



emprove

energy management
is **smart** business

Tools

A blueprint for your
Energy Management Programme

Setting up an
energy management
programme



Using Emprowe
to make change
happen

After several years' experience working with hundreds of different businesses, we've found there is a very distinct cycle to making energy efficiency changes happen successfully:



The Emprove suite of services can help you at critical stages in the cycle:

- Getting commitment. Senior managers and key players in the organisation will need convincing that making changes is both practical and worthwhile. Emprove provides case studies showing how companies like yours have implemented energy saving initiatives.
- Understanding your energy use. This involves identifying your energy use and associated costs and measuring performance. Emprove can help with:
 - Diagnostic frameworks and software tools
 - Seminars covering the why and how of energy management and technical and management topics
 - Technical guidance, information and checklists
 - Grants for facility, design and fleet audits.
- Planning and organising. With Emprove, large energy users can call on an EECA account manager who is supported by EECA's technical and research staff. EECA also has a selection of model policies and plans for different types of businesses.
- Implementing. EECA can help you with referrals to energy professionals and other sources of information covering many practical aspects of implementation
- Controlling, monitoring and reporting. The Emprove programme includes a range of technical guides on these issues. You also have the opportunity to take part in various energy-efficiency awards and in case studies for the EnergyWise News magazine which provide public recognition for your efforts.

For more information or copies of the resources visit www.emprove.org.nz

Take control of your energy inputs

Energy is a hidden cost often managed more by default than by design. Most businesses think of it as an overhead, rather than a variable input cost they can control.

The reality is it can be managed, and successfully. In fact, many businesses can look forward to savings of between 10% and 30%.

This Guide shows you how to set up an Energy Management Programme (EMP) – to Improve your bottom line.

There are two parts to this guide, published separately.

Part one looks at the high-level responsibilities that will involve top management, from policy setting and planning to appointing someone to take responsibility for the programme, and an overview of what's involved in implementing a programme.

Part two is more technical. It is intended more for the people who are tasked with actioning an Energy Management Programme. It looks in depth at the implementation process including reviewing historical energy use, setting up an energy audit and ongoing monitoring and reporting.

If you're not a senior manager, you'll see one important message coming through: it's important to get buy-in from someone in the senior management team. You may even need to seek support at Board level.

Rest assured the business case you can make for them is strong.

An Energy Management Programme in your organisation could achieve energy cost savings of 10%-30% and help insulate your company from future energy issues such as price rises. Experience also shows that focusing on energy within an organisation has positive impacts on productivity and performance. Smart business means continually working to improve the bottom line. It's about ensuring your business is making the best use of all resources. An Energy Management Programme is a key strategy that allows your business to take control of energy use.

Developing an energy management policy and strategy	2
The policy statement	2
A sample policy	3
The energy management strategy	3
A sample strategy	4
Developing an action plan: critical success factors	6
Commitment by top management	6
Clearly designated responsibility	6
Define realistic goals	6
Programme planning and implementation	7
Monitor performance	7
Appointing an energy manager/co-ordinator	8
Who should it be?	8
How the job requirements will evolve	8
A sample job description	9
Is it a full time job?	9
Where the position should be located	9
Accountability	10
More information	11

Developing an energy management policy and plan

A successful Energy Management Programme must be based on a policy set at the highest level of the organisation. A formal policy demonstrates senior management's commitment and enhances the chances of success for a number of reasons:

- It focuses everyone in the organisation towards a goal
- It acts as a catalyst for action and change
- It guides a systematic Energy Management Programme and helps ensure enough resources are allocated.

To formalise the process you need a policy statement and a strategy.

The policy statement

Your policy statement expresses broad energy management intentions and goals. It is a unique public statement which can appear in your annual reports and other company literature.

A vague, generalised statement won't inspire effective action. Without being too detailed, it should contain measurable goals specific to your organisation. It should address:

- Who has accountability for energy management
- What your overall energy performance targets are
- How you will monitor and review progress
- Human resources and training commitments
- How energy management will be integrated into wider business or continuous improvement processes
- Economic investment criteria
- Integrating energy efficiency into new capital investments
- Reporting procedures for the Energy Management Programme
- Integration with environmental policies and programmes.

To help develop your policy, use this checklist:

- Incorporate your energy vision into your organisation's vision statement or mission statement
- List the strategic issues arising from the vision statement and the impacts they make on energy
- Determine the overall goals which ensure your organisation's ability to best deal with the strategic issues identified in the previous step
- Outline processes which support and develop the goals
- Consider how the processes can be integrated into the existing corporate culture and organisational structure.

Involve, don't impose. Obtain input from staff at many levels - everyone who is affected should contribute and feel involved.

You may consider incorporating your energy policy into an environmental policy. There are synergies, but a combined policy can confuse your focus and obscure the benefits of energy management. Also, the people implementing the energy programme are likely to work in different areas of the organisation to those involved with environmental policies.

Vet the policy in the normal way, making sure it is compatible with other goals - strategic, policy and business.

Have it ratified and adopted formally into the organisation's management processes. This is essential to gain enough resources.

Ensure it has the backing of senior management. Their support, preferably demonstrated by their involvement in meetings to launch the policy and ongoing involvement, will provide a strong initial boost and help to build good working relationships between energy management staff and the rest of the organisation.

A sample policy

Use this sample as a benchmark for comparing your organisation's policy:

Our declaration of commitment

As part of our 'manage for profit' strategy, we are committed to responsible energy management and will practise energy efficiency throughout all our premises, plant and equipment, wherever it is cost-effective.

Policy

Our policy is to control energy consumption to:

- Avoid unnecessary expenditure
- Improve cost-effectiveness, productivity and working conditions
- Protect the environment
- Prolong the useful life of fossil fuels.

Objectives

Our long-term objectives are to:

- Buy fuels at the most economic cost
- Utilise energy as efficiently as is practicable
- Reduce the amount of pollution, particularly CO₂ emissions, caused by our energy consumption
- Reduce, wherever possible, our dependence on fossil fuels, through the use of on-site and renewable energy.

Immediate aims [completed by]:

- To gain control over our energy consumption by reviewing and improving our purchasing, operating, motivation and training practices [date]
- To appoint an energy manager reporting to the chief executive [date]
- To invest in a rolling programme of energy-saving measures [date]
- To set up a reporting system which gives useful, timely information to decision-makers and other staff [date].

The energy management strategy

This is the second stage of formalising a policy.

An energy management strategy outlines how you will put the policy into action. Your strategy should be reviewed periodically to accommodate changing organisational goals and businesses plans.

Your strategy may contain commercially sensitive information, and should not be for public consumption.

It should consider the following issues:

Strategic

- Long-term strategic issues and how they will be addressed
- Links with the business plan
- Viability of energy resources in the future

Management

- Energy managers and their roles
- Energy committees

Structure

- How energy management will be integrated with other management processes
- Team / divisional responsibilities
- Reporting and communication
- Accountability

Resources

- Staffing requirements and duties
- External consultants and energy suppliers

Implementation

- Budgetary resources and objectives
- Investment criteria and life-cycle costing
- Sources of funds

Reporting

- Within local workgroups
- Organisation-wide: board reports, external reports

Information

- Monitoring energy usage
- Separating energy cost centres
- Audits
- Interaction with accounting system

A sample strategy

Here's an example of an energy management strategy to help you in developing your own:

Our Energy Management Programme

Our energy management policy declares a commitment to an Energy Management Programme. This programme acts on the goals set in the policy, linking strategic goals with the business objectives of our business plan.

Implementation

The energy manager will develop an annual business plan for energy management. Working with the financial manager, the energy manager will establish and review annual funding requirements for the programme, and will sort out appropriate investment criteria and financial targets.

Responsibilities

The end-user is responsible for controlling energy consumption. The budget-holder nearest the point of use is responsible for expenditure on energy.

The energy manager is responsible for co-ordinating energy management activities, for formulating and implementing energy policy, and is accountable to the Chief Executive.

The energy management committee will be made up of representatives of each energy-consuming section, from all levels of the organisation. It will meet monthly and will be chaired by the energy manager.

Structure

The energy manager will set up an Energy Management Programme in line with our management structure and processes.

Managers will work with the energy manager to set targets for energy use in their areas. The programme will include training for energy management, marketing energy awareness and motivating staff to manage energy.

The energy manager will review any upgrades or new capital development work.

Reporting

The energy manager will provide the Chief Executive with a monthly report on energy consumption and energy management activities.

Communication

Formal communication on energy matters will also be channelled through the energy manager to relevant end-users, budget-holders, other managers and the energy management committee.

Action Plan

In the next 12 months, a costed programme of work will be prepared.

A detailed timetable with specific milestones will show actions to be handled by designated staff.

Resources

The number of energy management staff for the coming year will be [one] Full Time Equivalent (FTE) per \$3 million of energy spend.

Annual funding will be \$[specify], representing a minimum of 5% of each division's annual expenditure on energy.

Review

The energy management strategy, programme and activities will be subject to periodic review.

An annual audit of activities will be prepared on behalf of the energy manager and presented to the board, with relevant extracts circulated to managers, budget holders and end-users.

Energy management achievements will be noted in the annual report.

There are five essential elements to a successful Energy Management Programme:

- Commitment of top management
- Clearly designated responsibility and accountability
- Defined and realistic goals
- Programme planning and implementation
- Performance monitoring.

Commitment by top management

Top management's full support and enthusiastic participation must be clearly expressed and visibly demonstrated to all managers and other employees, at the start and right throughout the programme. Launch the programme with an endorsement from the chief executive. Follow it up immediately with a presentation to employees explaining the benefits of efficient energy use.

Clearly designated responsibility

Senior management must give the energy programme reasonable priority with other functions. It must be suitably resourced to perform its functions.

The energy manager will be responsible for carrying out the programme, ensuring decisions are implemented on time and be accountable for the effectiveness of the programme. Training may be required and they will need open access to the senior management team to discuss and establish targets for the programme and to report regularly. There is a separate section on choosing an energy manager on page 8.

The energy manager should appoint an energy management team including members from each major energy-using department covering all levels.

Smaller organisations can make reducing energy consumption part of regular management duties.

Where staff are in a position to control energy use, make managing energy costs one of their duties.

Defining realistic goals

Goals should be SMART ie.:

- Specific
- Measurable
- Achievable
- Realistic
- Time-based

Set energy savings goals, based on a preliminary assessment of your energy use, to provide an overall programme target. Establish a system for reporting progress towards these goals. Review the goals periodically as information about energy use becomes more accurate.

Goals should be challenging but they must be achievable. Make them realistic by comparing current performances with industry standards or calculated practical or theoretical energy requirements. Apply standards which indicate how much energy should be used for a particular application.

To maintain momentum, make sure you market initial successes, and use them to involve additional resources and effort. Success breeds success.

Programme planning and implementation

This is an overview: more specific detail on various steps in the process is in Part 2, covering aspects of implementation.

First, assess your position and the opportunities.

Start by reviewing your current and historic energy use, by assessing your previous one to three years' energy accounts.

Discuss them with your energy suppliers. Identify key opportunities for savings from alternative tariffs, seasonal and operational patterns of energy use and fuel switching opportunities.

An 'energy audit', not dissimilar to a financial audit, can help you gather savings information. It provides:

- An assessment of your energy-using status
- Opportunities for improved management
- Recommendations for process changes.

You can have an independent party audit your operations, or you can do it yourself. See 'Effective Auditing' in Part 2 for more information.

To minimise the costs and maximise the returns on your investment you need to prioritise implementation of the changes identified by your audit and analysis.

Generally it is best to start with short-term payback operational and management changes that can be implemented easily. Their impact will help you build on your initial successes and gather support for other initiatives.

Bigger changes require planning, capital investment, and careful integration into existing systems, but they too can deliver fast paybacks.

Monitor performance

To make energy users responsible for energy use and empower them to take control you need good monitoring systems that provide accurate feedback.

If you are to change the perception of energy use from an uncontrollable overhead to a variable factor of production that can be managed, it's also vital to have good information apportioning energy costs accurately among energy-using operations.

You will need to provide for continued monitoring of your energy consumption and the effectiveness of energy control processes. This is relatively easy once your energy monitoring systems are in place.

You should also assess the programme's performance in less measurable areas such as policy effectiveness, motivational and marketing ability, information systems and investment support. This will identify areas in which your Energy Management Programme has strengths, or needs additional support to be effective.

Appointing an energy manager/co-ordinator

Appointing an energy manager or co-ordinator demonstrates senior management's commitment to containing and reducing energy costs.

Who should it be?

Energy management is multi-disciplinary, requiring skills in administration, technical understanding, communications and information systems. Successful energy managers have come from a wide range of occupations, including engineers, accountants, and administrators. The energy manager should be a manager who has respect and authority across a large part of the organisation.

How the job requirements will evolve

The role of the energy manager changes as an organisation's energy management activities develop:

PHASE 1 – Gaining knowledge about your energy consumption

To start with, your energy manager identifies the business' major uses of energy and introduces 'no cost' ways of avoiding waste.

This involves:

- Identifying and quantifying energy usage by different departments
- Reviewing purchasing strategies to ensure the most appropriate type of energy is being bought at the right prices
- Examining operating practices of plant and office equipment to ensure they are being operated in the most efficient manner
- Reviewing energy awareness and training programmes to ensure all employees are familiar with energy efficiency principles

Expertise required:

- Knowledge of management of energy use and being able to manage and absorb advice on specific energy efficiency technologies related to premises, plant and controls. The candidate will also need the financial and managerial respect of the rest of the organisation's management team
- Suitable education and training

PHASE 2 - Investing in energy-saving measures

The energy manager competes for funds with other potential investment projects. They will need well-developed skills in predicting benefits and calculating returns based on the organisation's system of capital investment prioritising (eg payback period, or internal rate of return).

Expertise required:

- Accounting and investment appraisal
- Project management of energy efficiency initiatives

During the first two phases the energy manager will be effective if they thrive on setting short-term goals and enjoys the positive feedback from achieving them.

PHASE 3 - Maintaining control over consumption

In this phase the energy manager needs to establish and operate an efficient energy management information system.

Expertise required:

- Motivation, incentives, promotion and publicity
- Design and operation of management information systems, or managing outsourced supply of these services.

The emphasis is no longer on personal initiatives, but rather on overseeing the ongoing operation of the information system and ensuring the gains made in Phases 1 and 2 are not lost. The goals and objectives are longer-term than those in the first two phases. The energy manager could be located in the finance department for this more mature phase.

A sample job description for the energy manager

A good energy manager needs patience, a grasp of financial principles and the ability to work independently. The energy manager can only achieve results through the results of others, so being able to generate enthusiasm and persuade people to take an energy efficiency perspective is also important.

The energy manager will:

- Oversee the formulation and implementation of the energy policy
- Introduce systems to provide management information about energy consumption
- Report appropriate energy consumption information to accountable staff and management
- Develop policies and procedures for purchasing energy and assist with contract negotiations
- Raise and maintain energy awareness throughout organisation
- Introduce and maintain effective housekeeping and plant operating procedures
- Identify training needs for energy-related skills and understanding
- Identify opportunities for increasing energy efficiency
- Formulate an investment programme for reducing energy consumption
- Introduce and maintain procedures for evaluating energy management projects and monitoring subsequent savings

Is it a full-time job?

Only organisations spending more than three million dollars annually on energy can justify a full-time energy manager. In most businesses the position is part-time, and one of several responsibilities. However, no matter how small the energy bill, it is vital that responsibility is specifically delegated and included in a job specification.

The energy manager will only be effective if they have time to do the job. They must have time allocated on a regular basis (eg monthly) to focus on energy issues.

Where the position should be located

There are a number of options:

- Technical department. Good in the middle stages where the emphasis is on gaining control of energy consumption and costs and implementing energy efficiency activities, but less appropriate for training and energy information activities
- Personnel department. Motivation and training is made simpler from a base here, but there is a problem with technical support and credibility
- Finance department. A good base to operate the financial controls and accounting procedures from. Again, technical support and credibility can be an issue
- Chief Executive's office. In the early stages, the high profile and access to the CEO will help kick-start the programme. However, it must eventually be integrated into the mainstream management of the organisation with a more operational role
- Corporate services department. This is suitable in a large organisation with diverse operations spread over a large geographic area. It allows energy efficiency initiatives to be coordinated company-wide, and ensures that the programme and initiatives are supported at corporate level.

Accountability

The accountability of the position should be well-defined.

The energy manager should report as a standing item to the regular management meetings, or at least once a month. All financial and productivity reports to the Chief Executive should contain a section on energy management.

More information

Part 2 of the Guide has more detailed information on the steps involved in implementing an Energy Management Programme. It covers:

- Tips for an energy manager
- Motivating staff
- Reviewing historic energy usage
- Effective energy auditing
- Developing the business case
- Setting targets
- Monitoring and reporting.

You'll also find tips about setting up and implementing an Energy Management Programme, and case studies involving a range of different businesses at our web site www.emprove.org.nz



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