Draft 0.1

This is our work-in-progress update to CPCSUS5003A Manage energy efficient building methods and strategies: https://training.gov.au/Training/Details/CPCSUS5003A.

We are working with industry experts to ensure the updated unit:

- meets current and anticipated industry needs
- complies with current Standards for Training Packages
- is written in clear understandable English.

Information on our training package review and development process is available here: http://www.artibus.com.au/project-stage.

Summary of changes from current endorsed unit

Re-templated to meet Standards for Training Packages 2012.

Sequenced Elements and Performance Criteria.

Specified what and how performance is demonstrated in Performance Evidence.

Captured critical Range Statement items and included industry relevant knowledge in Knowledge Evidence.

Stated mandatory conditions and specific requirements for assessment.

CPCSUS5003
Manage energy efficient building methods and strategies

Application

This unit of competency specifies the outcomes required to manage and ensure that energy efficient building methods and strategies are supported by employees and contractors. It includes conducting appropriate performance testing of the construction to determine adherence to energy efficiency methodologies and techniques.

This unit of competency applies to builders and site managers overseeing the construction of buildings designed to meet energy efficient ratings or improve the energy efficiency characteristics of a residential or commercial building.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Prerequisite Unit

Nil.

Unit Sector

Construction.

Elements and Performance Criteria

1. Plan and prepare for construct of energy efficient buildings.	1.1	Review plans, drawings and specifications to identify energy efficient requirements of finished building or works.
	1.2	Determine class and type of building.
	1.3	Consult relevant stakeholders to identify the purpose and use of the building and the energy efficiency expectations of its owners or occupiers.
	1.4	Cost, select and source construction materials and products to conform to energy efficiency expectations of the building or works.
	1.5	Schedule works to be undertaken to support energy efficient building strategy.
	1.6	Resource project with appropriately skilled tradespeople with energy efficiency competency.
	1.7	Develop strategies for the disposal, recovery or reuse of waste materials for the project.
	1.8	Communicate budget, timelines and impact of energy efficiency on the project to owner, occupier and other stakeholders.
2. Monitor project energy efficiency.	2.1	Evaluate the impact on energy efficiency against the expectations to assist in decision-making processes of construction methods, materials selection and alteration of works.

	2.2	Assess the capacity to maximise energy efficiency by improving building envelope sealing prior to other work commencing.
	2.3	Brief trades and other workers on the building project regarding expected energy efficiencies, quality of work, methods and techniques to be used.
	2.4	Monitor project and maintain communication with subsequent trades to ensure benefits of energy efficient requirements and techniques are not lost or diminished.
3. Evaluate and communicate energy efficiency outcomes.	3.1	Assess works undertaken for adherence to energy efficiency processes.
	3.2	Conduct and record hand held thermal imaging assessment of building or works to determine presence of unwanted heat and air leakages and address findings where necessary.
	3.3	Conduct duct testing to identify location of leakages and implement remedial work to address findings.
	3.4	Seek external expert verification of star ratings for building energy efficiency.

Foundation Skills

As well as the foundation skills explicit in the performance criteria of this unit, candidates require:

- numeracy skills to:
  - use statistical data to measure and compare energy efficiency
- oral communication skills to:
  - use appropriate technical language to convey a design and construction brief to a work group, client and stakeholders
- technology skills to:
  - use communication tools and devices to communicate and collaborate effectively with others
  - use equipment and programs to access, extract information and develop relevant documentation

Unit Mapping Information

Supersedes and equivalent to CPCSUS5003A Manage energy efficient building methods and strategies.

Links

Companion Volume Implementation Guide: to be added.

Assessment Requirements for CPCSUS5003 Manage energy efficient building methods and strategies

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by managing energy efficient building methods and strategies for two building and construction projects. One to be a low rise commercial construction project and one to be a low rise residential construction project.

In doing this, the candidate must:

- prepare costing of energy efficient materials, product and labour
- prepare a project schedule with budget and time limes to communicate to stakeholders and present to on-site workers
- determine processes for minimising, reusing or reclaiming waste.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- building science principles and their application for improved energy efficiency
- environmental and sustainability legislation, requirements, policies, standards and guidelines
- Environmental Protection, Biodiversity Conservation Act
- government building and environmental requirements, codes and standards
- National Construction Code
- organisational policies and procedures, quality systems and best practice approaches
- properties, characteristics and limitations of approved building materials and component:
    - structural insulated panels
    - glazing
    - thermal mass
    - impacts on materials and products used in different climate zones and environmental conditions
- processes, procedure and techniques of:
    - building methods and installation of products
    - evaluating energy efficiencies in buildings
    - sealing the building envelope
- sustainability principles and concepts
- approaches to waste management consistent with principles of energy efficiency:
    - processes for minimising, reusing, recycling and recovering waste materials
- workplace safety:
    - hierarchy of control
- project plans, specifications and working drawings
- general construction terminology

- benchmarks to meet standards and rating systems for energy efficiency, such as:
    - Green Star requirements
    - WELL buildings
    - Passive House
- techniques which support energy efficiency
    - protecting the air barrier by minimising and sealing gaps using advanced framing techniques to increase construction productivity, reduce thermal bridging and increase operational energy efficiency
    - installing insulation on the outside of the frame and in the roof, walls and floor
    - reducing the effect of thermal bridging
    - selecting appropriately sized HVAC system, which considers the tightness of the structure and incorporates heat or energy recovery systems as appropriate for ventilation
    - using air or vapour barriers to ensure the entire building envelope is sealed, separating the inside environment from the outside
    - using thicker insulation to improve the building's thermal performance

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment of performance must be undertaken in the workplace or in a simulated workplace environment.

Candidates must be provided with:

- current and appropriate environmental and sustainability legislation, requirements, policies, standards and guidelines
- government building codes and standards
- project plans, specifications and manufacturer's instructions
- organisational policies, procedures and workplace safety requirements
- sufficient and appropriate equipment and materials to facilitate manage energy efficient building methods and strategies.

Links

Companion Volume Implementation Guide: to be added.