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EID Toolbox

Energy Management Workbook and Toolkit

Management Concept to the eco-industrial Development of Philippine Economic Zones, Philippines

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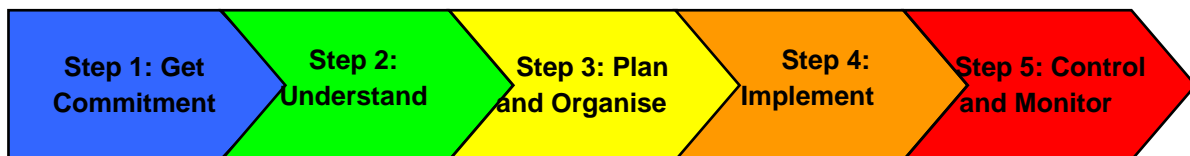
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EID Toolbox

Energy Management Workbook and Toolkit

Created by Mike Birks following work on the PEZA/GTZ EID Project in
Mactan Economic Zones, Cebu, Philippines



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Introduction

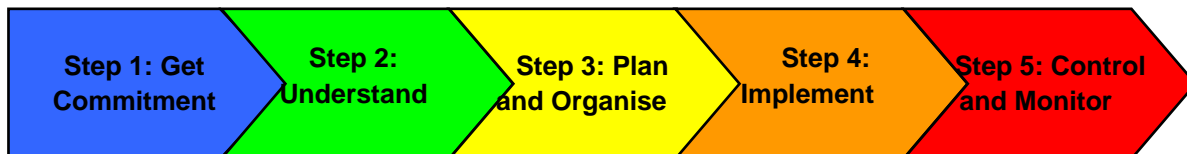
This *Energy Management Workbook* is designed to provide an easy path through the process of setting-up and operating an *Energy Management (EM) Programme*. Follow the key steps below which will guide you through the process. At various stages within the *Workbook*, references will be made to '*Toolkit Items*' - these may be publications or presentations etc. and will either take you to other pages in this *Workbook* or to *Internet web pages*. A detailed list of *Toolkit Items* is provided in the appendices.

If an industrial zone is wasting energy, it is causing avoidable pollution primarily through increased carbon emissions leading to climate change, whilst contributing to the problems associated with dwindling fossil fuel reserves. Wasting energy also reduces company profitability, for every Peso saved on energy costs, most Philippines companies would have to make 10 Pesos of sales to make the same Peso of profit.

While an *EM Programme* might be geared towards energy and CO₂ savings, selling the *EM Programme* to locators might best be achieved through selling increased profitability.

This *Energy Management Workbook* identifies the key design features and structure for an *Energy Management Programme*. Links are made between this *Workbook* and an *Energy Management Toolkit*, all the items of which have been developed during the EID PEZA GTZ Project in the Mactan Economic Zones.

Designing and operating an *Energy Management Programme* is a 5 step approach.



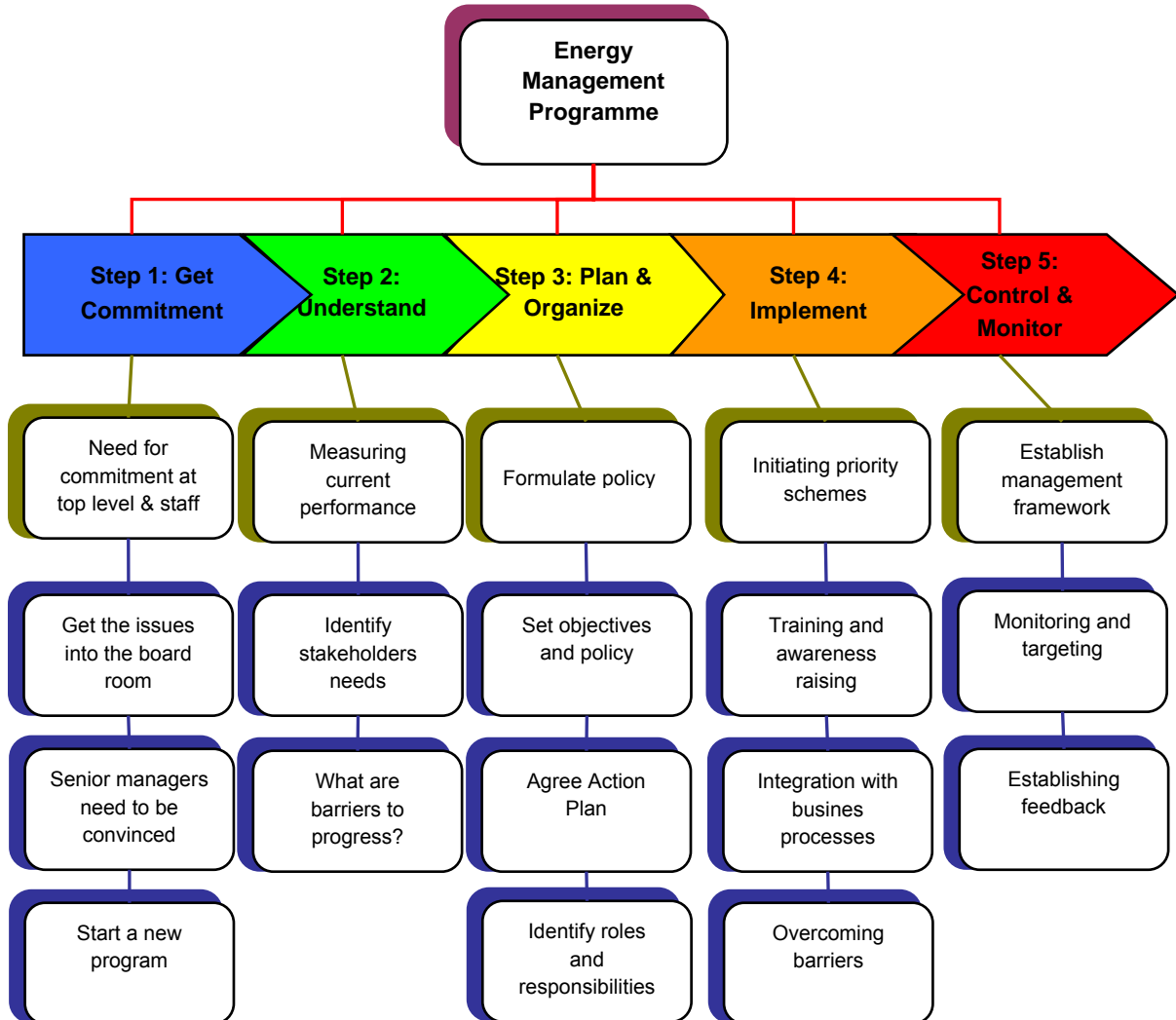
The workbook gives orientation on the sequence of steps.

At the right rim of each page it is always indicated which step is discussed.

Essential information / working steps are always given in yellow boxes.

1 What is an EM Programme?

The five step approach can be broken down further into a programme that will look like this:



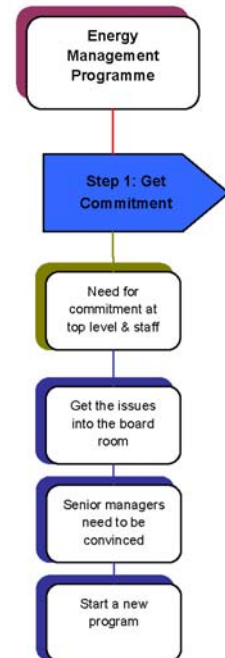
Each of the steps identified in the diagram will be described in more detail in the following pages.

2 Step 1: Get Commitment

Sequence of work steps

There are some simple steps which are shown in the diagram that need to be taken to gain the commitment of companies or locators before the EM Programme should start.

Energy Management Toolbox for gaining **Commitment** can be found at the end of this chapter and in **Appendix 1**.



Getting Commitment		
Action	Methodology	Who
1	Write a letter to all locators / company CEO's detailing what an EM Programme is and how they will gain from it, e.g. energy savings, costs, incentives etc. Ask for a commitment by the CEO's.	PEZA
2	Market the idea in the press, PEZA web pages, etc.	
3	If enough companies are interested, arrange an EM Programme 'Launch Event' in the zone. Include a sign up ceremony for those companies who have committed which should include agreeing to provide data, see section entitled 'Understand' later in this workbook. The event should provide some short presentations detailing what the companies or locators will gain.	
4	Start the programme	

Essentials

- **Minimum number of companies participating**

In order to be successful, an *Energy Management Programme for an Economic Zone* requires commitment by enough companies (locators) to make the programme worthwhile.

Suggestion: 20% of companies of the economic zone at a minimum

- **Locators meeting**

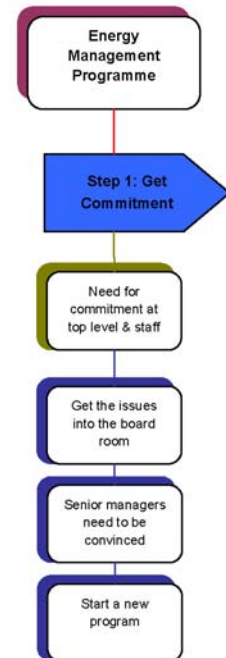
A meeting of locators to get a vote of agreement for the programme is the first step. This workbook gives details of the necessary steps and gives some help to those who are making the decisions to start an EM Programme.

Commitment at top level & staff - Why?

Commitment at top level is necessary or it will not work. Locator representatives will participate in the programme if encouraged to do so from the top level.

Strategy to achieve

1. To start the EM Programme, **identify an existing meeting or convene** all top managers or leaders to a 'Launch Event'.
2. At the meeting it is **important to emphasise what the EM Programme will help to provide**. The EM Programme administrator should prepare a short Powerpoint presentation to promote the EM Programme start-up (an example presentation is available in Appendix 1).
3. A **signing up ceremony** should also be included in the Launch Event so that company chairmen or managers who are keen to take part, show their commitment at an early stage.



Arguments and Materials

Main Arguments

- **Cost savings** through energy reduction, some companies (locators) can expect to save up to 25% of their total energy bill.
- There will be **good environmental savings** (CO₂) which will result from the energy savings, which the company can use to show they are an environmentally conscious organisation.
- There will be **reduced waste**. By paying attention to reducing energy, other waste streams will be reduced which will also help the company save money.

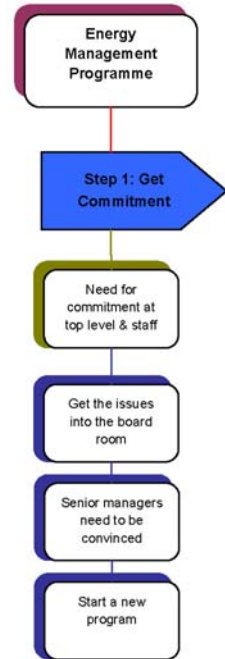
1. **Energy Management for CEOs** (Powerpoint presentation) This presentation is designed to be given to top managers and is aimed at encouraging them to take part in the programme. It provides some incentives that could be used to encourage companies to take part and sign up for inclusion in the EM Programme.

2. **Financial Savings:** Financial savings through energy reduction will be the main driver at boardroom level.

While CO₂ savings might help a company profile, financial savings will provide the biggest incentive to participate. The presentation identified above focuses on financial savings and to a lesser degree, emissions and waste reduction.

The key to demonstrating this is to show what impact 10% energy savings might have on company profitability. Also, if for example a company uses 2.8% of its turnover on energy, 10% savings represents significant sales. It is always best to have a **Case Study** to show what others have done and in the case of the Philippines, a shining example is **Halsangz Plating Company** who set a goal of making 8% energy savings in one year. More details are below.

3. **Case study material** is one of the best ways of convincing top level staff, because the success of others will help gain acceptance of the programme and participation.



The Philippine locator **Halsangz Plating Company**, Mactan, Cebu identified a need to save energy and costs and in order to achieve this, they arranged a brainstorming session with senior staff to identify the prime opportunities, which were:

- There was a lack of awareness of energy use and cost by staff
- Some machinery was not running efficiently
- There was poor monitoring and control of energy

Halsangz agreed a programme of energy management which included an awareness campaign managed by an Energy Champion. The programme took the following form:

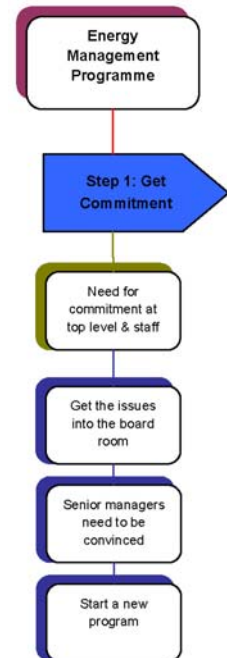
- An Energy Audit - over just one day the audit provided some useful advice on where savings might be available.
- Developing a written Energy Policy
- Generating an energy campaign logo
- Forming an energy committee and taking action to implement savings
- The committee agreed that there were opportunities for savings through improvements in lighting, air conditioning, environmental plant (scrubber), compressors and process optimisation

As a result of their work, the Halsangz energy team made savings of 8.54% worth xxxPhP.

There are many more examples of companies where a good energy management campaign has made significant savings

through changing staff attitudes and good housekeeping. Making a company commitment to energy efficiency through an Energy Management Programme has led to 15% energy savings for many companies.

4. One way of encouraging companies to join an Energy Management Programme is to perhaps **offer incentives**, two examples are given below:
- **Reduction in transmission and distribution (T&D) charge:** PEZA normally ask for a contribution towards T&D and this is usually a fixed percentage. By offering a reduction on the T&D charge, the company (locator) gains financially through both energy reduction cost and charges and PEZA would gain through reduced cost of infrastructure (energy savings reduce energy demand).
 - **Pursuit of Excellence in Energy Management Award:** This has been trialled in Mactan, Cebu where companies have been awarded recognition with a trophy for their hard work in EM.



Once all the above areas have been 'ticked' (✓), this is the time to Start the Energy Management Programme. **A simple start-up agenda is included in the toolbox.**

Toolbox Step 1: General and Getting Commitment

- 1.1 Energy Management for CEOs – Presentation
- 1.2 What is Sustainable Energy Management – Presentation
- 1.3 Implementation of an Energy Management Programme – Presentation
- 1.4 Energy Management Training Programme - Doc
- 1.5 Halsangz Plating Co. Cebu- Presentation
- 1.6 Energy Management case studies – web page: www.eere.energy.gov
- 1.7 Focus Group Discussion and Issues – Doc
- 1.8 Improve Your Company Profits through Effective EM - Presentation

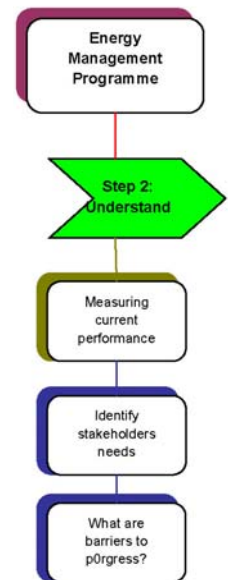
3 Step 2: Understand

Sequence of work steps

There are some simple steps which are shown in the diagram that need to be taken to understand specific requirements and options for EM in the participating companies.

Energy Management Toolbox for **Understanding** can be found at the end of this chapter and in **Appendix 2**.

An important part of getting the EM Programme started is to understand the base case energy use of the companies, and in addition, identifying who should be involved (stakeholders) and understanding the barriers to progressing the programme. This section deals with these issues.



Understand		
Action	Methodology	Who
1	Understand base case energy use and identify who should be involved	Consultant
2	Identify barriers to progressing the EM programme	Consultant
3		
4		

Measuring current performance

1. 'You can't manage what you don't measure', is especially true for energy management. Energy invoices alone will not provide sufficient information for a company to take full control of energy costs.
2. Once the EM programme has started, it is important to establish the base energy use of all those companies involved.
3. Each locator should supply information on current energy use. They should measure base case energy and link it to production known as specific energy consumption (SEC) which is represented by energy/tonne of product produced (kWh/tonne).

Essentials

For each of the companies, a starting point is necessary before the programme is initiated.

It is vitally important to gain the following information as a minimum at the start of the EM Programme:

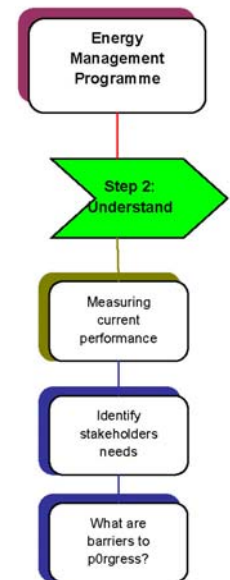
1. **Twelve months energy data** – all types of electricity, natural gas,

- LPG, diesel, etc
2. **Twelve months production data** – items, tonnes of product etc
 3. A **brief description of the work** that takes place at the company premises

This information should be a part of the commitment by the CEO when signing up to the EM Programme because without this information, the programme administrators will not be able to measure success.

If a company suffers hard times and production or shifts are reduced, they may well still be eligible for recognition as a good energy management company if they can show savings on an SEC basis.

The toolbox identifies some of the information required and the questionnaires that can be provided to companies asking for information.



Identify stakeholders needs

A programme of energy management can be designed around what the **stakeholders need**, and should therefore be included when the detailed programme components are designed.

Stakeholders in the PEZA Economic Zone might include:

- PEZA Authority,
- locators,
- employees,
- community,
- government offices etc.

Some of the stakeholders might be able to assist in the smooth running of the EM programme.

One of the key tools in an EM Programme is the **Energy Management Matrix**. This can be used to identify what level of EM a company is currently operating at and what needs to be done to improve the standard of EM.

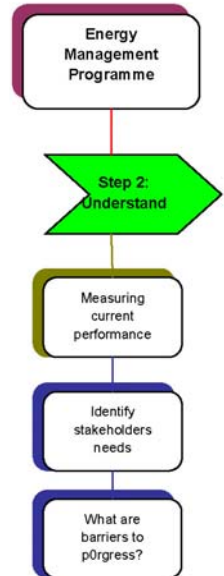
A copy of the EM matrix is included in the toolbox. Also to help a company undertake its own assessment, there is an EM Assessment tool available

Barriers

When an Energy Management Programme is initiated there will always be **barriers to overcome**. Some barriers quoted are as follows:

1. **Management has more important things to do** - This is not a good excuse, energy savings go straight to the bottom line and help company profits directly. What is more important to a CEO and his team than increasing company profit?
2. **We have no money to invest** - Good EM does not need money to invest, but a simple low cost employee awareness can make significant savings without investment.
3. **We do not have the time or the resources** - Good EM does not need significant time or resources, once set up an EM Programme can be included in normal management practice.

All of these arguments for not including EM in normal work practice cannot be justified and EM can lead to good energy savings, significant cost reduction and increased company profits whilst improving the environment.



Toolbox Step 2: Understand

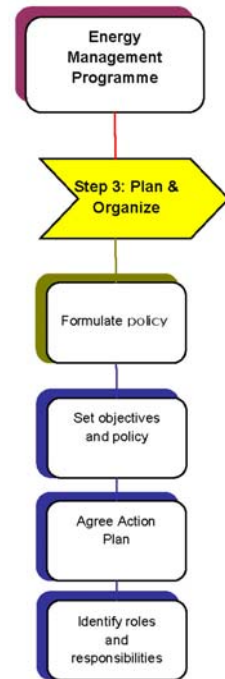
- 2.1 Energy Management Assessment Tool – Excel sheet
- 2.2 Energy Management Matrix – doc
- 2.3 Utilizing Synergies in Energy Consumption - ppt

4 Step 3: Plan & Organise

Sequence of work steps

Right at the onset of starting the EM Programme, it is important to **Plan & Organise**. The essential steps are listed in the table below

Understand		
Action	Methodology	Who
1	Formulate policy	Consultant + Company
2	Agree Action Plan	Consultant + Company
3	Identify Roles and Responsibilities	Consultant + Company
4		



Formulate Policy

A policy is required and written down, ideally on a single page, which should identify what the EM Programme will do. The policy for energy management should be signed by a top management official and displayed in a prominent position.

The policy might include details of energy saving targets together with staff appointments and responsibilities. In the case of a PEZA authority, the policy should say what the aims of the EM Programme are, what it wants to achieve and why, and give targets for improvement, for example : ‘We will achieve 25% savings in energy use based on 2009’ by December 2011. An example policy is provided in [Appendix 4.2](#).

When the policy has been written it is important to have a signature endorsing the policy at the very highest level, Director General in the case of PEZA.

The written policy should be put on display in prominent positions in all PEZA offices so that every member of staff can see that the work of the EM Programme is supported at the highest level. Furthermore it is important to create ownership amongst staff by involving staff in discussion and drafting of the policy.

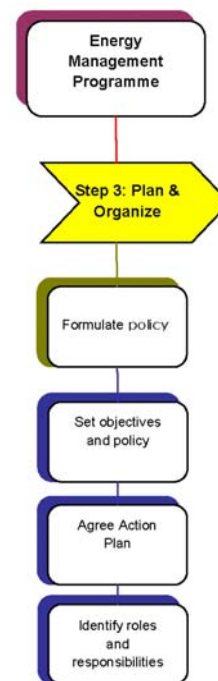
Set objectives and targets

Linked to the policy might be some objectives for the Energy Management Programme to achieve, and this could for example be, to achieve a 25% savings in energy use by all locators or companies in the Economic Zone. It might be possible to include a target number of Megawatt hours (MWh) or Gigawatt hours (GWh) savings, and over what timescale the savings should be made. It is common to link the Energy Policy to the Environmental Policy.

Agree Action Plan

The policy should be linked to a good Action Plan which has been agreed, and could include the following:

1. All companies joining the EM Programme will make a commitment to energy savings with the aim of achieving 25% energy savings in the (name) zone by (date).
2. All companies or locators will appoint a responsible person to be an Energy Manager or Champion, who can report to the company board.
3. A training programme to be held by PEZA will be devised by (date) which will be aimed at helping Energy Managers, Energy Champions and other interested individuals undertake their work to make energy savings at their work place.
4. PEZA will set up a list of Energy Auditors that can be used by companies to help them make energy savings by (date).
5. All companies will be offered a one day 'walk through audit' that will help them identify energy savings opportunities by (date). The cost of the audit will be shared between PEZA and the locator.



Identify Roles & Responsibilities

If a PEZA authority initiates an EM Programme, there needs to be a number of individuals within the Authority to manage the programme. The individual should be of sufficient rank so that feedback can be given to the PEZA Authority operating board, and secondary roles should be identified to run the programme at grass roots level.

Toolbox Step 3: Plan and Organize

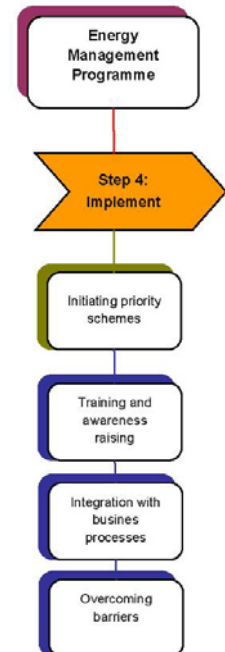


- 3.1 Energy Policy Template – doc
- 3.2 Energy Action Plan – doc
- 3.3 What will e my commitment?
- 3.4 Who will run the EM Program and what will they provide?

5 Step 4: Implement

Sequence of work steps

Understand		
Action	Methodology	Who
1	Initiate priority schemes	Consultant + Company
2	Training and awareness raising	Consultant + Company
3	Integration with business processes	Consultant + Company
4	Overcoming barriers	Consultant + Company



Providing Support to Companies

No EM Programme can be implemented without significant help, and in order to make good energy savings, companies or locators will need somewhere to turn to get help. They will need a starting point which PEZA should organise.

There is a good and useful guide available, known as ‘Service Orientated Energy Management Guidelines’ to point Zone Authorities in the right direction. This guide is designed to help zone authorities put an EM Programme in place and engage local help to implement the programme. Some examples of what the guide includes are as follows:

- **Service Providers** - independent consultants who will undertake an energy audit who have no links to products, and their services are paid for directly by the locator. The locator pays for the recommendations for improvements they make.
- **ESCOs** - are generally linked to a specific product that they are keen to endorse. They provide a free service to assess the energy saving opportunity and provide finance for the project. The savings that are achieved are then shared with the locator.

An industrial zone administrator should set up a network of Service Providers as part of the EM Programme administration, or make links to ESCOs to help locator companies achieve the goals of their energy management project. More details can be found in the Guide (EM Tool 4.1).

Another way to help companies is to use local expertise because companies or locators often have technical experts who have formed an association. There is then the opportunity for ‘self help’, i.e. one company carries out an energy audit for another. There may be some issues of confidentiality but these can normally be overcome. There may also be a need for payment of the expert but the industrial zone EM Programme administrator can help in this process by setting up a liaison scheme.

Initiating Priority Schemes

It might be appropriate for some companies or locators to have some of these early in the EM Programme, for example, the zone administrator might choose one or two companies to have some free energy audits which will help to get the programme rolling. Once the results are published and other companies can see the results of the work, i.e. estimated 20% savings possible at company X, then others may want to join the programme.

During these early energy audits, it is always good to start the process of making energy savings by picking ‘low hanging fruit’, ie those energy savings that are easy to achieve and low cost.

Training and Awareness Raising

It can be said that *‘technology can provide savings but it is people that make the difference’*. It is the people involved in the programme who initiate the savings and they will need to be trained on how to work with an Energy Saving programme. Those not directly involved should be made aware of the programme and of what the aims are, so that they can make a contribution where possible.

An industrial zone administrator should start a programme of training of energy efficiency related staff. The programme should be financed by the companies and should include subjects such as:

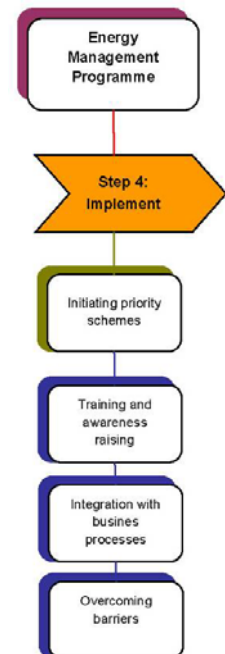
- Energy Management for Beginners
- Making energy savings through an employee awareness scheme
- Make energy savings through cost effective maintenance
- Optimising the efficiency of your compressed air system
- How to undertake an energy audit
- Making a case for investment in an energy savings scheme

Some training courses are available which are linked to the subjects above, they have been developed as part of the EM Programme PEZA/GTZ EID project on Mactan, Cebu and are listed in Appendices 5&6.

Integration with Business Processes

Energy Management should not be a burden on the organisation. The work of the programme should be linked to other business activities and perhaps one of the best links will be the work of Environmental Management.

Once some work has been put into the programme by companies or locators, there should be no major cost in terms of manpower and resources. The locator should develop a responsibility matrix so that the EM Programme can be a fully integrated process in the business.



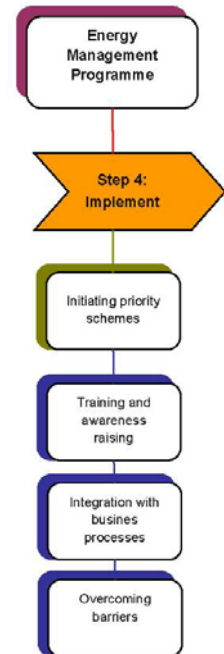
The EM Programme should produce reports that are easy to understand by all employees and they should show accumulated energy, financial and CO₂ savings.

Where there is a need for investment, or some help in training Energy Managers or Energy Champions, making a case for the investment should be arranged by the EM Programme zone administrator.

Companies should put systems in place that help the procurement process, i.e. make sure that the purchasing department buys equipment for lowest lifetime cost rather than first cost.

Toolbox Step 4: Implement

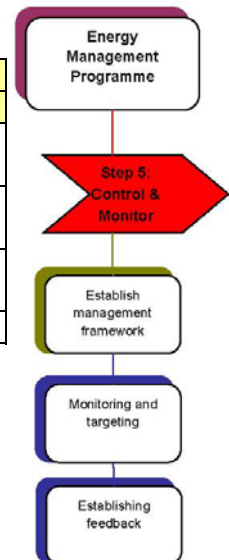
- 4.1 Service Orientated Energy Management Guidelines – doc
- 4.2 Gaining Local Support from Professionals (FAMERA letter) – doc
- 4.3 Enercon Opportunities Compressed Air – ppt
- 4.4 Technical Opportunities for Energy Saving – ppt
- 4.5 HVAC & Ventilation - ppt
- 4.6 Motors & VSDS – ppt
- 4.7 Service Orientated EM Guidelines - ppt



6 Step 5: Control & Monitor

Sequence of work steps

Understand		
Action	Methodology	Who
1	Establish Management Framework	Consultant + Company
2	Monitoring and Targeting	Consultant + Company
3	Establish Feedback	Consultant + Company
4		



Establish Management Framework

A framework for the Energy Management Programme should be set up which includes people, finance, reporting and training etc.

Company employees are often very happy to help implement an EM Programme because they see this not only as a responsibility to the company, but also to their environment. It is therefore important to set up a management framework that includes staff at all levels who should be encouraged to participate and be given good quality and regular feedback on progress of savings.

Monitoring & Targeting

Important to any Energy Management Programme is a need to measure the savings being achieved, and targeting new energy savings opportunities.

It is important to **measure** energy savings against production in 'specific terms' which allows energy savings to be identified when there is growth in the company, and also any cut back in production. Targeting is normally achieved through identifying opportunities for savings through an energy audit.

Establish Feedback

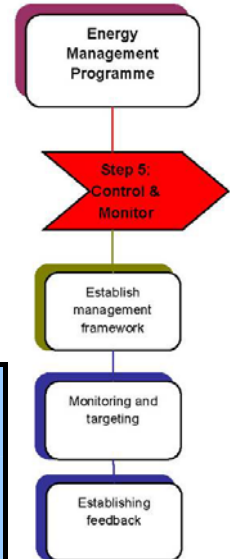
For all those involved in the work, it is important to provide some feedback. At the start of any Energy Management Programme a feedback mechanism should be set up which gives regular reports on progress, and when there are poor results these should also be acknowledged in the report system.

The Industrial zone administrator (PEZA) will need to understand if the EM Programme is working and will therefore require feedback from the companies giving details of energy savings linked to production (SEC), also see page 8.

It is important to come up with some success stories and publish them on the EM Programme zone administrator web site.

The EM Programme should also ensure that there is good incentive to participate for all companies and individuals. It is possible to create some incentive schemes and from experience of the PEZA/GTZ EID project in Mactan, Cebu, an annual award ceremony to give a gift or trophy to high achievers in the programme is usually very well received. See also page 4 which discusses incentives.

There are a large number of publications and links to useful documents available in the toolkit for **Controlling and Monitoring** an Energy Management Programme which can be found in Appendix 6.



Toolbox Step 5: Control & Monitor



- 5.1 Effective Energy Management - The Value of an Energy Audit/Survey - Presentation
- 5.2 Energy Auditing – How to do it - Presentation
- 5.3 Undertaking an Industrial Energy Survey – GPG316 - doc
- 5.4 Energy Auditing – Pre-visit questionnaire - doc
- 5.5 Locator Walk-Through Audit Report - doc
- 5.6 Monitoring Questionnaire (General Walk-Through Audit) - doc
- 5.7 Monitoring Questionnaire - (Detailed Audit Feedback) - doc
- 5.8 Energy Auditing Training Programme - doc
- 5.9 Energy Auditing – Local Experience - Presentation
- 5.10 Important information and Materials Needed in a Lighting Audit - Presentation



7 Toolbox

Item	Name	Summary Description of the Tool	Type of file	Author	Location
Toolbox Step 1: General and Getting Commitment					
1.1	Energy Management for CEO's	Top management presentation to be used at the 'kick-off' event.	Ppt	Mike Birks	PEZA Web
1.2	What is Sustainable Energy Management	To provide a summary of energy management and to identify case studies and success stories in the Philippines.	Ppt	Alice Herrera	PEZA Web
1.3	Implementation of an Energy Management Programme	This presentation is strongly linked to this Energy Workbook and describes the process of putting a programme in place. It uses many of the diagrams included in the Workbook.	Ppt	Mike Birks	PEZA Web
1.4	Energy Management Training Programme	Key to any Energy Management programme is training for all those involved in the work and this training programme identifies the key components.	Doc	Mike Birks	PEZA Web
1.5	Case Study Halsangz Plating Co. Cebu	This company achieved savings of x% over just 1 year through a targeted Energy Management programme.	Ppt		PEZA Web
1.6	Energy Management case studies.	Published by US Dept. of Energy	HTML	US DoE	www.eere.energy.gov
1.7	Focus Group Discussion and Issues	Getting support from locators towards an energy management initiative is important. This document describes the work to gain the commitment of companies or locators.	Doc	Alice Herrera	PEZA Web
1.8	Improve Your Company Profits through Effective Energy Management	This shows how energy savings go straight to profits through gaining staff commitment.	Ppt	Mike Birks	PEZA Web
Toolbox Step 2: Understanding					
2.1	Energy Management	This excel spreadsheet helps with the process of	Xls	Mike Birks	PEZA Web



Item	Name	Summary Description of the Tool	Type of file	Author	Location
	Assessment Tool	identifying the current state of energy management at a company, locator or organisation.			
2.2	Energy Management Matrix	Linked to 1 above, this stand-alone matrix can be used to identify the current state of energy management and it helps to show what needs to be done to make improvements.	Doc	Mike Birks	PEZA Web
2.3	Utilising Synergies in Energy Consumption	Introducing some examples from Europe which show how to use waste energy heat) in neighbouring industries	Ppt	Peter Bank	PEZA WEB
Toolbox Step 3: Planning & Organising					
3.1	Energy Policy Template	It is important to show commitment to all staff to gain their support. A typical energy policy is shown that could be used by others.	Doc		PEZA Web
3.2	Energy Action Plan	The Action Plan example will include energy management initiatives and technical saving opportunities. The example shown could be used by others.	Doc		PEZA Web
3.3	What will be my commitment?	Gives examples what should be committed by the different groups in a company	Ppt	Mike Birks	PEZA Web
3.4	Who will run the EM program and what will they provide?	Gives an overview of EM Program and involvement	Ppt	Mike Birks	PEZA Web
Toolbox Step 4: Implementing an Energy Management Programme					
4.1	Service Orientated Energy Management Guidelines	It will be important in any Energy Management Programme to get some external help which may be technical assistance or managerial. This manual identifies the process of gaining help from outside the organisation.	Doc.	Mike Birks	PEZA Web
4.2	Gaining Local Support from Professionals (FAMERA letter)	For Mactan there is an organisation of technical individuals who are available to help with energy audits. This note discusses the benefits of	Doc	Mike Birks	PEZA Web



Item	Name	Summary Description of the Tool	Type of file	Author	Location
		recruiting their help in the EID programme.			
4.3	Enercon Opportunities Compressed	Examples and strategies for EM in various sectors	Ppt	Mike Birks	PEZA Web
4.4	Technical Opportunities for Energy Saving - Introduction		Ppt	Mike Birks	PEZA Web
4.5	HVAC & Ventilation		Ppt	Mike Birks	PEZA Web
4.6	Motors & VSDS		Ppt	Mike Birks	PEZA Web
4.7	Service Orientated EM Guidelines	Role of service providers in EM Programs	Ppt	Mike Birks	PEZA Web
Toolbox Step 5: Control & Monitoring					
5.1	Effective Energy Management - The Value of an Energy Audit/Survey	Describes what the aim of the audit is, how it will be achieved and what impact it has on the company/locator.	Ppt	Mike Birks	PEZA Web
5.2	Energy Auditing – How to do it	Describes the process of auditing.	Ppt	Mike Birks	PEZA Web
5.3	Undertaking an Industrial Energy Survey – GPG316	Gives details of audit process and tips for identifying energy savings measures.	Pdf	Carbon Trust UK	PEZA Web
5.4	Energy Auditing – Pre-visit questionnaire	Before going to a locator site, the auditors need some advance information which is described here.	Doc	Alice Herrera	PEZA Web
5.5	Locator Walk-Through Audit Report –template / example	Gives details of a report from an energy management audit at a Philippines locator site.	Doc	Mike Birks	PEZA Web
5.6	Monitoring Questionnaire - General Walk-Through Audit	Following an audit, it is important to get some knowledge of the impact of the work through a request for data.	Doc	Gerald De Leon	PEZA Web
5.7	Monitoring Questionnaire - Detailed Audit Feedback	Similar to 6 above but specifically for one area of plant.	Doc	Gerald De Leon	PEZA Web
5.8	Energy Auditing Training Programme	Details of a typical training programme for specialist energy auditors.	Doc	Mike Birks	PEZA Web



Item	Name	Summary Description of the Tool	Type of file	Author	Location
5.9	Energy Auditing – Local Experience	Example of the experience of an audit by a locator.	Ppt	Edwin Semilla	
5.10	Important information and Materials Needed in a Lighting Audit	Identifies instruments and methods on how to undertake a lighting system audit.	Ppt	PELMATP	PEZA Web