



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CPCBC5012A Manage the application and monitoring of energy conservation and management practices and processes**

**Release: 1**

## **CPCBC5012A Manage the application and monitoring of energy conservation and management practices and processes**

### **Modification History**

Not Applicable

### **Unit Descriptor**

**Unit descriptor** This unit of competency specifies the outcomes required to manage the application and monitoring of energy conservation and management practices and processes within the building and construction industry. Successful application of the unit requires knowledge of energy management practices and methodologies, statistical analysis, current trends and factors in energy conservation, and legislative and regulatory requirements.

### **Application of the Unit**

**Application of the unit** This unit of competency supports the needs of builders, senior managers within building and construction firms and other industry professionals responsible for managing energy conservation and management practices and processes in medium rise building and construction projects.

### **Licensing/Regulatory Information**

Not Applicable

## **Pre-Requisites**

**Prerequisite units** Nil

## **Employability Skills Information**

**Employability skills** This unit contains employability skills.

## **Elements and Performance Criteria Pre-Content**

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Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare an energy conservation and management plan for the organisation.	<ul style="list-style-type: none"><li>1.1. Organisational policy and operational guidelines for energy conservation and management are reviewed.</li><li>1.2. <b>Best practice and benchmarking methods</b> are used to determine current energy conservation and management performance.</li><li>1.3. Opportunities for energy conservation and savings are identified within the immediate work area and on project sites.</li><li>1.4. Staff and contractors are asked for ideas and suggestions concerning organisational energy conservation.</li><li>1.5. <b>Energy conservation and management plan</b> is prepared on the basis of available information.</li><li>1.6. Advice is sought from senior management, as required, concerning implementation of the plan.</li></ul>
2. Manage the energy conservation and management plan.	<ul style="list-style-type: none"><li>2.1. Staff and contractors are informed of their obligations in implementing the energy conservation and management plan and are monitored for compliance.</li><li>2.2. <b>Energy data-gathering systems</b> are evaluated, changes are made as necessary, and system is managed for maximum efficiency and accuracy.</li><li>2.3. New projects are evaluated to determine their impact on existing energy conservation planning obligations.</li><li>2.4. Participation by contractors in the achievement of plan's objectives is encouraged and monitored.</li><li>2.5. Difficulties, obstructions or factors that impact on the achievement of the energy conservation plan are identified and measures are taken to address them.</li><li>2.6. Information concerning updates to the plan is communicated to staff and stakeholders.</li><li>2.7. Environmental management plan evaluation strategy is developed and managed to ensure that organisational objectives are achieved.</li></ul>
3. Monitor the energy conservation and management plan to ensure organisational objectives are being met.	<ul style="list-style-type: none"><li>3.1. Organisational <b>feedback systems</b> are implemented and managed to assist with compliance with and management of the plan.</li><li>3.2. Regular feedback is obtained from staff and contractors concerning the efficiency of the operations of the energy conservation and management plan.</li><li>3.3. Energy savings are identified and promoted throughout the organisation.</li><li>3.4. Energy wastage is reported and strategies are</li></ul>

**ELEMENT**

**PERFORMANCE CRITERIA**

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implemented as necessary to assist with compliance with the energy management plan.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
4. Evaluate and recommend changes to the energy conservation and management plan.	<p>4.1. Energy conservation and management plan is reviewed to identify areas needing improvement and action is taken.</p> <p>4.2. Measures are introduced to encourage staff to suggest more efficient procedures and innovations to improve the performance of the energy conservation and management plan.</p> <p>4.3. Plans are redrafted to include improvements or address deficiencies identified during monitoring.</p> <p>4.4. Revised plans are submitted to senior management for endorsement and procedures are amended accordingly.</p>

## **Required Skills and Knowledge**

### **REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit.

#### **Required skills**

Required skills for this unit are:

- analytical skills, including the ability to assess variations in energy management performance and identifying reasons for those variations
- communication skills to:
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - liaise with local authorities, regulatory agencies and clients
  - provide information
  - read and interpret documents from a variety of sources
  - seek advice and feedback
  - use and interpret non-verbal communication
  - use language and concepts appropriate to cultural differences
  - written skills to prepare and revise an energy conservation and management plan
- numeracy skills to carry out statistical analysis and apply calculations
- evaluation skills to evaluate previous energy conservation and management performance and identify strengths and weaknesses of the process
- management skills, including the ability to develop and implement energy conservation and management plans that improve organisational achievements in regard to energy saving objectives

## **REQUIRED SKILLS AND KNOWLEDGE**

- problem solving skills, including the ability to identify energy conservation and management issues and address these before they become contentious
- staff management skills in order to effectively manage personnel in the administration of organisational energy conservation and management systems.

### **Required knowledge**

Required knowledge for this unit is:

- benchmarking and the establishment of energy conservation goals
- current trends and factors in energy conservation and management
- energy management practices and methodologies
- organisational policies and practices supporting energy conservation and management
- relevant legislative and regulatory requirements and standards
- relevant licensing arrangements
- statistical analysis methodologies.

## Evidence Guide

### EVIDENCE GUIDE

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The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

#### Overview of assessment

This unit of competency could be assessed by effective management of the application and monitoring of energy conservation and management practices and processes on medium rise building and construction projects.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

#### Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- develop effective energy conservation and management action plans and strategies
- assess extent of effective energy management advice provided to the organisation
- determine effectiveness and efficiency of the energy conservation and management recording and reporting systems and preparation of documentation to organisational standards
- implement effective processes to manage improvements to organisational energy conservation and management practices and reduce the non-conforming practices
- research current trends in energy conservation and management
- conform to relevant legislative, regulatory and organisational requirements.

#### Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.



## EVIDENCE GUIDE

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Resource implications for assessment include:

- documentation that should normally be available in a building or construction office
- relevant codes, standards and regulations
- office equipment, including calculators, photocopiers and telephone systems
- computers with appropriate software to view 2-D CAD drawings, run costing programs and print copies
- a technical reference library with current publications on measurement, design, building construction and manufacturers' product literature
- a suitable work area appropriate to the construction process.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

### Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected

## EVIDENCE GUIDE

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must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

## Range Statement

### RANGE STATEMENT

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The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

***Best practice and benchmarking methods*** include:

- comparisons of current, previously established and external energy conservation and management plans
- costs associated with optimum environmental conformance
- formally or informally prepared performance indicators against energy management objectives
- performance measurements against industry, local authority, regulatory or world standards
- specific energy targets, including electrical

## RANGE STATEMENT

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<i>Energy conservation and management plan</i> includes:	power usage and fuel usage, heat loss and thermal efficiency <ul style="list-style-type: none"><li>• statistical record keeping, using at start, ongoing and at conclusion measurements.</li><li>• formally or informally gathered information concerning energy issues and requirements</li><li>• key people to be consulted or included in decision making</li><li>• specific forms of activity to be pursued or which are subject to monitoring or evaluation</li><li>• timeframes and key energy conservation benchmarks to be achieved.</li></ul>
<i>Energy data-gathering systems</i> include:	<ul style="list-style-type: none"><li>• formal and informal reports from employees and contractors</li><li>• reports from supply organisations</li><li>• scheduled energy conservation management meetings and briefings</li><li>• conformance reporting on achievement of milestones or performance targets</li><li>• statistical and analytical data in support of energy management objectives.</li></ul>
<i>Feedback system</i> includes:	<ul style="list-style-type: none"><li>• feedback from supply authorities</li><li>• formal and informal information gathering from employees and contractors</li><li>• specifically documented processes using formal reporting arrangements</li><li>• spot checks on aspects of the energy management process.</li></ul>

## Unit Sector(s)

Unit sector                      Construction

## Co-requisite units

Co-requisite units              Nil

## **Functional area**

### **Functional area**