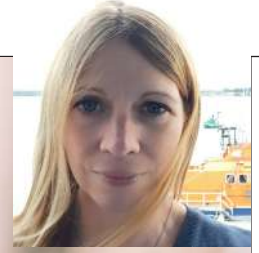


Common Myths in Energy Management BUILDINGS



As more individuals venture into the world of energy management and all nooks and crannies of buildings are inspected with the aim of scoping possibilities for energy and carbon reduction, it is essential to separate facts from fiction when it comes to anticipated savings, occupants' use or business cases. In this article, Victoria Limbrick is challenging common myths about energy management in buildings and sheds a light onto what a reality actually looks like.

COMMON MYTH: INSTALLING AN ENERGY EFFICIENT TECHNOLOGY WILL AUTOMATICALLY MAKE SAVINGS

In fact, energy managers often spend a great deal of time with consultants and suppliers to develop the most energy efficient solution to a system change only to find that the expected savings don't materialise.

As soon as you put human beings into a system you need to ensure they understand how it is controlled and how it works. This is especially important if the system is different from those most people have at home. For example, if you are installing heat pumps which now include air conditioning, you need to ensure people aren't opening windows when the temperature

rises, this is a natural instinct and what most of us do at home, but it can lead to huge energy wastage.

Engagement with the occupiers is key to embedding new energy saving schemes, as much because there might be some differences in temperatures, new air supplies can cause draughts which can really impact on individual acceptance of the new system and willingness to give it a chance or adapt their day to day work to include a new shutdown process.

COMMON MYTH: OCCUPANTS HAVE CONTROL OVER HEATING AND LIGHTING

A recommendation is often made to turn off lights or turn down heating but, in fact, in larger offices or warehouses the staff are unlikely to have control over heating temperatures or timings and the lighting controls are often centralised or complex switchbanks which staff won't feel confident to use.

It is important to speak to staff and see what control they can have and also what they would want, it may be useful to give training or put up simple signage to explain how lighting switches work or how room thermostats/controllers work as often they are not as simple as they seem.

If you have a lighting replacement project in development, ensure that local usability of controls or full automation form part of the project. In some cases full automation in one area but switching in others can lead to increased complacency with switching off lights in manually controlled areas so consider the behaviour change required alongside the technology.

COMMON MYTH: OCCUPANTS WHO DON'T KNOW HOW TO USE CONTROLLERS DON'T TOUCH THEM

Following on from the previous point, another fact is that often staff may not fully understand how to use heating/cooling controllers but are still not comfortable and so try to set the local controller to settings they think will improve the temperature. They may inadvertently be overheating spaces which then need cooling or changing controllers to manual which means central control doesn't govern timings as expected.

A quick check of local controllers can give a valuable insight into why systems are running unexpectedly.

Speak to staff in the areas where local controller settings are often changed to understand what the issues are so that central control can be improved, upskill them on

how to best use the controller and to understand the energy wastage they may be inadvertently causing.

COMMON MYTH: SAVING ENERGY IS IMPORTANT TO EVERYONE IN THEIR ROLE

When you have a busy job or you are comfortable with your daily work routine, no matter how important climate change or cost savings may be to you, getting the job done is your first priority.

Energy managers have the luxury of having energy saving and carbon reduction as their priority and focus but the fact is that this is not the case for the majority of people you work with, so factoring in the impact on their day to day role and their capacity to engage with any change is vital.

Does the action you want them to take make their job easier or inspire real engagement? Ideally the answer to this will be yes, but the reality is that it won't always be and in these cases factoring in resistance, capacity and engagement into the project at an early stage will help to deliver a more successful project with realistic timelines and expectations. It will also avoid managers and staff being disengaged because they think time is being taken away from their core role or that they are being asked to do additional work they hadn't expected.

Lack of ownership because employees don't pay the bills is often a behavioural barrier to overcome, providing motivation through bonuses or other recognition can encourage engagement but in some cases it may be necessary to consider

penalties for poor behaviour, especially where significant energy losses can occur if systems are left running, e.g. manufacturing processes or catering kitchens. This is particularly important with rising energy costs becoming an increasingly significant factor in profitability and in some cases viability for many sectors and it may be appropriate to communicate this to employees.

Leadership and culture are key in these cases. If the leaders of the business are supportive of the work and demonstrate to staff and managers that time spent on this is valued by them and core to the business, this will enable and encourage time to be spent on it, whether that is attending working group meetings, taking training, spending time changing processes or simply thinking about it at all!

COMMON MYTH: BUSINESS CASES ARE ALL ABOUT COST SAVINGS

Capital investment and through life cost savings form the majority

of most business cases and are of course key to getting budget holder sign off. However, it is important not to ignore other benefits which may be safety related like reduced working at height if reducing the need to change fluorescent lamps.

Where an internal facilities team are in place it can be difficult to calculate the time spent on maintenance compared to where contractors have to be brought in and a service contract cost or invoice can be used. Their hours are often harder to account for as routine maintenance is often accounted as one task, but the savings can be significant and bolster the business case by offering the team more time to focus on other areas.

COMMON MYTH: INSTALLING MM&T WILL AUTOMATICALLY DELIVER ENERGY SAVINGS

MM&T can be a very powerful tool in enabling effective energy management. However, the fact is that it can also be a very expensive measure which will not in itself



deliver any energy saving.

The metering strategy should address the needs of the organisation and its energy use in order to drive real improvement in energy consumption. There should be a clear link between the meter being installed and a desired outcome or reporting requirement.

MM&T should be paired with an energy data strategy, undergoing regular review and reporting to stakeholders who have influence over either the way energy is used or financial investment in future energy saving projects.

It can be tempting to meter every available circuit, however unless you have an effective way of making use of that data it will be likely to be wasted effort and expense. Most MM&T systems can be expanded over time so it may be beneficial to

install meters on a small number of circuits with provision for future expansion. Business cases should consider a rolling investment plan rather than a one off, although this may not always be practical and then a balance will need to be struck.



COMMON MYTH: DOING AN ENERGY AUDIT IS THE END OF THE TASK

An energy audit is one of the most invaluable tools an energy manager has but like an MOT on a car it is only a snapshot of how a building is being used on a particular day or during the period you have managed to get data for.

It is always important, if possible, to do a follow up visit after a few months of the audit or of completion of an energy saving project to see whether the changes made have been fully implemented or if any of the behaviour change has embedded.

This makes sure you get best value out of the original visit and will help to inform future audits and projects to see what worked, what didn't and what could be done better.

Author's profile:

Victoria has over 17 years of energy and carbon

management experience across commercial, residential, education, emergency services and construction sector. She has managed energy efficiency projects, renewable installations, identified and delivered opportunities for strategic decarbonisation and energy efficiency across organisations' operations and activities.

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