



**Australian Government**

# **ICTSUS811 Conduct and manage life cycle assessments for sustainability**

**Release: 1**

# ICTSUS811 Conduct and manage life cycle assessments for sustainability

## Modification History

| Release   | Comments                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with ICT Information and Communications Technology Training Package Version 7.0. |

## Application

This unit describes the skills and knowledge required to conduct life cycle assessments (LCA) to evaluate the human health and environmental impacts arising from delivering products, processes and services.

It applies to individuals who are excellent communicators with a very high level of technical management skills and knowledge of telecommunications networks and systems. In this role, individuals must be able to undertake detailed research, analysis and evaluation.

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

## Unit Sector

Telecommunications – sustainability

## Elements and Performance Criteria

| ELEMENT                                          | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                            |
| 1. Define and scope LCA goals                    | 1.1 Determine reasons for executing LCA study in compliance with organisational requirements<br>1.2 Obtain access to information sources and research resources required for LCA study<br>1.3 Document aims of LCA study and align with organisational sustainability requirements<br>1.4 Identify sustainability legislation, regulations, policies and procedures and codes of practice required in the information and communication technology (ICT) industry |
| 2. Conduct life cycle                            | 2.1 Construct a life cycle flow diagram and identify all environmental                                                                                                                                                                                                                                                                                                                                                                                            |

| ELEMENT                                        | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| inventory (LCI) analysis                       | inputs and outputs, and environmental processes<br>2.2 Develop data collection strategies for LCI<br>2.3 Collect data according to industry and organisational requirements and procedures<br>2.4 Evaluate and document LCI results according to organisational requirements and procedures                                                                                                                                                                                                                     |
| 3. Conduct life cycle impact assessment (LCIA) | 3.1 Identify and define environmental impact categories to be reported to required personnel<br>3.2 Classify LCI results into environmental impact categories<br>3.3 Model LCI impacts within impact categories using science-based conversion factors<br>3.4 Normalise potential impacts in ways that can be compared<br>3.5 Assign impact categories by grouping into at least one set and facilitate interpretation of results<br>3.6 Assign weighting factors to emphasise most important potential impacts |
| 4. Evaluate results from LCI and LCIA          | 4.1 Identify significant issues identified in LCI and LCIA<br>4.2 Ensure and evaluate completeness, consistency and sensitivity of results<br>4.3 Make recommendations for improving initially identified product, process and service life cycle                                                                                                                                                                                                                                                               |
| 5. Complete LCA for sustainability             | 5.1 Create a report and document results of LCA according to organisational requirements and procedures<br>5.2 Ensure report conclusions and sustainability recommendations align with initial goals of LCA<br>5.3 Obtain required sign-off procedures and return used resources to their initial state                                                                                                                                                                                                         |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.*

| SKILL              | DESCRIPTION                                                                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Numeracy           | <ul style="list-style-type: none"> <li>Uses mathematical formulae to estimate CO<sub>2</sub> emissions, and analyse and confirm capacity, personnel and budgetary requirements and all other incidental LCA calculations</li> </ul> |
| Oral communication | <ul style="list-style-type: none"> <li>Articulates using specific language suitable for clients to convey requirements</li> </ul>                                                                                                   |

| SKILL                   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <ul style="list-style-type: none"><li>• Uses listening and questioning techniques to confirm knowledge</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Reading                 | <ul style="list-style-type: none"><li>• Identifies, analyses and evaluates a range of complex documentation, including legislative frameworks and technical specifications</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                |
| Writing                 | <ul style="list-style-type: none"><li>• Produces complex, detailed and well-structured media releases and other reports and procedures, using specific language and specialised terminology to convey knowledge of outcomes</li></ul>                                                                                                                                                                                                                                                                                                                                               |
| Teamwork                | <ul style="list-style-type: none"><li>• Takes responsibility for defining key aspects of own workload, balancing own needs and priorities with those of the work group</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                    |
| Planning and organising | <ul style="list-style-type: none"><li>• Develops flexible plans for complex, high impact activities with strategic implications that involve a diverse range of stakeholders with potentially competing demands</li><li>• Systematically gathers and analyses all required information and evaluates options to make high impact and informed decisions</li><li>• Uses a broad range of strategies to store, access and organise virtual information, recognising that design choices will influence what information is retrieved and how it may be interpreted and used</li></ul> |
| Problem solving         | <ul style="list-style-type: none"><li>• Uses formal analytical and lateral thinking techniques for identifying issues, and generating and evaluating possible solutions</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                   |
| Technology              | <ul style="list-style-type: none"><li>• Considers the strategic and operational potential of digital trends to achieve work goals, enhance work processes, create opportunities and reduce risks</li></ul>                                                                                                                                                                                                                                                                                                                                                                          |

## Unit Mapping Information

No equivalent unit. Supersedes and is not equivalent to ICTSUS807 Conduct and manage a life cycle assessment for sustainability.

## Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

# Assessment Requirements for ICTSUS811 Conduct and manage life cycle assessments for sustainability

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## Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- conduct and manage at least two life cycle assessments (LCA) and at least two life cycle inventories (LCI) for sustainability.

In the course of the above, the candidate must:

- scope and define the goals of an LCA
- produce at least two LCI using required software and data collection strategies
- use at least two LCA and required software for researching and interpreting charts, flowcharts, graphs and other visual data and information
- evaluate LCI and life cycle impact assessment (LCIA) results in light of completeness, consistency and sensitivity factors
- make best practice recommendations based on results of LCA studies.

## Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- required legislation, codes, company work practices, regulations and standards, work health and safety (WHS) requirements for scoped work
- applications and characteristics of LCA, LCI and LCIA
- industry-approved information sources and research resources used to conduct LCA, LCI and LCIA
- methods to construct life cycle flow diagrams
- industry-approved data collection strategies used in LCA, LCI and LCIA
- types of environmental impact categories (EIC) that affect sustainability
- types of weighting factors used to normalise impact of EIC
- requirements of LCA reports

- equal opportunity, equity and diversity principles when conducting sensitivity checks for policy development
- policy development processes and practices
- principles, practices and available tools and techniques of sustainability management required to the telecommunications industry
- quality assurance systems required to own organisation
- required organisational policies, procedures and protocols
- required systems and procedures to aid in the achievement of workplace sustainability
- information and communications technology (ICT) power consumption calculations
- power consumption and energy audit methodology
- methods to estimate CO<sub>2</sub> emissions
- environmental impacts of products, processes, systems and services.

## Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- websites on which planning, design and integration of sustainability may be carried out
- required legislation, standards, guidelines, reports and equipment specifications and drawings
- a range of workplace documentation and personnel information and resources (such as compliance obligations, organisational plans and work responsibilities).

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

## Links

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