



Australian Government

MSS015042 Measure and report carbon footprint

Release: 1

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Modification History

Release 1. Unit code changed. Unit title changed. Application changed. Performance Criteria changed. Foundation Skills populated. Assessment Requirements changed. Supersedes and is not equivalent to MSS015021 Measure and report carbon footprint of a product or product class.

Application

This unit describes the skills and knowledge required to determine the carbon footprint of a section of a value chain and make recommendations for improvements.

This unit applies to managers, operational or technical specialists or similar roles who are required to determine the carbon dioxide (CO₂) equivalent tonnes and calculate the embodied carbon of a process, product or service to determine its 'carbon footprint' and problem-solve to identify improvement strategies.

This unit applies to any organisation.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Sustainable operations

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Map carbon sources and sinks along the value chain	1.1 Select portion of value chain for analysis 1.2 Identify process steps along portion of value chain 1.3 Identify carbon-related change which occurs at each step
2. Determine nature and source for carbon emissions	2.1 Determine carbon emissions from each step 2.2 Determine source of each emission 2.3 Identify measurements available for each emission and each source
3. Quantify carbon	3.1 Quantify each emission 3.2 Determine CO ₂ equivalent tonnes for each emission

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	3.3 Determine total carbon embodied in process, product or service
4. Recommend strategies for reducing carbon footprint	4.1 Short-list high carbon sources 4.2 Determine root cause of emissions 4.3 Identify relevant carbon sinks 4.4 Investigate methods for reducing emissions 4.5 Prepare recommendation for improvement
5. Report carbon footprint	5.1 Identify purpose of report and key stakeholders 5.2 Compile data, implications and recommendations 5.3 Write report and communicate with stakeholders

Foundation Skills

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

- Reading skills to interpret familiar and technical information
- Writing skills to report on implications of data and make recommendations
- Oral communication skills to communicate with stakeholders
- Numeracy skills to identify and interpret measurements and perform calculations using equations and conversion factors
- Learning skills to identify information needs and sources of information.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS015042 Measure and report carbon footprint

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- determine carbon footprint of a portion of a value chain that comprises at least:
 - 3 process steps
 - 3 sources of emissions
- prepare written report which interprets carbon footprint data and includes at least one recommendation to reduce emissions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- process and changes which occur at each step in selected portion of value chain
- types of carbon emissions, including:
 - gases, vapours and fumes
 - liquids
 - solids
 - assumed emissions through material balancing
 - assumed emissions through energy loss, including heat, friction and other energy conversion yield losses
 - greenhouse gases, including those defined under the Kyoto protocol
- carbon emission sources and sinks
- application of carbon equivalence conversion factors
- root cause analysis
- design thinking as applied to problem solving and innovation for sustainability
- current and emerging methods of reducing carbon emissions and embodied carbon
- current and emerging approaches to reducing waste including:
 - identifying, retaining and/or managing residual resources
 - biological materials flow
 - technical materials flow
 - impact of supply chain decisions

- role of digitalisation
- sustainability-related regulatory and reporting requirements relevant to the industry
- sustainability-related voluntary standards, codes, certification and co-regulatory arrangements relevant to the industry.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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