



What to Consider when Managing an Energy Budget

As an Energy Manager, one will likely have responsibility for setting an annual energy budget. Given the variables and many unknowns associated with energy costs, and the fact that this expenditure is often not under the control of one department, setting a budget can be an artform rarely perfected. In reality, organisations do not always have a clear view of their budget position, and budgets are commonly a re-hash of historical figures. With energy costs continuing to increase year on year, this is becoming an increasingly significant area of concern for organisations.

Budgets are normally prepared and approved prior to the budget period and should include forecast income, expenditure and capital to be employed against a particular cost centre, and should also take into account the company's strategy, objectives and key performance measures. There is also no point in preparing a budget if it does not align with people's behaviour, bearing in mind that a poorly designed budget can also actually damage performance rather than enhance it.

The following points should be taken into consideration

Usually energy budget planning starts by developing an energy cost baseline that forms the foundation to build the budget up from. The planning and detail required for this exercise will vary amongst organisations, and unless one has

been asked to complete a zero-based budget (i.e. starting with a blank canvas), an Energy Manager will often begin by replicating the last 12 months actual cost. This early action is a good starting point, but can cause issues down the line if these figures are not scrutinised properly. Figures may not reflect the correct or full cost for the period; for example:

- Energy bills may be mistakenly allocated to other department cost codes
- Not all energy bills may have been received, particularly where there are open disputes with the supplier, unbilled meters, or meters on quarterly billing cycles
- Bills received and posted in the period, may actually cover consumption in a different period.
- There are outstanding reconciliations due, particularly where supplier contracts have clawbacks (usually for TNUOs, RO & FiT charges)
- Billing is based on estimated reads not reflective of actual usage
- Bills have not been fully validated and contain errors that require either credit or debit rebills

One should also consider any special or non-standard past events that significantly impacted consumption or billing. If historical data is being used to forecast future consumption/cost, one needs to ensure that these one off events are omitted and replaced with "business as usual" figures so that the budget is normalised and remains realistic. Examples of events that could be unplanned may include: machinery/maintenance shutdowns, generator

use, new equipment or equipment upgrades, cold spells or heatwaves impacting aircons/electrical heating, refurbishment works, building closures, changes in activities or operational hours and so forth.

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Energy review

If resources allow, an energy review can also be a useful exercise to support development of the baseline and can be undertaken either internally or by utilising an external consultancy. The energy review should offer an estimation of likely future consumption and cost based on an assessment of site equipment, building practices and operational cycles. A good energy review will also take account of additional variables such as degree day data, occupancy, floor space and processes etc., and should also define a usage profile.

Once a baseline cost is defined, impacts of any future variables can then be considered. Any known special events due to take place that could change energy consumption should also be documented and the impact calculated. It is prudent to engage with the senior stakeholders as well as to establish any potential plans for strategic change such as company growth, downsizing and activity or process changes that may impact consumption. It is also good practice to record reasoning and

methodologies behind all forecast assumptions, so that these can be referred back to, particularly if challenged.

Energy supplier rates

One should also build in adjustments and buffers for energy supplier rate increases. There are different ways to forecast this cost and this will be largely dependent on the kind of energy contract entered into with the energy supplier.

If the company is currently locked into a fixed fully inclusive contract, then quite simply these contract rates can normally be calculated against the forecast consumption for each of the relevant months up to the date that the contract expires. Where energy supplies are billed on multiple rates, calculations may be more complex and consumption may need to be split against these rates, or an average pence per unit price (APPU) can be applied.

The forecast becomes trickier for months where a fixed contract is not secured, or where contracts are flexible or "pass through". Energy rates are made up of several different third

party costs (which are often bespoke to supply types and supply locations), and wholesale energy costs (which are often volatile and unpredictable). Unless an energy manager has experience in calculating these costs, it is sometimes more sensible to enlist support with these estimations. The organisation's energy supplier or energy consultants should be able to help in providing direction on costs based on published charges and market intelligence they are privy to. However regardless of this,

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estimation around the wholesale energy element of the cost will always require a higher element of guesswork, and risk tolerances should be applied to these uncertain proportions of the forecast.

Implications of energy efficiency initiatives

One should also account for any energy efficiency initiatives that might influence the budget over

the next year. Some initiatives can be implemented at little to no cost, however those requiring investment will likely need more substantial planning and some form of a presentation and business plan to project sponsors/stakeholders in order to secure funding.

Calculating likely payback from initiatives can take time, and it is therefore good practice to start this planning well in advance of the new financial year. It is also worth considering the source of funding within the company, and which money pot is more likely to pay out.

For example, if planning a smart meter roll out, all directly purchased meters will likely fall into a CAPEX request, however if there are restrictions on this funding, one could consider options to lease the meters which would then fall into an OPEX request. One could also consider requesting funding from different departments that may benefit from the proposed initiatives. Incentives could also be broken down into mini projects over a longer term to help gain buy in on smaller requests, or equally performance contracts with third parties may also be an option to consider, alleviating the need to request funding completely.

When calculating the financial impact from energy efficiency initiatives, one should ensure that the return from these is forecast only in months that they will realistically be delivered within the budget year, as well as applying contingency to account for risk in delayed delivery. Risk ratings can be subjective and should be defined by the project manager. A RAG approach (red, amber, green) is common, and one can assume certain percentages of success against each traffic light and adjust figures accordingly. Individuals will have different approaches and perceptions of risk, and being a risk adverse, risk neutral or risk seeking individual will influence calculations. Despite this, there is still an essentially optimistic nature in people, that means



estimates and projects are often late in delivery and over budget.

Assessing and monitoring the process

Clearly the best people to hold responsibility for a budget are those managing the spend, however it can also introduce a problem of information asymmetry where a manager could exploit their understanding in order to introduce budgetary slack or bias. For this reason, budgets are often scrutinised by finance departments and it therefore becomes important for an energy manager to justify reasoning and provide substance to their assumptions. Even more so because investments often do not see a payback within the same financial year and are therefore seen as more risky.

One should also consider that over-padded budgets can make

projects less attractive and therefore risk not being funded. Sometimes companies will also view an under spend of a budget as seriously as an overspend due to lost opportunity in allocation of these funds elsewhere. Budget approval often involves staged negotiations between budget holders and stakeholders, where through a process of tweaks and justifications, parties will often meet somewhere in the middle.

Once approved and live, deviation will inevitably creep in at some stage. Items that previously seemed insignificant may grow in importance and require re-forecasting in more detail. Sometimes the budget completed looks very unlike the one that was planned at the beginning. Reporting against a fixed budget for each line item under these circumstances is extremely difficult, and in many cases pointless. Any budget

needs to be monitored closely and all risks actively managed. The general ledger will begin to collect information about actual costs, and expenditure-to-date information will begin to become available. Focusing on costs-to-date as a measure of performance will likely not provide an accurate representation given the nature of supplier billing cycles. Invoices received will often not align completely to consumption for each month and it is therefore important to consider applying accruals and deferrals to manage cost allocations. Real-time reporting of budget vs actual is also difficult given invoices tend to trickle through at different times. One could therefore consider building accuracy tolerances into real-time reporting so that they can be generated far quicker.

Budgets are essential to critically link a company strategy to operations and form the basis for financial monitoring

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and control. They are fundamental to running an organisation from an operational management and accounting perspective, and hence form an important part of an Energy Manager's role. Getting a budget wrong can be damaging for one's reputation, hence reinforcing the importance of completing robust and evidenced based planning is key.

Author's Profile

Nicky has accumulated a variety of experience within the sector from project management of power connections and renewable projects, through to energy bureau and consultancy. Nicky often engages in senior level strategy and planning, specialising in energy procurement, risk management, and third party cost analysis.

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