctly.

When writing an energy audit report, you should never ever include information you are not using in your report.

I would recommend including only information that is useful for the reader to understand what has been audited and then include the analysis part such as an analysis of the energy data, an energy balance and the energy saving opportunities. I have seen several reports that include unnecessary information and only confuse the reader of the report. Try to make it accurate and to the point with all the required information.

When including technical information in an audit report, you should never ever copy and paste directly from a technical document.

Try to understand if the information you add in your report is useful to understand how the equipment works. Adding equipment dimensions from the fact sheet will most likely not be useful for the energy audit report.

When including financial information in an audit report, you should never ever say that it includes 100% correct information as this very often changes quickly.

Estimates for energy saving opportunities are there for the customers to understand what price range we are looking at, but not the exact cost of implementing an opportunity. There will always be variations, and this would not be fully understood before a more detailed study of the selected opportunity takes place.

