Module 6: Training and Communicating for Energy Management

Two of the functions assessed in the energy management matrix are related to each other in some respects: training for skill development and communicating to heighten awareness of energy management priorities often arise from the same areas of the organisation. This Module considers a number of the critical concerns in successful training and communication programs, and offers another matrix as a tool for planning.

Learning Objectives: Module 6

After completing this module, you will be able to:

- Plan and implement internal and external communications strategies for the energy management programme
- Plan and implement personnel training programmes
- Provide advice on the motivation of staff in support of energy management goals.

6.1 Working Definitions of Training and Communications

There are numerous definitions that are used to explain education, training and communications. For the purposes of this analysis, the following definitions are used:

- "**Training**", is a learning activity that involves the interaction between a learner (trainee) and a curriculum (a deliberate presentation of knowledge and learning activities) in order to achieve a measurable change in the behaviours of the trainee; these changes may include the demonstration of new skills, new attitudes and values, or other attributes. As a general rule, the primary purpose of training is to **develop new competencies**, recognising that other outcomes such as awareness and attitude change may also be achieved;

- "**Communication**", is an information transfer process that is essentially one-way—from the sender to the receiver; its purpose tends to be the creation of awareness, engagement of the individual with the message, and the provision of information required for further actions on the part of the receiver. For the purposes of this discussion, **the primary purpose of communication is to create awareness.**

There are two cause and effect relationships depicted in Figure 6.1: for energy efficiency, training leads primarily to competencies, and communication leads primarily to awareness.

While the definitions suggest distinction, in practice the lines between the actions of training and communication are often blurred. As suggested by the graphic below, there exists a continuum of outcomes ranging from pure awareness to pure competency driven by a range of actions spanning the spectrum from communications to training. However, there is crossover of action and outcome. At times, training may only generate awareness, while for early adopters, good communications can stimulate competency.

Although the main function of energy management is to control energy consumption and provide information to support decision making, there is also a need to promote

energy management and related activities. Promoting energy management involves the following key objectives:

1. raising awareness of the importance of energy efficiency to cost control and environmental conservation

2. promoting energy efficiency measures

3. publicising achievements in energy management inside and outside the organisation.

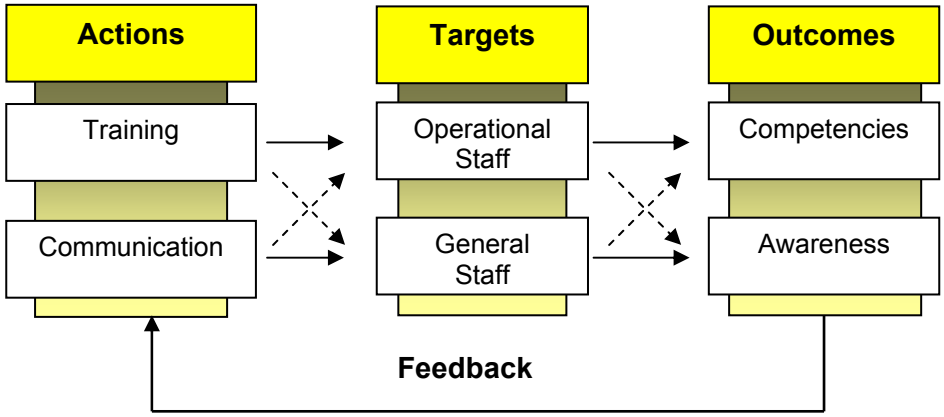

Figure 6.1: Training for Competencies, Communication for Awareness

6.2 Communications Initiatives

An energy manager is involved in selling energy management as an activity at a variety of different levels:

- senior management
- budget holders
- plant and premises managers
- general staff

There is a need to engage the attention of each of these groups and motivate them to follow advice and adopt better practice. In particular it is important to promote respect for energy management and increase its take-up.

6.2.1 Selling

To be effective, the energy manager needs to sell himself and energy management as a corporate priority.

Few energy managers will have formal training in selling, but it is a skill that can be learned and applied as readily as technical expertise. Selling, more than anything, is about sincerity and a belief that what is being offered has value.

The first step is to identify those key individuals who can be helped in the effort to reduce energy consumption. During the selling phase, the technicalities of energy management come second; first it is important to gain people's confidence.

6.2.2 Internal relations

Public relations are something most of us do without thinking—that is, we try to present a favourable image to the world. Internal PR means keeping the work force informed and involved. It implies good communications between management and staff. A regular period for discussion, for example with groups of energy representatives, budget holders or members of an energy committee, can be used to maintain this communication.

6.2.3 External public relations

Many companies want to capitalise on any corporate activity that improves their image in their marketplace. Demonstrating the attributes of a good corporate citizen, by implementing measures that protect the environment for example, is something that should be made known to the company's customers and community. This is a function of external public relations.

A variety of vehicles exist for publicising the organisation's energy activities, including trade journals or local newspapers. This does not need to be a formal press release, but rather simply the result of a call or note to the local media.

6.2.4 Types of Communication Initiatives

When considered in its broadest sense, a communication strategy could encompass management information systems in their role of providing operational information to those in the organisation who need to make decisions. In the context of this Module, however, the scope is limited to communication for the purpose of creating awareness of energy efficiency as an issue of importance to the organisation.

Successful communication strategies include:

- are designed to meet clearly articulated goals and objectives;
- respond appropriately to existing levels of awareness, as determined in a needs assessment;
- exploit existing lines of communication in the organisation;
- clearly identify the target audiences and the messages that are likely to appeal to them;
- utilise a variety of media to effectively reach the audiences;
- are regular and ongoing;
- are evaluated to determine their impact.

It is more difficult to categorise communication strategies than is the case for training. Communication tools that are often found useful include:

- focused articles in existing internal newsletters;
- special fact sheets addressing aspects of energy use;
- special, formal announcements from senior management;
- small, work group meetings, facilitated to enable discussion of the issues;
- special events like "Energy Days";
- posters, stickers, calendars and other reminders;
- catchy slogans, used to create a theme for all communications tools, such as memo pads, reminders, etc.
- progress reports as energy efficiency measures are implemented;
- messages to link energy efficiency at work to energy efficiency at home;
- rewards and incentives to engage staff in the effort, and "hot lines" to enable them to make input;
- monitored feedback of the results "reporting on success".

6.3 Training

Training that pertains to energy management takes many forms, depending on who are the targets. Training includes the complex technical issues that relate to energy efficient technologies. But it also includes the training of general staff to create:

- Awareness of energy efficiency as a corporate priority
- Understanding of the issue
- Commitment to achievement of goals
- Understanding of personal impact on energy consumption

There are many ways to approach training at this level. The important principle is that the development of a staff training program requires some considerable thought about the present needs, knowledge and attitudes of staff. Devices such as the Energy Impact Assessment, included at the end of this Module, are useful tools to develop a picture of the current situation.

Energy forums, training days, seminars and talks all offer opportunities to create energy awareness and to build commitment. Energy managers can make presentations to all kinds of gatherings, for example: board meetings, management team meetings, seminars for budget holders and middle managers.

6.3.1 Types of Training

Training involves the delivery of a curriculum designed to impart knowledge and develop skills as its primary purpose. Training may also include elements intended to create awareness of energy efficiency as a precursor to effecting learning. How these two key elements, curriculum and mode of delivery, are carried out varies. It is convenient to categorise training in one of the following types:

- formal, facilitated, short-term, face-to-face sessions—workshops for example—with the development of specified competencies as the primary purpose;
- courses designed to meet the requirements of some kind of recognised certification or licence to practice;
- longer term, usually institutionally-based, continuing education programs;
- independent study programs.

These are not all mutually exclusive; for example, some certification programs involve a preparatory course delivered through independent study. Each type of training has its pros and cons in regard to:

- level of support provided to the learner;
- flexibility regarding the circumstances of delivery (number of participants required, timing, location, time frame for completion, etc.);
- accessibility (for example, web-accessed)
- degree of customisation possible;
- ease of skill transfer to the workplace.

6.3.2 Motivating Personnel

(Reference: General Information Report 12: Aspects of energy management, UK Best Practice Programme)

Unless people are motivated to contribute positively to energy efficiency, the organisation will find it difficult if not impossible to achieve its goals. In general, a strategy for motivating staff needs to:

- answer the question "what's in it for me?"
- build commitment to achieving the corporate goal
- demonstrate the importance of energy efficiency
- involve people in the process
- provide a means for feedback to be received and acted upon
- be based in effective communication
- accomplish "attitude adjustment".

We have already established the view that energy management is multi-dimensional, encompassing more than just technology. However, the view still prevails that user interference with the functioning of a plant is a bad thing, and that the object of energy management is to minimise the impact of user behaviour by automating energy systems. Although it is true that better controls on systems can dramatically improve energy efficiency, removing all control from plant workers can be counter-productive. People find ways of circumventing automatic systems; they leave windows and doors open, they leave lights on or motors running when not needed and they tamper with controls and alter settings.

The problem is that, for most people, energy efficiency has a low priority. To motivate people you have to translate the organisational goals—as expressed in policy and other statements from management—into things that they want to do. This involves not only creating awareness and understanding of the importance of energy efficiency, but also relating the issue to the individual's own concerns, experience and values.

There are many ways to do this, such as:

- ensuring that people get something out of what you propose
- giving rewards and/or recognition for energy savings achievements
- linking energy savings to the individual's own welfare (for example, jobs that remain viable because the company is more competitive).

Motivation is whatever induces people to act voluntarily in a certain way and then to persist in the face of difficulty. People are motivated in the work place by a multitude of factors, such as:

- financial rewards
- job security
- job enrichment
- peer pressure

- public recognition
- increased responsibility and greater autonomy.

These and other motivators can be used to gain the involvement of people in energy management. For example, bringing public attention to the energy savings accomplished by a plant department can enhance the reputations of the individuals involved, and bring even more satisfaction--and further motivation--than would a financial reward.

Most people want to do a good job, and respond positively to the challenge and the opportunity to manage their affairs. For example, giving operating units or departments responsibility for managing their energy use (as in the energy accountability centres discussed later) is also a powerful motivator.

6.3.2.1 Whom you need to motivate

There are five categories of people who need to be motivated. Each group will have a different interest in energy and will therefore need to be motivated in a different way.

1 Senior managers
The main motivation of senior managers is to improve the performance of the organisation through cost reduction and increased profitability. They will respond to evidence that energy management measures are paying off; this is one of the functions served by M&T, which is addressed in Module 7.

2 Middle managers
The obvious way to motivate middle managers is to make them budget-holders responsible for controlling energy costs. Their motivation to reduce energy consumption will then depend on what happens to any savings on the energy budget and how budget is set for the succeeding year.

In some organisations budget holders are able to retain a proportion of savings on energy and shift it to other cost centres, for example, new equipment or additional staff. If any budget surplus is clawed back and budgets for the following year proportionately reduced, there is no incentive to save, especially if budget holders are worried that energy consumption may suddenly rise again as a result of some uncontrollable factor.

Clawing back savings is not always a disincentive, however. In some organisations cost reduction alone is a sufficient incentive to middle managers even though all savings are returned to the general revenue. The approach here is to integrate energy management into the general resource management and to report performance in the same way as all other costs.

3 Key personnel
These people have direct control over plant operation, and may include plant managers, maintenance staff, boiler operators, and so on. To be convinced that controlling energy consumption is important, key personnel will have to measure their own personal performance and job satisfaction in terms of increasing the energy efficiency of the plant they control.

Their success will also depend on how much spare capacity their job situation allows them and on how much autonomy and discretion they have to order their work. If they are working at full stretch to maintain the operation of plant or premises, then their main aim will be to prevent breakdowns and avoid complaints from building occupants.

If key personnel are undervalued by senior managers, ignored unless something goes wrong, have no budget for even the most basic investment in energy efficiency measures, and are subject to blanket directives to reduce energy costs by some arbitrary percentage, then they are likely to be extremely difficult to motivate.

However, if they have adopted energy efficiency as a personal goal, if they get support, recognition and funding from senior management, and if they get the technical back-up they need, then they are more likely to involve themselves in energy management objectives.

4 General staff
In trying to motivate staff, environmental considerations may be as significant as saving money. Calculate the impact of your energy saving on CO_2, and sulphur emissions. Present this in terms of global warming and acid rain.

As noted earlier, other useful arguments include the benefit to staff of having a stronger, more competitive company--for example, in terms of job security and wages.

You may not need to speak to each member of staff personally, especially if you can provide unit managers with the necessary material to motivate their staff. If appropriate, include energy efficiency in staff induction programmes and use your organisation's communication vehicles to recognise each department's progress in energy conservation.

5 Energy management '"Champions"
The people who are leading the energy efficiency cause need to be motivated themselves if they are to motivate others.

Motivating influences for this important category of personnel might include:

- having clear goals, discrete assignments, measurable outcomes
- being presented with the opportunity to meet new challenges
- being able to work with others as a team to accomplish shared goals
- having the opportunity to learn new skills and knowledge and thereby to enrich their jobs
- receiving recognition for contributing to the strength of the organisation through their participation in energy management.

6.3.2.2 Training or Motivating?

As we have discussed, there is a fine line separating training and communications, and now we might suggest that both potentially contribute to motivation. One of the barriers to being motivated in regard to a corporate objective is lack of understanding about it. Understanding comes from knowledge about the issues and the solutions, and knowledge is developed by relevant training and communications.

In our Energy Management Matrix, we have a column that addresses employee knowledge and skills, in the belief that this characteristic of the organisation can be more easily assessed than can the level of motivation, or the strategies that are intended to increase motivation.

6.4 Planning for training and communication initiatives

Training and communication initiatives need to be well designed to be successful. However, the effectiveness of well-designed training and communication initiatives depends to a degree on the environment in which they are implemented. New competencies will not achieve any improvement in the energy efficiency of an organisation if the organisation does not regard energy efficiency as a corporate priority, does not structure itself in such a way that

proponents of efficiency improvement are able to make and influence decisions, does not measure the impact of these initiatives and use that information to refine future actions.

The four key success factors (KSF) and their definitions are:

- **supportive context**: the organisation regards energy efficiency as a corporate priority, and acts accordingly
- **program design**: the training and communication initiatives are well-designed
- **individuals and relationships**: proponents of efficiency improvement are able to make and influence decisions
- **measurement of outcomes**: the organisation measures the impact of these initiatives and uses that information to refine future actions

The matrix in Worksheet 6-2 provides a model for assessing proposed initiatives against these four key success factors.

Proponents of training and communication initiatives should evaluate these key success factors as they currently exist in their organisations. The descriptors provided in the matrix cells provide a means of developing a "profile" for the organisation in regard to these initiatives (just as the "energy management matrix" provides a profile describing the preparedness of the organisation to undertake energy management in general).

As is true of the energy management matrix, a higher level for any one of the KSFs represents a greater sophistication or level of development in the organisation on that factor. As a general rule, it is good to strive for a balanced profile, located as high as possible in the matrix.

6.4.1 How much should you spend on training and communicating?

Whether measured in time or money, there is a cost to training and communicating (there is a higher cost to **not** training or communicating, however). Promotion needs to be recognised as being not only valid but also essential. This means it should be programmed into your time and adequately resourced. Marketing has to be explicit - recognised, recorded, costed and funded. So:

- work out what is required
- what resources are needed
- how to supply it
- how to fund it.

The question of investment and funding for energy management is addressed in Module 8. There is a widely held view that energy management can fund itself, through the utilisation of savings that arise from the measures that are taken. The point here is that the cost of communicating should be incorporated into the cost picture along with other aspects (such as technological or operational measures).

Two rules of thumb for how much time and money you should devote to communicating are:

1. perhaps as much as a fifth of your time; certainly not less than a tenth

2. initially about 10% of your budget, settling back to 5% after the first year or two.

6.4.2 How can you keep up the momentum?

Once you start getting results, you will want to keep the momentum going. The point is that you are keeping energy management in the public eye. By raising the profile of your activities you are ensuring that energy management has a long-term future.

The important point is that your communications strategy should have both a short-term and a long-term component. The natural tendency for people in any change process is to lose enthusiasm and interest over time. However, if you are able to find fresh ways to present information and engage staff in the process, your chances of having energy efficiency incorporated into the organisational culture are greater.

Worksheet 6-1: Energy Impact Self-Assessment

The following exercise is intended to help people in the organisation gain an appreciation for their own impact on energy use.
This is a series of questions designed to stimulate the respondent's involvement in finding savings opportunities:

1. List as many pieces as possible of energy-consuming equipment or systems that are involved in your day-to-day activities.
2. Rank these as high, medium or low consumers of energy.
3. Now rank your list as high, medium or low in regard to your impact on the amount of energy that they consume.
4. Now identify the actions that you take, or not, that result in energy being consumed or not?
5. Indicate for each whether or not you have been trained in efficient operation or use of the equipment.
6. Indicate whether or not you have knowledge of the effective and efficient operation of this equipment that you could share with others?

Energy consuming equipment involved in day-to-day activities.	**Energy use. Low / Medium / High**	**Your impact on Energy Use: Low / Medium / High**	**Energy Impact Actions**	**Have you ever received formal training or instruction on this equipment?**	**Do you believe that you have knowledge of the effective and efficient operation of this equipment that you could share with others?** **If Yes, please describe.**

Worksheet 6-2: Training and Communication Key Success Factor Matrix

Level	Supportive Context	Program Design	Individuals and Relationships	Measurement of Outcomes
4	Comprehensive policy on energy use practices, actively supported by senior management and key organisational functions—HR, financial, technical—encompassing all practices that impact directly and indirectly on energy use. ❒	Systematic design process utilised, based on deliberate assessment of needs and circumstances of targets, providing regular, ongoing intervention to achieve clearly understood and articulated outcomes as integral element of overall energy management strategy. ❒	Energy management fully integrated into management structure; clear designation of responsibility for energy use practices and consumption. ❒	Regular quantitative assessment of procedures, values & attitudes, energy use indicators, vis à vis program objectives, with mechanism to refine program design as needed. ❒
3	Basic policy objectives actively supported by key organisational functions. ❒	Deliberate needs analysis applied to design of customised program for clearly articulated outcomes. ❒	Energy manager accountable to energy committee representing all users, chaired by a senior line manager. ❒	Feedback of M&V information to the program design process. ❒
2	A basic adopted policy on energy use practices, with general awareness as part of the organisation's policy structure. ❒	Ongoing training and communication adapted to organisational needs and circumstances on the basis of subjective, anecdotal evidence. ❒	Energy manager designated, reporting to ad-hoc committee, but line management and authority are unclear. ❒	Application of some form of M&V on energy performance, not specifically keyed to program outcomes. ❒
1	Guidelines respecting energy use practices informally incorporated into job descriptions and procedures. ❒	Ongoing training and communication using "off the shelf" programs, in parallel with other energy management initiatives. ❒	Energy management the part-time responsibility of someone with only limited authority or influence. ❒	Intuitive sense of program impact on part of EM based on anecdotal evidence. ❒
0	No organisational recognition of energy as manageable or an organisational priority. ❒	Sporadic use of "off the shelf" programs without clear determination of their fit to needs. ❒	No energy management or any formal delegation of responsibility for energy consumption. ❒	No effort to assess specific outcomes of training and communication initiatives. ❒

Worksheet 6-3: An Energy Management Action Plan – Training

Item No.	Action	Measured Outcome	Accountability	Resource Needs	Start	End

Worksheet 6-4: An Energy Management Action Plan – Communications

Item No.	Action	Measured Outcome	Accountability	Resource Needs	Start	End