Module 4: Developing an Energy Policy

Organisational commitment to energy management is an essential component of any successful implementation strategy; it is also the first of the issues addressed in the energy management matrix. Module 4 focuses on policy, providing a rationale and samples of policies from successful organisations. Trainees develop a framework for energy policy in their own organisations.

Module 4 Learning Objectives

After completing this module you will be able to:
- ♦   Play a key role in the development of a corporate energy policy

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4.1   A Rationale for the Energy Policy

Many organisations, even those well advanced in energy management, have not as yet felt it necessary to have a formal energy policy. Typically, within these organisations, there is a general understanding of responsibilities and accountabilities for energy consumed, but no attempt has been made to formalise these in the form of a policy statement.

But as long as commitment to managing energy is left to operate on an unofficial or *ad hoc* basis, it can be derailed or its impact lessened by changes in personnel, whether among top managers, middle managers or those assigned as energy managers or co-ordinators. Where commitment is informal, the loss of a champion or key decision maker, at any of these levels, can undermine your energy management activities.

In addition, unless commitment is formally endorsed, there is also a danger that other priorities will crowd out the attention given to controlling energy consumption, whether in terms of managerial time or the allocation of staff and resources.

Furthermore, unless responsibilities and accountability for energy consumption are clearly written down and routinely distributed to all relevant employees, they cannot easily be included in staff performance evaluations.

Without a written policy, an organisation's attempts to manage its consumption of energy will be vulnerable to:

- ♦   changes in personnel,

- ♦   and/or alterations in perceived priorities.
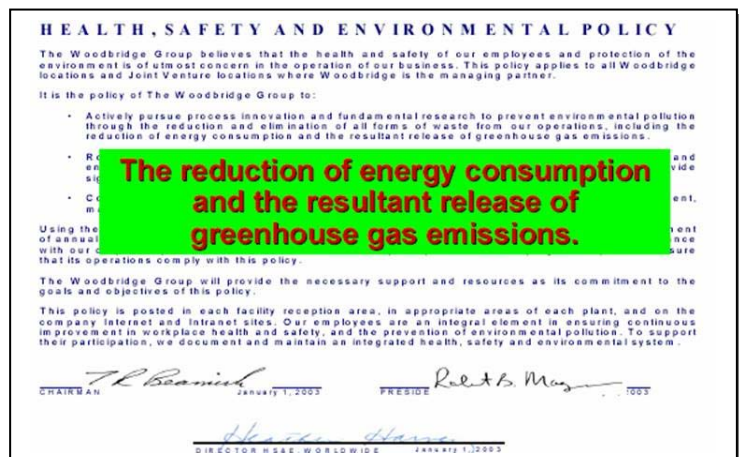
4.1.1 Purpose

A formal written energy policy acts both as:

♦ a public expression of your organisation's commitment to energy management

♦ a working document to guide your energy management practices and to provide continuity.

These two aims suggest that the policy should be published in two parts. Part 1, the expression of commitment and summary of general principles, is for publication and dissemination. Part 2, the detailed operating policy, may contain commercially sensitive information and is for internal circulation only.

For all of these reasons, it is in the organisation's best interest that its support for energy management is expressed in a formal, written declaration of commitment, accompanied by a set of stated objectives, an action plan for achieving them and a clear specification of delegated responsibilities.

There are four additional reasons why a written energy policy will benefit the organisation:

1. The organisation is likely to be more successful in saving energy if there is a clear statement of the goal.

2. The organisation will appreciate the value of energy management more if it is able to measure performance against an agreed programme and set of targets.

3. Energy management activities will be more effective if they are adequately staffed and funded.

4. Energy management is more likely to be accepted and supported throughout the organisation if it has formal backing from top management.

4.1.2 Energy policies in perspective

Energy management is only a means to a particular end—safeguarding the organisation so that it can pursue its activities without being hindered by disruptions to its energy supply or by having to bear unnecessary energy costs. The energy policy might be regarded as a means of enhancing organisational competitiveness through controlling energy costs.

Managing energy should be pursued with attention to its effects on other aspects of the organisation's operations, e.g. staff morale, productivity and plant-related health risks. Other, wider issues such as the depletion of finite resources, pollution and environmental degradation are also important. As a guiding principle, the energy policy should be expressed in ways that protect and enhance the organisation's primary objectives and other interests.

With the increasing interest of industrial companies in ISO 14001 certification, it should be recognised that energy management is an integral element of a broader environmental management strategy that may be based in this standard. Many companies that have become ISO 14001 registered began with energy and water management strategies based on their own merits, and then found that the methods and systems implemented served them well in meeting the ISO standard.

At present, because of growing concern about environmental issues, energy policy is receiving increased attention. Many countries have made commitments to reduce energy related CO_2 emissions as part of the Kyoto Protocol on Climate Change, and are expecting industry to achieve emission reductions. In South African companies, this may be a good time for organisations to adopt corporate energy policies, or co-ordination of these policies with corporate environmental strategies.
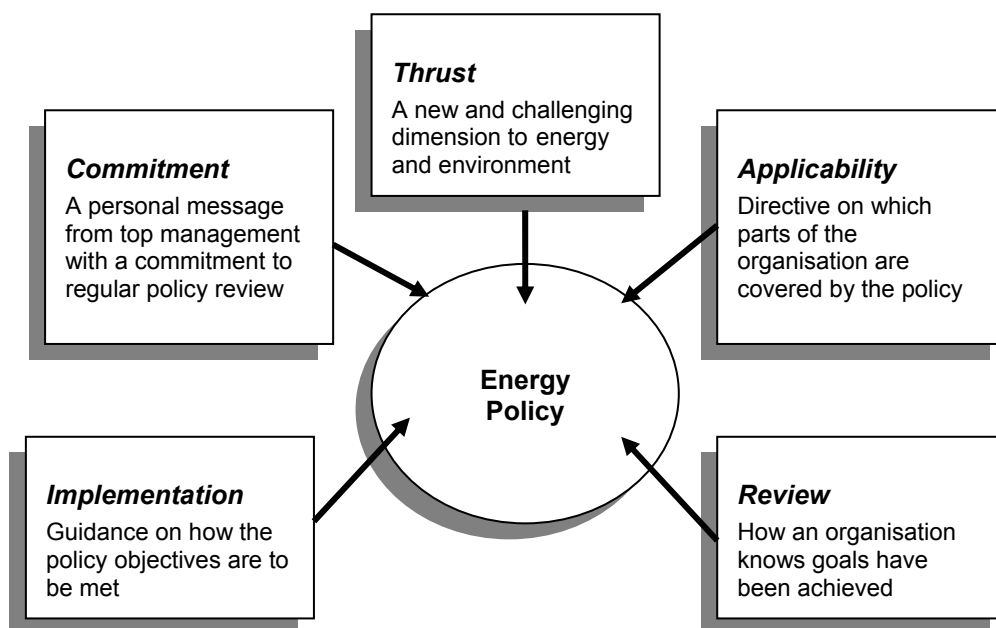
4.2 Developing the Energy Policy

4.2.1 The Elements of an Effective Energy Policy
(Reference: Good Practice Guide 186 – Developing an Effective Energy Policy, UK Best Practice Program)

As Figure 4.1 illustrates, an effective energy policy has five key elements:
 ♦ thrust
 ♦ commitment
 ♦ applicability
 ♦ implementation
 ♦ review.

It is important that the policy conveys senior management commitment, and set performance standards against which the organisation's progress towards the stated goals and objectives may be measured.

Figure 4.1: Key Elements of the Energy Policy
(GPG186: Developing an Effective Energy Policy)

4.2.2 Goals, Objectives and Targets

Energy policies articulate corporate goals, objectives and targets. It is important to be clear about the nature of these three essential components.

Policy components	Time scale	Primary staff involvement
Goals	Long-term	Top and senior managers
Objectives	Medium-term	Middle managers
Targets	Short-term	Operational staff

Figure 4.2: Goals, Objectives and Targets
(GPG186: Developing an Effective Energy Policy)

The **long-term corporate goals**, set by senior management, provide a summary statement of the organisation's commitment to improving energy performance. For example, the organisation's goals related to energy efficiency might be:
- reduce operating costs through energy efficiency
- minimise greenhouse gas emissions
- minimise environmental impact of the organisation's operations
- optimise energy security.

Medium-term objectives indicate in more specific terms how the organisation will progress towards its goals over the next two to five years. The objectives will focus on the various aspects of organisational function that impact on energy performance, for example:
- plant operations and maintenance
- financial management
- purchasing
- human resources
- internal and external communications
- investment practices
- information management.

For example, the organisation's objectives might be:
- set and publish energy performance targets
- monitor and evaluate performance levels
- implement an energy monitoring and targeting system
- make business unit managers responsible for energy consumption
- review and assess energy tariffs and supply contracts
- establish a budget for supporting energy efficiency improvement
- reduce energy consumption by x% over five years.

Targets express in specific, measurable terms what the organisation will strive to achieve in the short term, for example in the next planning cycle or fiscal period. They will normally be stated as reductions in energy units, energy expenditures, energy intensity, or, perhaps, GHG emissions.

For example, target statements might be:
- reduce energy costs by x% in the next 12 months
- reduce energy consumption (GJ or kWh) by y% in the next 12 months
- reduce CO_2 emissions (tonnes) by z% in the next 12 months.

4.2.3 Sample energy policy contents

Part 1

1.   Mission statement
2.   Declaration of top management's commitment to, and senior and middle management's involvement in, energy management
3.   Statement of policy
4.   Statement of objectives, separated into short and longer term goals

Part 2

5.   An action plan, specifying a time-tabled programme of work
6.   Costed resource requirements, including staffing complement, investment and training needs, necessary to achieve the programme
7.   Assigned responsibility and accountability for actions outlined, specifying individuals by name and position
8.   Description of any energy management committee's responsibility, structure, membership and reporting mechanisms
9.   Named committee representative for each department and specification of internal and external lines of communication
10.   Statement of review procedure, defining milestones and mechanisms for assessing overall progress and value for money, as well as appraising the performance of individual members of staff.

The language of the policy statement can be very succinct. For example:

♦   The mission statement might read like the following (from ICI PLC):

"It is ICI's policy to manage all of its activities so as to ensure that the consumption of energy and natural resources is reduced to a practical minimum."

♦   The declaration of commitment might say:

"As part of our environmental strategy, this organisation is committed to responsible energy management and will practice energy efficiency throughout all of our facilities, plant and equipment, wherever it is cost-effective to do so."

♦   The policy statement might be:

"The policy of this organisation is to control energy consumption in order:
  o   *To avoid unnecessary expenditure*
  o   *To improve cost-effectiveness, productivity and working conditions*
  o   *To reduce greenhouse gas emissions, and protect the environment generally*
  o   *To prolong the availability of fossil fuel reserves."*

♦   Some goals might be stated, such as:

  o   *To buy fuels at the most economically advantageous cost*
  o   *To burn and use fuels as efficiently as is practicable*
  o   *To reduce the amount of pollution, particularly CO_2 emissions, caused by our energy consumption*
  o   *And, to reduce, wherever possible, our dependence on fossil fuels through the use of renewable energy, including recovered energy in the plant.*

♦   And finally some immediate objectives might be identified, such as:

  o   *To gain control over our energy consumption by reviewing and improving our purchasing, operating, motivation and training practices*

       o   *To invest in a program of energy saving measures which will maximise returns on investment in order to generate funds which can be re-invested, in whole or part, in further energy management activities*

       o   *To sustain these energy efficiency gains by establishing and maintaining a management information system designed to ensure that information is delivered to those who need it, on time, and in a form which supports their managerial decision-making.*

*(sample policy content adapted from **Aspects of Energy Management, General Information Report 12, BRECSU, 1998**)*

4.2.4 Devising the policy

How the energy policy is actually drafted will depend to some extent on the organisation's corporate culture and management style. Figure 4.3 relates this process to the four corporate cultures we met previously.

Corporate Culture	Appropriate Formulation Process
Entrepreneurial	Top down
Team	Bottom up
Hierarchical	Top down
Market	Top down and middle out

Figure 4.3: Corporate Culture and Policy Formulation
(GPG 186)

However, the policy is more likely to get wide acceptance if all the parties affected by it have been given the opportunity to contribute to its formulation. The policy document may be collated and drafted by the designated manager, but it should be vetted and amended by an inter-departmental committee. Departmental representatives should be invited to make submissions to this when the policy is first formulated and then again whenever it is reviewed.

This consultation period is the time to start building commitment to the policy throughout the organisation. Ideally, each vested interest group—for example, plant operations, finance, purchasing, human resources, marketing and sales, corporate communications and information services—should feel that the policy is reasonable and that they have a stake in it. Above all, any sense that the policy is being imposed without consultation should be avoided.

4.2.5 Ratifying the policy

Once the policy has been drafted, it is important that it be formally adopted and ratified to avoid any difficulty gaining access to the funds needed to support energy management activities.

Usually the managing board must formally endorse the policy. Then copies of the document should be circulated to all the departments and interest groups concerned, and meetings should be held to explain the policy and its implications. The aim here is to build commitment to the policy goals and objectives among those people whose actions can help or hinder success. These meetings should also be used to identify, in detail, any marketing or training activities required to make sure the policy gets implemented.

4.2.6 Monitoring Performance

In most corporate environments, there is a policy review and updating process that requires an assessment of performance related to the policy in question, policy revision if necessary, setting of new goals and targets, and recommitment. The frequency of and procedure for policy review is normally included in the policy documents.

The monitoring of energy performance is a business management process that we address in detail in Module 7. Suffice to say at this point that detailed, statistically valid data on consumption and the independent variables that drive consumption (production, for example) need to be collected and analysed. This activity is both a day-to-day operational control measure, as well as, in summary form, a means of assessing the impact of the energy policy and the actions that arise from it.

As a policy review strategy, the key product of the monitoring process is a clear indication of the organisation's progress towards its long-term corporate goals, medium-term objectives, and short-term targets.

The periodic policy review will likely lead to the production or reports—typically annually—on energy performance and the achievement of those goals, objectives and targets.

Case Study: Imperial Chemical Industries PLC
(GPG 186: Developing an Effective Energy Policy)

ICI is a British multi-national with sites in Europe, North America, Australia, Japan and elsewhere. It manufactures a wide range of products including industrial chemicals, paints and coatings, acrylics, and polyester films. Corporate restructuring in the 1990s led to a number of management initiatives including a new approach to energy management.

ICI has an environmental policy, and subscribes to the principles of "Responsible Care", a programme implemented by chemical industries in many parts of the world. The two main environmental responsibilities articulated by ICI are:
- ♦   to be prudent in its use of the world's natural resources by minimising waste
- ♦   to provide customers with goods produced in an environmentally sound way.

In 1990, these principles—or goals—were expressed in the form of four objectives:
1. to reduce to a minimum the environmental impact of new plants by use of best environmental practice within the chemical industry
2. to reduce waste by 50% by 1995, using 1990 as the baseline year
3. to establish a revitalised and more ambitious energy and resource conservation programme with substantial progress by 1995
4. to encourage recycling with its businesses and with customers.

Objective 3 of course addresses energy management, but it also recognises the beneficial impact of other conservation measures (for example, there is an energy impact to the reduction of waste because of the intrinsic energy in the waste material).

Worksheet 4-1: An Energy Management Action Plan – Policy Development

Item No.	Action	Measured Outcome	Accountability	Resource Needs	Start	End