Greener Live Performances

through energy efficiency

Management Guide

How to Build a Business Case for Your Board or Sponsors

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Introduction

Energy costs are rising and are not likely to drop. Improving energy efficiency is one of the most cost- effective strategies an organisation can use to manage rising energy costs and growing concerns over greenhouse gas emissions. Nevertheless, additional capital and resources may be required depending on the extent of change required to improve energy efficiency. A business case provides justification for a proposed change and outlines the allocation of capital and resources to make the change work. This resource has been developed to help venues and production and touring companies in building a business case for their board or potential sponsors to implement energy efficiency measures.

Effective implementation of energy management measures entails changes to current operational processes. Introducing change in an organisation can be a complex process and a number of steps are required to gain buy-in and build momentum for an organisational transition. In the first instance, management responsible for budget decisions (be it the board, sponsors, Council or Government), will need to be convinced. In order to achieve this, you should gather all relevant information to build a robust, evidence driven business case to rationalise why change is needed. This should include information that provides details on what it is that needs to be changed, the resources and capital required to make it work and a clear outline of the benefits resulting from the change.

The following guiding questions will lead you through the process of proposing change and building a culture of continuous change towards energy efficiency in your organisation.

1. Why do we need change?

2. What do we need to change and what is required to make it work?

3. What are the expected benefits resulting from this change?

4. How will we implement and sustain the change?

1. Why Do We Need Change?

As in any effective change management process, you need to create a sense of urgency for your proposed actions and be prepared to justify why a change is needed. How you will do this very much depends on the nature of the proposed actions.

Energy efficiency measures may range from relatively simple equipment upgrades, to retrofits or the acquisition of new equipment. Such measures could also include changes to or the implementation of energy monitoring and controlling mechanisms such as a Building or Energy Management System. Whether you are a venue looking at lighting retrofit, a touring company considering changing to more energy efficient vehicles or a production company investing in LED stage lighting to commit to wattage caps on lighting plots, building a case to get the capital and resources for implementation will involve a similar process.

The most effective way of creating a sense of urgency is to refer to increased costs that could be avoided or base costs that could be reduced. In order to assess your current energy performance and back your case with actual data, you could consider the following:

- Have a look at your organisation's energy bills and track your energy consumption over the past few years to see if consumption/ costs have increased.
- Benchmark your energy consumption:
  - Use the GHG Estimator Tool for venues to see how you compare with other venues of similar size.

    The tool is available at calculator.liveperformance.com.au
  - For production and touring companies, the LPA IG Tools provide a unique suite of tools for festivals, venues, offices, tours and production managers to measure greenhouse gas emissions on an annual or per-activity basis.

    The tool is available at: lpa.ig-tools.com/signup
- If you have a Building Management System in place it might also provide useful data to help build your case (e.g. for a specific area of your venue or specific equipment to identify unsatisfactory performance).

2. What Do We Need to Change and What is Required to Make it Work?

Energy efficiency measures can include a range of initiatives and you need to be clear on what you are suggesting to be changed. If you are looking at improving overall energy efficiency across your organisation rather than the specific instalment, upgrade or replacement of equipment, you need to identify the key initiatives and actions required to achieve this change.

This may be a list of options or measures and activities that are required. There are a range of resources for production and touring companies available on the LPA website that may help you in identifying actions to increase overall energy efficiency.[1] For venues, the GHG Estimator Tool provides some guidance on measures to improve energy efficiency. It includes a set of questions on energy efficiency that will generate an Action Plan for you.

Once you have a list of actions, assess the identified options in terms of how they would solve the issue and improve energy efficiency. It will be helpful to determine the pros and cons of each option. You will also need to identify the resources and capital required for implementation. This may comprise the estimated capital, labour and maintenance cost for equipment including required technical expertise. A template with a set of questions to consider for a preliminary and technical evaluation of options is included on the back of this resource.

1 *Have a look at the Energy Efficient Touring Fact Sheet and Checklist and the Energy Efficient Stage Lighting Resources, including a Fact Sheet, Checklist and Design Guide. These resources are available at: http://liveperformance.com.au/greener_live_performances/production_and_touring_resources*

3. What are the Expected Benefits Resulting from this Change?

Once you have sufficient information justifying the need for change and outlining the required actions and their associated costs, you should consider the benefits of your proposed change. This is the part your board or sponsors will be most interested in. The key benefits to consider are economic and environmental benefits, as well as enhancing your organisation's image and the staff and patron experience.

Economic Benefits

Considering the cost implications in relation to the financial benefits of the identified options is the most important part in convincing your board or sponsors. Conducting a Return on Investment Assessment (ROI) of proposed technologies, actions and strategies will help you to build a strong business case for your proposed changes. To give you an example of how such an assessment works, a sample ROI is included here.

The ROI table provides an example assessment of replacing current Halogen foyer lighting with LED lighting. Considering the large investment required for instalment of LED lighting it becomes apparent how important it is to predict the payback period and long-term financial implications such as annual savings on operating and maintenance costs when taking your suggestions to the board. In this example, the payback period for the investment would be 3.25 years and the venue would save $15,872 a year on average annual costs associated with foyer lighting. It is also important to highlight any additional cost savings that may be difficult to measure. The ROI example does not take savings on air-conditioning costs into account with 95% less heat generated by LED lights. Even if it is hard to quantify, this is an important point to be made when building a business case for a LED retrofit, be it foyer, auditorium or stage lighting. A template to conduct an ROI assessment is provided at the end of this resource. If you cannot find the information you need on the internet, talk to potential suppliers to get an idea of capital and operating costs of your options.

ECONOMIC EVALUATION	CURRENT LIGHTING (Halogen Downlights)	LED Lighting
Number of lights	130	130
Bulb Wattage	120W	12W
Price per kWh	$0.32	$0.32
Hours used per year[2]	2,496	2,496
Operating Cost (Total kW / MJ hrs x Price)	$12,460	$1,246
Cost Savings Per Annum (Current Operating Costs – New Operating Cost)		$11,214
Cost of Unit Purchase/ Replacement	$1,300 ($10 per unit)	$10,400 ($80 per unit)
Cost of Installation		$40,000
Maintenance Costs p.a. (bulb and labour)	$5,850 ($45/ light)	$1,191 ($110/ light)
Total Cost	$7,150	$51,591
Annual reduction in maintenance costs		$4,658
Total Savings (Maintenance + Operating Cost Savings)		$15,872
Payback Period (Total Cost / Total Savings)		3.25 years
Expected life (hours)	2,000	35,000
Purchase price per annum of life	$1,622	$741
Average Annual Cost (Purchase price p.a. + Operating Cost p.a.)	$14,082	$1,987

2 *Assuming lights are on 8 hrs/day, 6 days/week*

Energy Performance Contracting

Energy Performance Contracting is a payment scheme that uses cost savings from reduced energy consumption to repay the cost of installing energy conservation measures.

Many larger suppliers offer such flexible payment solutions allowing you to undertake energy efficiency projects without major capital outlays or investment. The Energy Efficiency Council Website includes more information on Energy Performance Contracting and might help you to find out whether this would be a suitable option for your planned investment and your organisation.

More information is available at: http://www.eec.org.au/Energy%20Performance%20Contracting

Environmental Benefits

Another key benefit to increasing energy efficiency is the reduced environmental impact of your organisation's operations. There is a growing market expectation for companies to be more responsible and reduce their carbon footprint. Environmental benefits to consider in the case of the foyer retrofit example are reduced energy usage and carbon emissions and waste reductions.

The CO2 comparisons provided in the table above are based on the US Environmental Protection Agency Greenhouse Gas Equivalencies calculator. This is a very simple tool that allows you to input your energy data and provides you with a set of tangible examples comparing your energy consumption to annual greenhouse gas emissions from cars or waste, or CO2 emissions from consumables such as home electricity use or carbon sequestered by X amount of forests or tree seedlings. The equivalency calculator is available at: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Using such examples is a very effective way of making savings as tangible as possible when pitching your case to the board or when communicating targets or achievements to staff, patrons and external stakeholders. To communicate potential (or actual) savings you could use a visual. Based on the LED retrofit example and data from the above calculator, this could look like the visual below. This example is transferrable to production and touring companies and could be customised to any energy efficiency measure taken.

ENVIRONMENTAL EVALUATION	CURRENT LIGHTING (Halogen Downlights)	LED Lighting
kW use per day	126.19	12.62
Estimated days of use p.a.	360	360
Total kW	45,427.20	4,542.72
Total CO2 (kg)	31,324	3,132
Comparable annual greenhouse gas emissions[3]	6.6 Passenger Vehicles	0.659 Passenger Vehicles
Comparable CO2 emissions[3]	2.9 homes' energy use for one year	0.286 homes' energy use for one year
Waste	2,271 Lamps in 12 years	130 Lights every 12 years

By changing to LED lighting we would reduce our CO2 emissions by an amount equivalent to the annual electricity use of 3.9 homes.

By changing to LED lighting we would take 5.9 passenger vehicles off the road per year.

By changing to LED lighting we would reduce our waste by 2,141 bulbs over a twelve year period. That means 178 bulbs less per year – and compared to Halogens, all LED components are recyclable and can be used for new products.

3 *U.S. Environmental Protection Agency - Greenhouse Gas Equivalencies Calculator http://www.epa.gov/cleanenergy/energy-resources/calculator.html*

Social Benefits

Another key consideration is the impact of the suggested change on staff and patrons. Not every change will be noticeable, but increasing awareness of green credentials and achievements and educating staff, patrons and external stakeholders is a great marketing opportunity to position your business as a responsible organisation – as an employer and a venue, production or touring company. Consumers are becoming more aware of sustainability and Corporate Social Responsibility (CSR) is playing an increasingly important role in discussions of branding and corporate strategy. Corporate Social Responsibility (CSR) involves an organisation shifting from financial bottom line accounting to accounting for its social, environmental and economic impacts – which is commonly referred to as the triple bottom line. CSR should be a corporate program true to the core of the business and strategy rather than being an isolated set of initiatives. Environmental sustainability and therefore, energy efficiency, is an integral part of CSR and responds to global challenges as well as staff and customer expectations. An analysis of over 1,000 companies globally revealed that there is a strong correlation between brand strength and sustainability, which has doubled between 2011 and 2012 alone.[4]

Evidently, there is a clear upward trajectory for the return on investment for sustainability initiatives and it is important to consider the wider context of your proposed actions. The effect of increased environmental sustainability on employee loyalty, the patron's experience and your organisation's image are key arguments to consider when building your business case for change.

4 *CSRHub, 2013*

5. How Will We Create a Culture of Change?

The change process should not stop once you receive approval from the board to implement your proposed change. You should think about strategies to build a culture in your organisation that encourages top management and employees to think differently and integrate energy efficiency considerations into a range of processes and decisions. This will ensure that you have the necessary procedures in place to propose further changes without having to start from scratch every time when convincing your board. Such a strategy should be driven by data (kWh, $, CO2). You should continuously measure and benchmark your environmental performance and keep your board or sponsors, staff, patrons and stakeholders informed and engaged. Most importantly, you will need the data to take those responsible for making budget decision, be it your board, sponsors, top management, Council of Government, along the journey. It also encourages employees to come up with ideas and be part of the change.

Some key steps to drive such a cultural shift, both amongst management and staff, are:

Create a Vision & Plan

Visioning is an essential element of the change process upon which everything else is based. A "vision" is an image of the future i.e. where you want to be. It might be useful to extract a succinct statement from your Energy Policy. [5] It should state, in brief and simple terms, where you are heading and why you are going there. Use this visioning exercise to build a communication plan. A communication plan will provide a structured approach for you to inform all stakeholders – from board/ Council and senior managers to staff and other external stakeholders – of the importance of energy efficiency and the efforts being carried out in the venue. Critical information that should be shared to encourage participation and increase awareness is: Energy use, energy cost, energy savings, and financial and environmental benefits achieved from their implementation.

5 *If you do not have an Energy Policy yet, use our Management Guide on how to create an Energy Policy.*

Involving & Motivating

Encouraging participation and cooperation of staff and management should not be underestimated. Many barriers to change in environmental sustainability are behavioural issues rather than technical ones. Motivation is a core issue underlying any initiative requiring people to alter their habits and make fundamental changes to their patterns of behaviour and attitudes. The best way to keep employees motivated is to include them in decision making processes and continually seek their feedback and input to ensure cooperation and consensus from the whole organisation. You can provide for this by implementing an internal green team to champion and drive projects forward and also establish a clear communication channel via which people can put forward initiatives and ideas to improve energy efficiency.

Effective Communication

The key to communicating your change process to staff is simplicity. Complicated, jargon-filled communication can confuse and intimidate people leading to resistance to your proposed changes. The simpler and more concise the communication, the more people will understand and be excited to participate in the change. The key to keeping management involved is to communicate savings and achievements in numbers where possible. Sustainability should be a standing item on meeting agendas and you should use those opportunities to communicate back to management or board on key information that will be of their interest. That includes total energy use and cost6, total energy savings and benefits expressed in kWh, $ and CO2. Continuously communicating outcomes to all levels of management and staff will raise awareness and progressively build participatory momentum.

Motivating Staff & Management

There are several approaches you can take to highlight the benefits of energy efficiency and keep people engaged.

- Savings achieved through energy efficiency mean that more money can be spent in other areas of your venue or production such as marketing, stage design or production resources achieving better artistic outcomes.
- Use the LPA best practice case studies to show staff what other venues and production or touring companies are doing to motivate and inspire staff and management to come up with new ideas and integrate energy efficiency in processes and procedures where possible.
- Anyone in your venue, touring or production company can contribute to energy efficiency, be it the lighting designer, box office staff, top management or cleaning staff and you might get a broad range of ideas by involving different departments. You could run a regular competition for employees for the best reduction ideas to keep everyone engaged.

Communicating Benefits

It is important to consider what drives and motivates staff and management when developing your communications approach. Environmental sustainability can mean different things to different people in your organisation and the perceived value will often vary depending on the person, their position held in the organisation as well as their personal values.

For example the perceived benefits of …

- **… the Management Team** would be operational efficiency, cost savings, Corporate Social Responsibility requirements, legal compliance, positioning in market, more efficient use of resources, and staff retention.
- **… the Marketing Manager** would be public, patron and stakeholder perceptions, market positioning, and increased media exposure.
- **… staff** would be a safe and happy work environment, working as part of a team, learning new skills and gaining experience.

Empowering Employees

Wide-reaching employee participation is integral to successful cultural change. Involving all employees enhances the change vision and makes implementation easier and more effective. Staff has to be involved at every level, their suggestions for improvement have to be incorporated and they have to be appointed with roles of responsibility. Ideally, there should be regular communication, particularly whenever there is good news about results. You will also be issuing praise, collectively and individually, for good work. As a result, your employees will feel a sense of ownership of the program and pride in their association and achievements – all of which fosters a sense of empowerment.

Achieving Quick & Easy Wins

When first starting to implement changes, it is helpful to identify and pick the “lowest hanging fruit”. Implementing initiatives that are easy and require little to no capital expenditure is a great way to demonstrate the value of energy efficiency opportunities. It is important to communicate these improvements to staff, and in particular to management, to build awareness and promote the benefits of energy efficiency. Achieving quick wins will build your confidence, assure management that progress is made, boost staff confidence in the change process, and set the precedent for larger opportunities to be considered.

Consolidating Achievements & Progressing

Whilst quick and easy wins should be celebrated, there is always the risk of being swept away in the achievement of a small feat, thereby losing the urgency of incorporating larger changes. It is important that focus remains fixed on the long-term change vision; otherwise the change process will regress.

Anchoring Changes In The Culture

An organisation’s culture is a very powerful factor in influencing human behaviour and a cultural shift needs to be driven by both, management and staff. Once an organisation’s culture has been changed it is important to anchor it firmly into the organisation’s values, principals and norms. In changing culture, it is important to note that behaviours and attitudes must first be altered and proved successful before cultural change can be implemented. Keep the energy efficiency message alive by reinforcing its broad environmental benefits and cost savings and making people proud of their own efforts to be more sustainable. Shifting your organisation’s culture will create momentum that will help you in proposing and implementing new energy efficiency measures and proving your case to the board.

Templates for Options & ROI Evaluation

The following templates may be useful for evaluating and communicating your options. The templates are subject to the options you are looking at and may have to be adjusted to suit your needs.

Preliminary Evaluation

Consideration	Option 1	Option 2
Will the proposed solution effectively address the issue?		
Will it affect workplace health and safety?		
Will it affect the patron experience?		
Will it have environmental benefits?		
Will it have additional benefits?		
Will it affect artistic outcomes?		
Will it affect staff?		

Technical Evaluation

Consideration	Option 1	Option 2
Will it require external technical expertise? Is there a cost involved?		
Will it require major retrofitting or operational changes?		
Is the technology established and available?		
Is there sufficient information available to determine the ROI?		

Economic Evaluation	Currently In Place	New Option
A) kW / MJ use per day	_____ kW/ MJ	_____ kW/ MJ
B) Estimated days of use per annum	_____ days	_____ days
Total kW / MJ (A x B)	_____ kW/ MJ	_____ kW/ MJ
Total kWh (kW x hours/ 1000)	_____ kWh	_____ kWh
Operating Cost ((Total kWh / MJ hrs x Price)/1000) Check your energy bill to get an accurate price per kW/MJ.	$ _____	$ _____
Cost Savings Per Annum (Current Operating Costs – New Operating Cost)		$ _____
C) Cost of Unit Purchase/ Replacement	$ _____	$ _____
D) Cost of Installation		$ _____
E) Maintenance Costs p.a. (labour and resources)	$ _____	$ _____
Total Cost (C + D + E)	$ _____	$ _____
Annual reduction in maintenance costs (Old – New Maintenance Costs p.a.)	$ _____	$ _____
Total Savings (Maintenance + Operating Cost Savings)		$ _____
Payback Period (Total Cost / Total Savings)		_____ months/ years
Expected life	_____ hours/ years	_____ hours/ years
Purchase price per annum of life	$ _____	$ _____
Average Annual Cost (Purchase price p.a. + Operating Cost p.a.)	$ _____	$ _____

Environmental Evaluation	Currently In Place	New Option
A) kW / MJ use per day	_____ kW/ MJ	_____ kW/ MJ
B) Estimated days of use per annum	_____ days	_____ days
Total kW / MJ (A x B)	_____ kW/ MJ	_____ kW/ MJ
Total CO2 (kg)	_____ kg	_____ kg
Comparable annual greenhouse gas emissions **Comparable CO2 emissions**	Type your option's kW usage per year into the equivalency calculator available at: http://www.epa.gov/cleanenergy/energy-resources/calculator.html. Choose the comparisons that best suit your purpose. An example template to present the savings is provided below.	
Waste	This will depend on the nature of your options. You should consider: volume, recyclability and the type of waste created.	

By changing to _____ we would reduce our CO2 emissions by an amount equivalent to the annual electricity use of _____ homes.

By changing to _____ we would take _____ passenger vehicles off the road per year.

By changing to _____ we would reduce our energy consumption by an equivalent of carbon sequestered by _____ tree seedlings grown for _____ years.