



Australian Government

Department of Education, Employment and Workplace Relations

ICTSUS7236A Manage improvements in ICT sustainability

Release: 1

ICTSUS7236A Manage improvements in ICT sustainability

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to reduce the sustainability related impacts of ICT operations through energy conservation, energy efficiency and changing user behaviour. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.
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Application of the Unit

Application of the unit	This unit applies to individuals employed as an ICT consultant or in an ICT related role in planning and design of networks in an organisation. Work normally involves a high degree of autonomy or is within a management team with a high level of responsibility.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Critically analyse an organisation's ICT assets energy footprint	1.1. Audit and assess level and type of use across the range of ICT devices, infrastructure and software 1.2. Audit and establish baselines of ICT energy consumption and other elements contributing to the organisation's carbon footprint 1.3. Assess ICT usage in relation to its contribution to the organisation's business goals and priorities 1.4. Determine critical issues for the organisation relevant to ICT usage and carbon footprint 1.5. Assess current ICT usage in relation to sustainable asset management 1.6. Apply industry best practice where appropriate
2. Develop ICT sustainability strategies and policy	2.1. Include goals for reduction of sustainability impacts and equipment life cycle management approaches in organisational policy 2.2. Check policy scope is consistent with industry standards and benchmarks and amend where necessary 2.3. Ensure policy reflects the organisation's commitment to sustainability as an integral part of business planning and as a business opportunity 2.4. Consult with stakeholders as an integral part of policy development, implementation and review processes 2.5. Recommend policy options based on effectiveness, timeframes and cost 2.6. Develop and produce strategies for implementation, monitoring, review and audit as part of the policy documentation.
3. Formulate technical and behavioural solutions to improve ICT sustainability	3.1. Determine and document hardware, software, network and interface requirements of solutions 3.2. Develop strategies to improve sustainability outcomes including for example energy efficiency and alternative energy sources 3.3. Develop guidelines for improving sustainability through asset management 3.4. Document requirements, resource allocations, training needs and implementation timelines for selected strategies and obtain sign off from relevant stakeholders

ELEMENT	PERFORMANCE CRITERIA
4. Monitor and evaluate sustainability data	4.1. Develop criteria for measuring performance improvement 4.2. Identify trends that may indicate the need for remedial action and use to promote continuous improvement of performance 4.3. Modify policy and technical solutions in response to data analysis to ensure improvements are made 4.4. Determine scope, frequency and method of monitoring and reporting in consultation with stakeholders 4.5. Review data to ensure compliance with the management of sustainability and legislative requirements 4.6. Document findings and present to stakeholders

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- analytical skills to research, analyse and present information
- communication skills to consult with stakeholders
- literacy skills to:
 - read and evaluate complex and formal documents, such as legislation and technical reports
 - prepare written reports and other documentation requiring precision of expression and language and structures suited to the intended audience
- safety awareness skills to implement enterprise occupational health and safety (OHS) policy and procedures
- technical skills to:
 - quantify sustainability objectives, targets, achievements and measures
 - use relevant systems and procedures to aid in the achievement of ICT sustainability

Required knowledge

- energy efficiency and alternative energy sources
- hazard identification and control

REQUIRED SKILLS AND KNOWLEDGE

- industry standards
- IT:
 - hardware
 - interfacing
 - networking
 - software
- legislation framework underpinning sustainability
- policy development processes and practices
- principles, practices and available tools and techniques of sustainability management in the ICT industry
- relevant ISO standards
- sustainability from a local, national and international perspective
- sustainability including ecological, economic and social issues

Evidence Guide

EVIDENCE GUIDE

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

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

Evidence of the ability to:

- analyse patterns of ICT use
- develop policy that complies with regulatory requirements
- develop a workable implementation strategy
- formulate solutions to reduce ICT-based emissions
- develop measurable criteria for reviewing improvement.

Context of and specific resources for assessment

Assessment must ensure access to reference materials, resources and equipment updated regularly to meet rapid changes to technology:

- relevant reports:
 - government
 - Intergovernmental Panel on Climate Change (IPCC)
 - scientific
- conference papers
- vendor white papers
- resources, tools and networking equipment
- suitable hardware and software
- suitable bandwidth for internet connections
- relevant legislation and regulations
- manufacturers' technical specifications
- relevant ISO standards.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate formulating and carrying out sustainability measures in operations
- review of analyses and solutions developed by the candidate
- review of monitoring and evaluations completed by the candidate

EVIDENCE GUIDE	
	oral or written questioning to assess required knowledge.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: ICTSUS7235A Use ICT to improve sustainability outcomes. Aboriginal people and other people from a non-English speaking background may have second language issues. Access must be provided to appropriate learning and assessment support when required. Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. Where applicable, physical resources should include equipment modified for people with special needs.

Range Statement

RANGE STATEMENT
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

RANGE STATEMENT	
regional contexts) may also be included.	
ICT devices may include:	• copies or multi-functional devices (MFDs) • laptops • PC peripherals • PCs • printer.
Infrastructure may include:	• air-conditioned • cabling • data centre and IT facilities • data storage • power supply and distribution • router • server • switches.
Software may include:	• business systems software: • customer relationship management (CRM) • environmental resource management (ERM) • in-house software • operating system • sink wrapped applications • web services.
Asset management may include:	• deployment • disposal • operation • procurement: • product evaluation • product specification • purchasing cycles • vendor selection..
Best practice information may be found in:	• publications • reports • research papers • white papers.
Sustainability impacts may include:	• greenhouse gas emissions • resource consumption and disposal • social impacts.
Life cycle management may	• asset management:

RANGE STATEMENT	
include:	• product evaluation • product specification • purchasing cycles • vendor selection • supplier chain: • design • manufacture • transportation.
Industry standards and benchmarks may include:	• AS/NZ 3598:2000 (or latest revision) • BS EN 16001:2009 Energy Management Systems • BSI BenchMark • Carbon Disclosure Project (CDP) • Dow Jones Sustainability Index (DJSI) • Global Reporting Initiative (GRI) G3 guidelines (telecommunications sector supplement) • ISO 14001 Environment AccountAbility AA1000 Assurance Standard (2008) • AS/NZ 3598:2000: • Level 1 consumption benchmark • Level 2 preliminary assessment • Level 3 economic analysis.
Stakeholders may include:	• customers • federal government • local government • management • non-government organisations • shareholders • staff • state government • suppliers.
Strategies may include:	• broadband networking • energy efficiency and conservation • location of facilities • power management • virtualisation.
Alternative energy sources may include:	• cogeneration • fuel cells

RANGE STATEMENT	
	• other renewable sources • solar • wind.
Sustainability may include:	• maximising utilisation • maximising value to business • reducing consumption.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Sustainability
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