

**Embedding Energy Management (EEM)**

**Action learning guide**

|  |
| --- |
| Description: logo_and_text |
| The material provided in this document has been produced in conjunction with our partner [Energetics Pty Ltd](http://www.energetics.com.au/). |

This publication was funded by the Australian Government through the Workforce Innovation Program under the title 'Carbonproof for Foundries'.

**Embedding Energy Management (EEM) is available from** **www.sustainabilityskills.net.au**

|  |  |
| --- | --- |
|  | **Free for Education Copying**  [**www.mskills.com.au**](http://www.mskills.com.au) |

This work is copyright and licensed under the MSA Free for Education Copying instant licence (MSA Licence).

When you obtain a copy of material that bears the MSA licence mark by legitimate means you obtain an automatic licence to use and copy the work in whole or in part, solely for educational purposes.

**Individual learners may:**

1. use the material personally for their education such as including it, with proper attribution, in work that is performed in the course of that education; and
2. make unlimited copies, in whole or in part, of the material.

**Education Providers or Other Organisations may:**

1. use the material within the organisation or for the services provided by the organisation;
2. make or give copies to learners;
3. charge for the education provided; and
4. charge learners for the material on a cost-recovery basis.

Queries regarding the MSA Licence conditions should be directed through the MSA website at [www.mskills.com.au](http://www.mskills.com.au)

In addition to the standard MSA Licence conditions, the following **special conditions** apply:

1. Territory: The copyright work must only be used in Australia and New Zealand.
2. Development Rights: Licensees are permitted to develop either an Edited Version or Enhancements of the Licensed Material for individual organisation purposes.

**Disclaimer**

This work is the result of wide consultations with Australian industry participants. It is a collaborative view and does not necessarily represent the view of MSA or any specific body. For the sake of conciseness it may omit factors which could be pertinent in particular cases.

While care has been taken in the preparation of this resource, MSA and the original developer do not warrant that any licensing or registration requirements specified here are either complete or up-to-date for your State or Territory. MSA and the original developer does not accept any liability for any damage or loss (including indirect and consequential loss) incurred by any person as a result of relying on the information contained in this training resource.

This work is in response to the intent of the unit of competency from the respective Training Package but must be customised and contextualised to meet the end user requirements as it may not be fully compliant in its current format. The material is provided on this basis to any person for information and advice for the intended purpose and all persons accessing this material undertake responsibility for assessing the relevance and accuracy of its content. No liability is accepted for any information or services which may appear in any other format. No responsibility is taken for any information or services which may appear on any linked websites.

Published by:

|  |  |
| --- | --- |
| Manufacturing Skills Australia  Level 3, 104 Mount Street  North Sydney NSW 2060  ABN:88 006 441 685  Phone: (02) 9955 5500  Fax: (02) 9955 8044  Website: <http://www.mskills.com.au>  First published: 2013 |  |

Contents

[Action learning modules 1](#_Toc357417714)

[Communication Marketplace methodology: An engagement tool for site leadership teams to promote innovation 5](#_Toc357417715)

[Module 1: Energy and business planning 7](#_Toc357417716)

[M1 Action Learning Log – Energy and business planning 10](#_Toc357417717)

[Module 2: Carbon inventory and supply chain impacts 13](#_Toc357417718)

[M2 Action learning log - Carbon inventory and supply chain impacts 16](#_Toc357417719)

[Module 3: Energy procurement 19](#_Toc357417720)

[M3 Action learning log - Energy procurement 22](#_Toc357417721)

[Module 4: Energy efficiency opportunities 25](#_Toc357417722)

[M4 Action learning log - Energy efficiency opportunities 28](#_Toc357417723)

[Module 5: Energy management systems 31](#_Toc357417724)

[M5 Action learning log – Energy management systems 34](#_Toc357417725)

# Action learning modules

## The program

The Embedding Energy Management (EEM) program and workforce development kit is designed to up-skill site champions and management teams in developing a strategic response to resource efficiency and carbon management.

There are five modules in the program:

* Module 1: Energy and business planning
* Module 2: Carbon and supply chain impacts
* Module 3: Energy procurement
* Module 4: Energy efficiency opportunities
* Module 5: Energy management systems.

These modules are delivered as planning sessions/forums with site leadership teams. The planning forums are supported by site demonstrations, presentations, guidance documents, samples and tools that can be used on-site to begin documenting and analysing energy use and planning improvements.

## The kit

The EEM workforce development kit comprises the documents and tools for the on-site program:

* Practice guide – for each module
* Presentation – for each module
* Facilitator runsheet – for each module
* Planning tools, such as an energy baseline spreadsheet and a carbon inventory
* Sample energy plans, energy efficiency opportunities workbooks and management improvements from sites that have implemented the program.

The kit also provides tools to support a skills development focus in implementing the program:

* Action learning guide
* Skills survey/matrix
* Guideline mapping to units of competency.

**See** [**www.sustainabilityskills.net.au**](http://www.sustainabilityskills.net.au) **for more information and to download the tools.**

## Action learning guide

The purpose of the action learning guide is to capture the dynamics of the practices applied during the business planning forums (as supported by a **facilitator runsheet**) at sites so that potential ‘lessons’ learnt can be facilitated and captured, and participants achieve the benefits of a ‘hands on’ experiential learning approach.

The guide outlines activities for the facilitator and participants that can be used in addition to the planning forums and other planning activities to reinforce the learning.

**Guides and tools** that are available in the kit are in highlighted in bold in this guide.

## Why an action learning approach

The planning, implementation and assessment of resource management initiatives relies on the interactions of a number of professional disciplines, especially across any mid to large size business. This observation has been well documented in previous research, including the Long Term Training Strategy for Energy Efficiency Report (DRET July 2010).

A whole-of-business approach is required to bring about the necessary change for a ‘business as usual’ approach to resource efficiency and carbon management especially in mid-sized businesses in regional Australia.

Action learning demands that practices are applied in the ‘real world’ and relies on structured processes to debrief the learning experience and plan actions to apply the learning outcomes. This is especially relevant for a site leadership team. This guide provides tools to apply an action learning approach to the EEM program.

The**presentations**, **facilitator runsheets** and **practice guides** that form the content of the program could be used to conduct simulations in a structured training program if a real site was unavailable.

## How is the action learning approach applied in this program

The action learning approach is applied using the following eight step process. As previously suggested this program can be delivered in whole or in part at a site with a site leadership team or as a simulation in a training environment. The following steps apply to both delivery modes.

**NB** The trainer/facilitator will need to access the practice guides and planning tools for each module, available from [www.sustainabilityskills.net.au](http://www.sustainabilityskills.net.au)

Complete the following steps prior to delivering each module:

1. Survey the Site Leadership Team’s (SLT) skills using the **skills survey/matrix**to identify gaps.
2. Present an executive summary of the skills gapsin the **skills survey/matrix**to the SLT for the next moduleto be covered in the program.
3. Collate baseline information arising from preceding modules to contextualise the **presentations** contained in each module. This is done in selected modules so that where appropriate the presentations contain data relevant to the site.

**Now deliver each module using the following steps**

1. Arrange a forum with the SLT and present an overview of the **practice guide** for the module.
2. Facilitate the planning forum with the SLT (or as a simulation) using the **facilitator runsheet** provided for the module.
3. Present the**presentation**of the research related to the moduleas indicated on the**facilitator runsheet** *using a communication marketplace\*\*\* (or a traditional PowerPoint presentation if preferred).*
4. Facilitate the action planning in response to the presentation, including any actions required to progress investigations and analysis.

**Then after the module has been delivered and with \*\*select members of the SLT**

1. Facilitate action learning using the ***action* *learning log****\** for the module with nominated members of the SLT.

\* Refer to action learning logs for each module

\*\* Refer to ‘target group’ section of the module outlines to assist in selecting suitable participants from the SLT

\*\*\* Refer to the communication marketplace guidelines.

## Assessment evidence

The EEM program includes practical activities which may generate evidence that can be used as part of an assessment. If the assessment is against an endorsed unit of competency the Registered Training Organisation (RTO) will need to review the program and activities and map them to units of competency in order to decide what evidence can contribute to the assessment.

Depending on the module and their role in the planning activities a participant’s a portfolio might include evidence of how they have used the tools, how they have developed or modified their business plans and/or energy plans, improvement projects they have identified, costed and evaluated, and changes they will make to their management systems.

## Trainer/assessor vocational expertise

To conduct the demonstration presentations for the program the trainer must have a working knowledge of global trends in the industry, carbon and resource management practices and typical management systems in companies in the sector. To facilitate the business planning sessions the trainer must have highly developed facilitation skills and knowledge of business planning processes both at a strategic and site operations level.

To prepare the site specific data for each module’s presentation, the trainer must have skills in preparing energy and carbon emissions and baselines. The trainer should also understand the purpose of a diagnostic and be knowledgeable about organisational design.

To conduct the action learning processes, including the action learning log, the trainer should have experience in experiential learning processes, including debriefing skills.

This mix of skills and experience might be rare in one individual. It might be appropriate to work with a technical expert (subject matter expert) to focus on the baseline and data analysis while the trainer/facilitator focuses on business planning and facilitating the outcomes based on that data.

## Action learning activities

The action learning activities in this guide focus on specific knowledge and skills ‘gaps’ that were identified using a Training Needs Analysis (TNA) survey during the development of the program. Therefore they cover a selection of the practices referred to in the practice guides.

The action learning activities are aligned to the five modules in the EEM program. For each module the guide outlines the identified skill gaps, learning outcomes, key content, the training delivery (action learning), action learning log, and examples of materials and activities which could contribute to evidence in an assessment.

The action learning log assists participants to:

* Capture their observations
* Recognise lessons learned
* Contextualise the tools applied
* Plan how they will repeat the processes in the future.

## Participant’s prerequisites

Participants should have the following prerequisites to successfully participate in this program:

* Experience in, and knowledge of, the sites business plans and planning processes
* Experience in, and knowledge of, their supply chain, especially suppliers and customers
* Experience in, and knowledge of, the supply chain materials flow (inputs and outputs from the site)
* Knowledge in, and experience of, site operations
* Skills in manipulating data using spreadsheets
* A basic knowledge of the local topography
* Recognition of community expectations as to the sites environmental impacts on the local ecosystem
* Recognition of the sites impact on the socioeconomic performance of their local community.

# Communication marketplace methodology: An engagement tool for site leadership teams to promote innovation

This methodology is used to present information to the SLT at the beginning of each module. It’s an alternative to a traditional PowerPoint presentation with a number of advantages over the traditional PowerPoint method.

* All Information is displayed at the same time so that participants can scan the content at their own pace.
* Information is left exposed so that participants can cross reference information, make links and draw their own conclusions during the exposition (presentation) phase as well as the application (discussion) phase.
* Participants are encouraged to complete the picture by adding comments and questions so that they can engage with the content and are better informed.
* The process is highly visual and tactile and stimulates innovative thinking.
* The process is highly structured with open questions yet the group works informally with high levels of freedom.

## Communication marketplace process

The marketplace approach typically has **4 phases:**

* **Phase 1** is the presentation of information referred to as the exposition phase. Participants familiarise themselves with the content presented. They may be asked to add comments or indicate where they would like more explanation. A plenary session follows where their comments and questions are clarified but not yet evaluated.
* **Phase 2** is the application of the knowledge presented. Participants may provide contextual information or respond to specific questions, e.g. what risks and opportunities do these global trends, presented here on this chart, have for your business?
* **Phase 3** is the evaluation phase where options are considered and priorities may be identified.
* **Phase 4** is the action planning phase where participants take ownership of the outcomes and commit to action plans, e.g. activity/who/with whom/by when.

**Set-up and delivery**

The information can be handwritten and produced on A4 and A3 paper or produced as a PowerPoint presentation. Diagrams and pictures should dominate the presentation. The information should be displayed in a logical sequence yet in discrete chunks if practical.

In the EEM modules there is a presentation for each module which can be displayed on walls or pin boards as shown below. Charts are set up around the room with the input data and information carefully presented in meaningful clusters.

The following guide should be provided on a whiteboard or chart paper to instruct the participants:

* Form pairs and wander around the room reading and responding to the cues placed on each chart.
* Read and support a shared understanding with your partner.
* Add comments on cards to complete the picture (information) provided and stick or pin them on the charts.
* Indicate with a ‘?’ where you want more clarification.
* Respond to questions as per instructions on the charts (see facilitators runsheet for more details).

 

This approach presents information in a meaningful, time efficient and productive manner that promotes engagement and facilitates informed decisions. The features of this methodology make it ideal for senior managers and the planning work performed in each module.

# Module 1: Energy and business planning

**How to develop or maintain an energy management plan that reflects your sites strategic response to global trends in the industry.**

## Overview

The business environment is constantly changing. However, scarcity of resources, especially water, and the decarbonisation of the energy supply system present unique challenges. Integrating these considerations into the other aspects of your business and understanding their impact on your region and your place in the supply chain are key to ensuring a sustainable business. This module explores the key skills necessary to progress efficiency opportunities consistent with your companies’ strategic intent. The **Skills survey/matrix** identified these as:

* [insert gaps from survey]

These skills were considered to be [insert percentage developed] and were considered [insert level of importance] to the business.

## Module learning outcomes - refer to practice guide for detailed description of the content

On completion of this module, and after relevant site demonstrations and with the assistance of a practice guide, participants will be able to:

1. Present the relationship between global trends in energy, water use and carbon reporting, including the regulatory environment; current business plans, and the links to their high-level resource use baseline so that initial ideas on the strategic intent for resource management can be captured.
2. Communicate business drivers and engage site operations and management to assess impacts and progress high-level plans to manage these impacts, arranging suitable sustainability audits where required, e.g. energy, carbon and lifecycle analysis.
3. Facilitate a shared understanding amongst the SLT of the business drivers that underpin their response to these trends and assess the level of maturity of the site to progress their plans applying widely used sustainability models.
4. Present high-level energy and carbon performance data and scope the resource investigations/assessments that are necessary to support their strategic response to these trends. ‘Arrange for sustainability (energy and carbon) related audits if required’.
5. Develop appropriate actions to progress energy plans and implementation of agreed actions.
6. Monitor planning outcomes using regular management meetings at site.

## Target group

All members of the SLT plus site champions from management or specialist technical or engineering roles, including General Managers, Finance and Procurement Managers, and Supply Chain Managers. Also for site engineers and energy champions and others who have the desire to learn more about their external environment and the business drivers for energy, water and carbon-related initiatives especially those affecting the supply chain.

## Prerequisites

To successfully participate in this module a participant should have the following prerequisites:

* experience, in and knowledge of, the sites business plans and planning processes
* knowledge of their supply chain, especially suppliers and customers
* a basic understanding of the industry sector and regulatory environment, including but not limited to, environmental protection, carbon and energy reporting regulations.

## Special features

These practices are firstly demonstrated on-site so that the process is experienced by all those who can support or derail the outcomes.

A practice guide and related tools, including facilitator runsheet, is available for those charged with the responsibility of facilitating these processes.

This learning module is available for site champions selected from the SLT to deepen their understanding and apply the skills to sustain the practices and processes demonstrated on-site as well as other processes in the practice guides.

## Training delivery

This learning module consists of a facilitated action learning session, site demonstrations and supervised work activities. The training is delivered using the following action learning steps.

1. Demonstration of the planning workshop (see **facilitator runsheet**).
2. Conduct a debriefing with the SLT (See **action learning log** below).
3. Review practices and tools applied or not applied but relevant using the practice guide with relevant members of the SLT (see **practice guide**).
4. Action plan to continue learning and applying these practices in the business.
5. Implement actions as planned and retain documented outcomes.
6. Review learning outcomes using learning log and evidence of implemented actions for assessment and recognition of learning /skills.

## Possible assessment evidence

This module supports some aspects of several units of competency from the MSS11 Sustainability Training Package, see the **guideline mapping** document.

The following materials and activities might contribute to evidence of competency should the participant seek assessment by a RTO:

* A presentation of relevant global trends in client industry trends or benchmarks, management standards, availability of subsidies, new technologies and identified opportunities at a high level.
* A completed workshop runsheet that demonstrates a facilitated approach to resource management planning contextualised/customised for the site.
* Evidence of executive (SLT) input into the strategic intent, ideas scoping decisions, and the creation of the strategic questions and guidelines consistent with the learning outcomes – forum record preferably with photos.
* Action plans, preferably endorsed/approved by the CEO.
* Resource management plans or changes made to business plans based on the strategic intent as defined by the SLT.

# M1 Action learning log – Energy and business planning

The purpose of this action learning log is to capture your reactions to the planning forum and other work related to this module so that you can recognise in explicit terms what you have learnt. Then you can make plans to apply these lessons for your own development and progress related business outcomes, but first consider the goals of this module.

**Which learning outcomes for this module are you accountable for given your role in the business and the overall goals or objectives of this initiative?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**What overall learning goals or objectives for this module are you seeking to achieve? (If not able to describe this yet consider again later in this review)**

--------------------------------------------------------------------------------------------------------------------------------------

-------------------------------------------------------------------------------------------------------------------------------------

**Part 1: Review immediate demonstration, i.e. the planning forum you just participated in a few moments ago.**

**What were the key points raised in this planning session and which were of interest?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**List the outcomes achieved from this module?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**List down the process, i.e. how the forum was conducted, that you can recall. Refer to the facilitator’s runsheet to fill in any gaps.**

--------------------------------------------------------------------------------------------------------------------------------------

-------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What aspects of the process helped you achieve the outcomes?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 2: Read the practice guide and highlight with a pen those elements of the guide that you covered before during or after the planning forum.**

**Consider how you have gone about this type of work previously and discuss the similarities and differences with your colleagues.**

**Similarities, i.e. current business and sustainability planning practices:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Differences:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Consider the tools applied. Which of these tools listed here would you be inclined to use…**

Indicate with a number (1) As is? (2) With some modification? (3) No use at this stage because - not seen it in use/not applicable/or not seen as useful?

|  |  |
| --- | --- |
| Practice guide |  |
| Global trends presentation |  |
| Facilitator runsheet |  |
| Communication marketplace (in the facilitator runsheet) |  |

**Part 3: Now it’s time to consolidate what you have learnt from this module and plan what you will do next. Reread what you have written so far in part 1 and part 2 and answer the following questions.**

**4. What are 2-3 ‘lessons’ that you have learnt from this overall experience about global trends and business planning, i.e. the processes and practices applied in this module?**

a)

--------------------------------------------------------------------------------------------------------------------------------------b)

--------------------------------------------------------------------------------------------------------------------------------------c)

--------------------------------------------------------------------------------------------------------------------------------------

**What actions and/or research should you now undertake to...**

a) apply the lessons you have learnt – refer to the question above?

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------b) repeat these planning processes in your business in the future?

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

# Module 2: Carbon inventory and supply chain impacts

**How to use and maintain your carbon inventory to inform business planning and engage suppliers and customers about impacts**

## Overview

Business decisions are informed by accurate data and contextual information. This module will demonstrate how to present a carbon footprint of sufficient accuracy that provides the confidence for the management team to address such issues as carbon labelling, pass-through costs in the supply chain, carbon targets and energy efficiency investment decisions. The skills gap has been described in the **skills survey/matrix** for the industry as:

* [insert gaps from survey]

These skills were considered to be [insert percentage developed] and were considered [insert level of importance] to the business.

## Module learning outcomes – refer to the practice guide for more content on carbon and the supply chain

On completion of this module, and after relevant site demonstrations and with the assistance of a practice guide, participants will be able to:

1. Inform business planning decisions using detailed carbon inventories and reports.
2. Communicate the sites carbon inventory and facilitate an analysis of the risks and opportunities associated with the inventory consistent with their strategic intent for resource management.
3. Develop carbon initiatives and action plans to engage suppliers and customers to manage the identified risks and opportunities so that carbon footprints support business goals, including green credentials, product development and corporate responsibility activities.
4. Facilitate implementation of carbon planning outcomes using suitable engagement tactics.
5. Monitor and investigate progress of plans using regular management, project and improvement meetings.

## Target group

Site champions from management or specialist technical or engineering roles, including General Managers, Finance and Procurement Managers, and Supply Chain Managers. Also for site engineers and energy champions and others who have the desire to learn more about facilitating processes within your resource management systems to deliver ongoing cost savings and sustainability benefits within their operations and across their supply chain.

## Prerequisites

To successfully participate in this module participants’ should have the following prerequisites:

* knowledge of their supply chain, especially suppliers and customers
* a basic understanding of the industry sector and regulatory environment, including but not limited to, environmental protection, carbon and energy reporting regulations
* experience in, and knowledge of, the supply chain materials flow (inputs and outputs from the site, including waste practices)
* knowledge of, and experience in, site operations
* skills in manipulating data using spreadsheets
* knowledge of the sites energy and water metering and monitoring capabilities.

## Special features

These practices are firstly demonstrated on-site so that the process is experienced by all those who can support or derail the outcomes.

This one hour action learning module is available for site champions to deepen their understanding and apply the skills to sustain the practices and processes demonstrated on site as well as other processes in the practice guides.

## Training delivery

The training is delivered using the following action learning steps:

1. Demonstration of the planning workshop (see **facilitator runsheet**).
2. Conduct a debriefing (see **action learning log**).
3. Review practices and tools applied or not applied but relevant using the practice guide.
4. Put an action plan together to apply these practices in your business.
5. Implement actions as planned.
6. Review learning outcomes using learning log and evidence of implemented actions for assessment and recognition of learning/skills (see **practice guide**).

## Possible assessment evidence

This module supports some aspects of several units of competency from the MSS11 Sustainability Training Package, see the **guideline mapping** document.

The following materials and activities might contribute to evidence of competency should the participant seek assessment by a RTO:

* A presentation about the carbon footprint (inventory) to the SLT
* A completed workshop runsheet template that demonstrates a facilitated approach to presenting a carbon inventory (footprint)
* A carbon risk opportunities matrix completed during the workshop
* A carbon reduction implementation plan
* Revisions to the carbon reduction plan.

# M2 Action learning log - Carbon inventory and supply chain impacts

The purpose of this action learning log is to capture your reactions to the planning forum and other work related to this module so that you can recognise in explicit terms what you have learnt. Then you can make plans to apply these lessons for your own development and progress related business outcomes. But first consider the goals of this module

**Which learning outcomes for this module are you accountable for given your role in the business and the overall goals or objectives of this initiative?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**What overall learning goals or objectives for this module are you seeking to achieve? (If not able to describe this yet consider again later in this review)**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 1: Review immediate demonstration, i.e. the planning forum you just participated in a few moments ago.**

**What happened during the planning forum? List down everything you can remember about the planning forum? Which aspects were of greatest interest?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**List the outcomes achieved from this module?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**List down the process, i.e. how the forum was conducted, that you can recall.**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**What helped you achieve that outcome? What didn’t help?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 2: Read the practice guide and highlight with a pen those elements of the guide that you covered before during or after the planning forum.**

**Consider how you have gone about business and sustainability planning work previously and discuss the similarities and differences with your colleagues.**

**Similarities:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Differences:**

--------------------------------------------------------------------------------------------------------------------------------------

-------------------------------------------------------------------------------------------------------------------------------------**Consider the tools applied. Which of these tools listed here would you be inclined to use when you repeat this process…**

Indicate with a number (1) As is? (2) With some modification? (3) No use at this stage because- not seen it in use/not applicable/or not seen as useful?

|  |  |
| --- | --- |
| Practice guide |  |
| Presentation on carbon |  |
| What’s my footprint – Carbon inventory tool |  |
| Facilitator runsheet – Carbon planning workshop |  |
| Carbon disclosure project – Supplier information request |  |

**Part 3: Now it’s time to consolidate what you have learnt from this module and plan what you will do next. Reread what you have written so far in part 1 and part 2 and answer the following questions.**

**4. What are 2–3 ‘lessons’ that you have learnt from this overall experience about carbon management and business planning, i.e. the processes and practices applied in this module?**

a)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------b)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------c)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**What actions and/or research should you now undertake to...**

a) apply the lessons you have recognised in the question above?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

--------------------------------------------------------------------------------------------------------------------------------------

b) to repeat these processes and practices in your business in the near future?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

--------------------------------------------------------------------------------------------------------------------------

# Module 3: Energy procurement

**How to review your energy tariffs, contracts and general procurement practices to save cost**

## Overview

Procurement decisions impact on a business’ carbon footprint as well as their bottom line. This module will demonstrate how understanding resource use within your supply chain can assist in cost-effective procurement. It will also seek to develop procurement practices that consider your carbon footprint and/or potentially reduce direct and indirect costs. The practice guide supplied with this module covers procurement of raw materials and services as well as how to get the best price when you procure electricity, gas and fuel. The **Skills survey/matrix** identified these as:

* [insert gaps from survey]

These skills were considered to be [insert percentage developed] and were considered [insert level of importance] to the business.

## Module learning outcomes – refer to practice guide for more detail on content

On completion of this module, and after relevant site demonstrations and with the assistance of a practice guide, participants will be able to:

1. Use energy market and price trends to inform business planning.
2. Communicate and investigate contracts and market intelligence with engaged stakeholders.
3. Facilitate an understanding of resource use and price impacts and initiate tariff and/or contract reviews.
4. Identify opportunities to reduce costs, including demand management initiatives.
5. Facilitate implementation of cost reduction opportunities.
6. Monitor and investigate implementation of novel procurement practices to explore changes in the market and inform budgets.

## Target group

All members of the SLT plus site champions from management or specialist technical or engineering roles, including General Managers, Finance and Procurement Managers, and Supply Chain Managers. In particular, those site leaders who are accountable for procuring the best possible price for energy, and others who have accountabilities for sites services managing peak electricity loads. Also for others who have the desire to learn more about facilitating processes within their resource management systems to deliver ongoing cost savings and sustainability benefits within their operations and across their supply chain.

## Prerequisites

To successfully participate in this module the participants should have the following prerequisites

* experience in, and knowledge of, the sites strategic intent for resource efficiency
* a basic understanding of the industry sector and regulatory environment, including but not limited to, environmental protection, carbon and energy reporting regulations.

## Special features

These practices are firstly demonstrated on-site so that the process is experienced by all those who can support or derail the outcomes.

This action learning module is available for site champions to deepen their understanding and apply the skills to sustain the practices and processes demonstrated on site as well as other processes in the practice guides.

## Training delivery

The training is delivered using the following action learning steps:

1. Demonstration of the price trends and market information.
2. Demonstration of contract and tariff review (see **facilitator runsheet**).
3. Conduct a debriefing (see **action learning log** below).
4. Review practices and tools applied or not applied but relevant using the practice guide.
5. Put an action plan together to apply these practices in your business in the near future (see **practice guide**).
6. Implement actions as planned.
7. Review learning outcomes using action learning log and evidence of implemented actions for assessment and recognition of learning/skills.

## Possible assessment evidence

This module does not map to any units of competency in the MSS11 Sustainability Training Package, however, it might map to units from other Training Packages or internal enterprise programs.

The module may generate evidence of activities and/or learning, such as:

* A presentation of the procurement initiatives arising from a review of invoices, contracts and purchasing criteria
* Contract evaluation
* Tariff review
* Runsheet for the workshop to refine sustainability purchasing criteria
* Project brief for delegating changes to purchasing practices
* Communications about demand management initiatives consistent with tariff review, e.g. emails initiating a review of shutdown or start-up procedures.

# M3 Action learning log – Energy procurement

The purpose of this action learning log is to capture your reactions to the planning forum and other work related to this module so that you can recognise in explicit terms what you have learnt. Then you can make plans to apply these lessons for your own development and progress related business outcomes. But first consider the goals of this module.

**Which learning outcomes for this module are you accountable for given your role in the business and the overall goals or objectives of this initiative?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What are your overall learning goals or objectives for this module are you seeking to achieve? (If not able to describe this yet consider again later in this review).**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 1: Review immediate demonstration, i.e. the planning forum you just participated in a few moments ago.**

**What happened during the planning forum? List down everything you can remember about the planning forum? Which aspects were of greatest interest?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**List the outcomes achieved from this module?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------**List down the process, i.e. how the forum was conducted, that you can recall.**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What helped you achieve the outcome? What didn’t help?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 2: Read the Practice guide and highlight with a pen those elements of the guide that you covered before during or after the planning forum.**

**Consider how you have gone about this type of work previously and discuss the similarities and differences with your colleagues.**

**Similarities:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Differences:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Consider the tools applied. Which of these tools listed here would you be inclined to use…**

Indicate with a number (1) As is? (2) With some modification? (3) No use at this stage because – not seen it in use/not applicable/or not seen as useful?

|  |  |
| --- | --- |
| Practice guide |  |
| Energy markets presentation |  |
| Tariff and power factor analysis tool |  |
| Facilitator runsheet |  |

**Part 3: Now it’s time to consolidate what you have learnt from this module and plan what you will do next. Reread what you have written so far in part 1 and part 2 and answer the following questions.**

**4. What are 2–3 ‘lessons’ that you have learnt from this overall experience about energy procurement and business planning, i.e. the processes and practices applied in this module?**

a)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

b)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

c)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What actions and/or research should you now undertake to...**

a) Apply the lessons you have recognised in the question above ?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

--------------------------------------------------------------------------------------------------------------------------------------b) Repeat these processes and practices?

Action?

--------------------------------------------------------------------------------------------------------------------------------------Who with?

--------------------------------------------------------------------------------------------------------------------------------------By when?

# Module 4: Energy efficiency opportunities

**How to get resource efficiency opportunities implemented in alignment with the strategic intent of your sustainability plans.**

## Overview

Energy efficiency makes good business sense as well as improving our environment. The opportunity to save 10–30% or more on your utility bills is a common outcome from an energy assessment.

A key challenge that this module aims to meet is often to get input and buy-in from the right people so that the best ideas to improve efficiency can be progressed and cost savings achieved on your bottom line. Most businesses have had some exposure to energy efficiency, through audit programs, greenhouse gas emissions reporting, government funding schemes, or simply through their own practices and efficient use of resources. This guide does not look to repeat the guidance or processes that are provided by other programs; rather it seeks to provide practical and useful tools and tips that can help businesses get the most from their efficiency initiatives. The skills gaps have been described in the **skills survey/matrix** for the industry as:

* [Insert skills gaps]

These skills were considered to be [insert percentage developed] and were considered [insert level of importance] to the businesses surveyed. Refer to skills survey results for the site.

## Module learning outcomes - refer practice guide for more detail on content

On completion of this module and after relevant site demonstrations and with the assistance of a practice guide participants will be able to:

1. Present a baseline, including targets, business and production plans and sustainability audit outcomes, where available, in a manner that informs energy efficiency opportunities.
2. Facilitate ideas on energy efficiency.
3. Use and refine business case practices to a standard that will attract funding, where required, to meet financial hurdles.
4. Facilitate opportunity/project evaluation workshop using audit outcomes, where appropriate, so that the SLT can prioritise and plan implementation sympathetic to the budget cycle.
5. Facilitate project development and implementation using project briefs and master opportunity workbook to engage staff, monitor and report progress of energy/water cost saving opportunities.
6. Recognise the need for measurement and verification (M&V) and monitor the application of appropriate protocols with site engineering team, contractors/consultants.
7. Report outcomes to SLT consistent with regulatory requirements, where applicable.

## Target group

All members of the site leadership team plus site champions from management or specialist technical or engineering roles, including General Managers, Finance and Procurement Managers, and Supply Chain Managers. In particular, those site leaders who are accountable for controlling the cost of production and providing site services at optimum efficiency, e.g. site Engineer’s Production Managers and senior maintenance staff. Also for others who have the desire to learn more about facilitating processes within your resource management systems to deliver ongoing cost savings and sustainability benefits within their operations and across their supply chain.

## Prerequisites

To successfully participate in this module, participants should have the following prerequisites:

* experience in, and knowledge of, the sites strategic intent for resource efficiency (Module 1)
* knowledge of carbon initiatives affecting their supply chain so that associated efficiency opportunities can be linked to these initiatives (Module 2)
* knowledge of the sites energy procurement initiatives so that any peak load management initiatives can be communicated to procurement to support tariff reviews and contract negotiations (Module 3)
* a basic understanding of the industry sector and regulatory environment, including but not limited to, environmental protection, carbon and energy reporting regulations (Module 1)
* basic analysis skills using sites metering and performance monitoring systems.

## Special features

These practices are firstly demonstrated on-site so that the process is experienced by all those who can support or derail the outcomes.

This action learning module is available for site champions to deepen their understanding and apply the skills to sustain the practices and processes demonstrated on-site as well as other processes in the practice guides.

## Training delivery

The training is delivered using the following action learning steps:

1. Demonstration of the opportunity identification and pre screening workshop.
2. Demonstration of the business case development process – selected members of the SLT.
3. Demonstration of the opportunity evaluation workshop (see **facilitator** **runsheet**).
4. Conduct a debriefing (see **action learning log** below).
5. Review practices and tools applied or not applied but relevant using the practice guide.
6. Put an action plan together to apply these practices in your business in the near future (see **practice guide**).
7. Implement actions as planned.
8. Review learning outcomes using learning log and evidence of implemented actions for assessment and recognition of learning/skills.

The learning activities could take 30 hours or so depending on the complexity of the business and the research to be undertaken.

## Possible assessment evidence

This module supports some aspects of several units of competency from the MSS11 Sustainability Training Package, see the **guideline mapping** document.

The following materials and activities might contribute to evidence of competency should the participant seek assessment by a RTO:

* A presentation of the energy use baseline used to inform efficiency opportunities.
* A facilitated runsheet for the opportunity identification workshop or customised toolbox session.
* A completed opportunities master list workbook.
* A completed business case for one capex or opex related opportunity with SLT sign-off or reason for not progressing
* A workshop runsheet for the project evaluation workshop.
* Completed project briefs.

# M4 Action learning log – Energy efficiency opportunities

The purpose of this action learning log is to capture your reactions to the planning forum and other work related to this module so that you can recognise in explicit terms what you have learnt. Then you can make plans to apply these lessons for your own development and progress related business outcomes. But first consider the goals of this module.

**Which learning outcomes for this module are you accountable for given your role in the business and the overall goals or objectives of this initiative?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What are your overall learning goals or objectives for this module are you seeking to achieve? (If not able to describe this yet consider again later in this review)**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 1: Review immediate demonstration, i.e. the planning forum you just participated in a few moments ago.**

**What happened during this planning forum? List down everything you can remember about the planning forum? Which aspects were of greatest interest?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**List the outcomes achieved from this module?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**List down the process, i.e. how the forum was conducted, that you can recall.**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What helped you achieve that outcome? What didn’t help?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 2: Read the Practice guide and highlight with a pen those elements of the guide that you covered before during or after the planning forum.**

**Consider how you have gone about this type of work previously and discuss the similarities and differences with your colleagues.**

**Similarities, i.e. current practices:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Differences:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Consider the tools applied. Which of these tools listed here would you be inclined to use…**

Indicate with a number (1) As is? (2) With some modification? (3) No use at this stage because – not seen it in use/not applicable/or not seen as useful?

|  |  |
| --- | --- |
| Practice guide |  |
| Energy baseline presentation |  |
| Energy baseline tool |  |
| Facilitator runsheet |  |
| Energy efficiency opportunities workbook |  |

**Part 3: Now it’s time to consolidate what you have learnt from this module and plan what you will do next. Reread what you have written so far in part 1 and part 2 and answer the following questions.**

**4. What are 2–3 ‘lessons’ that you have learnt from this overall experience about energy resource efficiency opportunities and business planning, i.e. the processes and practices applied in this module?**

a)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

b)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

c)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What actions and or research should you now undertake to...**

a) Apply the lessons you have recognised in the question above?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

--------------------------------------------------------------------------------------------------------------------------------------b) Repeat these processes and practices in the near future in your business?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

# Module 5: Energy management systems

**How to embed energy into your management system so that your system supports the strategic intent of your energy and sustainability plans, including both technical and behavioural resource efficiency opportunities**

## Overview

Sustainability and energy efficiency should not be viewed as activities separate to the everyday activities of the business. It is essential that these considerations are integrated into your existing managements systems. This will ensure that sustainability is considered in decisions on an ongoing basis, for example, ensuring lifecycle costs being considered in capital replacement.

It will also ensure that you are in a position to demonstrate to potential customers that you understand your resource and carbon footprints and that you are in a position to provide auditable figures for their reporting.

Management systems include policies, roles and responsibilities, standard operating procedures, capital expenditure documentation and resource use reporting. This module will cover why these systems enhance cost saving practices and technologies, and how to make the necessary changes to your existing systems.

This module’s focus is on establishing a working relationship with the site executive or leadership team to establish or maintain a systemic response to the risks and opportunities associated with energy use.

The skills gaps have been described in the **skills survey/matrix** for the industry as:

* [Insert skills gaps]

These skills were considered to be [insert percentage developed] and were considered [insert level of importance] to the businesses surveyed. Refer to skills survey results for the site.

## Module learning outcomes – refer to the practice guide for more detail on the content

The practice guide presents six key practices that will help business to better understand the importance of management systems for energy, carbon and water in their business, and how they can diagnose and design and improve their management systems to drive continuous improvement of sustainability initiatives.

On completion of this module, and after relevant site demonstrations and with the assistance of a practice guide, participants will be able to:

1. Communicate the need for a systems approach to energy efficiency to progress the strategic intent of the energy plans.
2. Diagnose, communicate and investigate gaps in management systems with engaged stakeholders. Select and administer a suitable energy systems diagnostic consistent with the strategic intent of your site energy plans.
3. Design improvements to management systems necessary to systematically identify new opportunities and sustain existing energy efficiency opportunities (technology and behavioural) in collaboration with the SLT.
4. Develop a project brief to make improvements or facilitate others to make changes to management and monitoring systems consistent with individual’s delegated authority.
5. Orientate system users to the required changes in their management systems using a project brief.
6. Monitor and investigate and report outcomes of enhancements to energy management systems using regular management forums.

## Target group

Site champions from management or specialist technical or engineering roles, including General Managers, Finance and Procurement Managers, Supply Chain Managers, Site Managers, Quality Managers, Site Engineers and Production Managers. Also for others who have the desire to learn more about facilitating processes within your resource management systems to deliver ongoing cost savings and sustainability benefits within their operations and across their supply chain.

## Prerequisites

To successfully participate in this module, participants should have the following pre requisites:

* experience in, and knowledge of, the sites strategic intent for resource efficiency (Module 1)
* knowledge of carbon initiatives affecting their supply chain (Module 2)
* knowledge of the sites energy procurement initiatives, including any peak load management initiatives (Module 3)
* knowledge of the sites priority resource opportunities and other sustainability initiatives in the sites energy plans (Module 4)
* a basic understanding of the industry sector and regulatory environment, including but not limited to, environmental protection, carbon and energy reporting regulations.

## Special features

These practices are firstly demonstrated on-site so that the process is experienced by all those who can support or derail the outcomes.

This action learning module is available for site champions to deepen their understanding and apply the skills to sustain the practices and processes demonstrated on-site as well as other processes in the practice guides.

## Training delivery

The training is delivered using the following action learning steps

1. Demonstration of the planning workshop (see **facilitator runsheet**).
2. Conduct a debriefing (see **action learning log** below).
3. Review practices and tools applied or not applied but relevant using the practice guide (see **practice guide**).
4. Action plan applying these practices in your business.
5. Implement actions as planned.
6. Review learning outcomes using learning log and evidence of implemented actions for assessment and recognition of learning/skills.

## Possible assessment evidence

This module supports some aspects of several units of competency from the MSS11 Sustainability Training Package, see the **guideline mapping** document.

The following materials and activities might contribute to evidence of competency should the participant seek assessment by a RTO:

* A completed workshop runsheet template that demonstrates a facilitated approach to the management systems diagnostic workshop.
* Results documented from the diagnostic (BRESCU matrix, One2Five or similar), including critical actions and systems to be improved.
* Project briefs for each management system or critical action completed and signed-off.
* A runsheet and minutes and photos from an orientation workshop for the staff who are involved in the relevant management systems.
* Evidence of sustainability and other resource efficiency criteria, e.g. muda being documented in design and general procurement procedures and business decisions.

# M5 Action learning log – Energy management systems

The purpose of this action learning log is to capture your reactions to the planning forum and other work related to this module so that you can recognise in explicit terms what you have learnt. Then you can make plans to apply these lessons for your own development and progress related business outcomes. But first consider the goals of this module.

**Which learning outcomes for this module are you accountable for given your role in the business and the overall goals or objectives of this initiative?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What are your overall learning goals or objectives for this module are you seeking to achieve? (If not able to describe this yet consider again later in this review).**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 1: Review immediate demonstration, i.e. the planning forum you just participated in a few moments ago.**

**What happened during the planning forum? List down everything you can remember about the planning forum? Which aspects were of greatest interest?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**List down the process, i.e. how the forum was conducted, that you can recall.**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**List the outcomes achieved from this module.**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What helped you achieve that outcome? What didn’t help?**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Part 2: Read the Practice guide and highlight with a pen those elements of the guide that you covered before during or after the planning forum.**

**Consider how you have gone about this type of work previously and discuss the similarities and differences with your colleagues.**

**Similarities, i.e. current improvement processes to improve energy management:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Differences:**

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**Consider the tools applied. Which of these tools listed here would you be inclined to use…**

Indicate with a number (1) As is? (2) With some modification? (3) No use at this stage because – not seen it in use/not applicable/or not seen as useful?

|  |  |
| --- | --- |
| Practice guide |  |
| Energy management systems presentation |  |
| Diagnostic to identify areas for improvement and benchmark management practices |  |
| Facilitator runsheet |  |

**Part 3: Now it’s time to consolidate what you have learnt from this module and plan what you will do next. Reread what you have written so far in part 1 and part 2 and answer the following questions**

**4. What are 2:3 ‘lessons’ that you have learnt from this overall experience about management systems and business planning, i.e. the processes and practices applied in this module?**

a)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

b)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

c)

--------------------------------------------------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------------------------------------------------

**What actions and or research should you now undertake to...**

a) Apply the lessons you have recognised in the question above?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

b) Repeat these practices in the near future?

Action:

--------------------------------------------------------------------------------------------------------------------------------------Who with:

--------------------------------------------------------------------------------------------------------------------------------------By when:

--------------------------------------------------------------------------------------------------------------------------------------