Draft 0.1

This is our work-in-progress update to CPCSUS5002A Develop action plans to retrofit existing buildings for energy efficiency: https://training.gov.au/Training/Details/CPCSUS5002A.

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.

CPCSUS5002
Develop action plans to retrofit existing buildings for energy efficiency

Application

This unit of competency specifies the outcomes required when planning to improve the energy efficiency of an existing building. It includes researching appropriate products, materials and systems and engaging with clients and stakeholders when retrofitting a building.

The unit of competency applies to building designers, tradespeople and building project managers involved in the design or development of retrofits for energy efficiency.

This unit of competency applies to those who apply skills and knowledge to identify, analyse and evaluate approaches to sometimes unpredictable problems.

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 retrofit processes.	1.1	Discuss client's use of the building and specific expectations of energy efficient retrofit priorities and incorporate into planning.
	1.2	Initiate energy assessment or review report from a prior assessment and discuss with key stakeholders to determine energy conservation measures.
	1.3	Provide client with overview of recommended processes and information relevant to generating an energy efficient retro fit.
2. Evaluate opportunities to improve energy conservation and efficiency of the existing building.	2.1	Review and evaluate recommendations from energy efficiency assessor for input into the retrofit action plan.
	2.2	Identify limitations and obstacles involved in the energy efficiency upgrade of the building and develop appropriate solutions.
	2.3	Identify and manage risks of retrofitting existing building for improved energy efficiency, including possible installation of mechanical ventilation systems.
	2.4	Develop and cost strategies that provide a measurable increase in the operational energy efficiency of the existing building.
	2.5	Assess structural adequacy of the existing building to determine appropriateness of retrofit solutions for energy efficiency.
3. Research and select energy	3.1	Research materials, products and systems specifications for appropriateness of the energy efficiency for the existing building.

efficient materials, products and systems.	3.2	Obtain literature and consult with manufacturer representatives to identify installation and operational specifications.
	3.3	Check compliance requirements for selecting and installing materials, products and systems.
	3.4	Assess thermal and acoustic insulation of the building to determine energy efficiency rating.
	3.5	Determine quality of insulation and installation to improve insulating properties of the building.
4. Finalise retrofit action plan.	4.1	Develop final retrofit action plan to comply with organisational procedures.
	4.2	Explain projected benefits of undertaking each of the proposed retrofit measures to client.
	4.3	Obtain client sign-off and finalise documentation of agreed plan.

Foundation Skills

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

- numeracy skills to:
  - calculate areas, volume and mass to determine dimensions and plan design
  - convert data into measurable and comparable information
- problem solving skills to:
  - recognise and overcome design and structural construction problems
- 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 CPCSUS5002A Develop action plans to retrofit existing buildings for energy efficiency.

Links

Companion Volume Implementation Guide: to be added.

Assessment Requirements for CPCSUS5002 Develop action plans to retrofit existing buildings for energy efficiency

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by developing an action plan to retrofit and improve the energy efficiency of a medium rise existing residential or commercial building.

In doing this, the candidate must:

- determine class, type, condition and use of building
- produce energy efficiency comparison of existing building and retrofitted building
- produce costing, timelines and products and materials for the retrofit project
- source applications for permits and service connections.
- identify limitations and obstacles to retrofit and determine solutions
- develop a project risk management

Knowledge Evidence

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

- building science principles and their application to the retrofitting of existing buildings for improved energy efficiency
- environmental and sustainability legislation, requirements, policies, standards and guidelines
- Environmental Protection, Biodiversity Conservation Act
- national, state and territory and local government building codes and standards
- National Construction Code
- organisational policies and procedures, quality systems and best practice approaches
- addressing retrofitting expectations and benefits:
    - improved levels of comfort for the occupants
    - increased air changes per hour to improve indoor air quality
    - increased durability of the building
    - potential for improved return on investment
    - reduction in and prevention of mould
    - reduction in heating and cooling costs
    - fire resistance and resistance from bushfire attack
- risks or retrofitting:
    - budget constraints
    - condition of existing building
    - local council planning provisions
    - land overlays and requirements relating to neighbourhood character
    - orientation of the existing building
    - original design and construction of existing building

    - position of existing services to the building
    - presence of protected vegetation adjacent to existing building
    - protection of existing building under heritage listing
    - proximity of other buildings or structures
- properties, characteristics and limitations of selected building materials and components,
- processes, procedure and techniques of:
    - energy assessment to develop energy efficient strategies
    - calculating using measurements and formulas
- sustainability principles and concepts
- workplace safety:
    - hierarchy of control
    - hazardous manual tasks
    - working at heights
- project plans, specifications and working drawings
- general construction terminology

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 and environmental requirements, 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 the development of an action plan to retrofit an existing building for energy efficiency.

Links

Companion Volume Implementation Guide: to be added.