



Australian Government

MSS015001 Measure and report carbon footprint

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS015001A Measure and report carbon footprint.

Application

This unit of competency covers determining the carbon footprint of a product or product class across the value chain (which may be internal or external to the enterprise). It includes determining the carbon dioxide (CO₂) equivalent tonnes and calculating the embodied carbon of a product.

The requirement to measure the carbon footprint could occur as part of an enterprise's regulatory obligation, market or social response or for other purposes. A manager or technical specialist who has a major responsibility for sustainability as part of a broader work role would typically undertake this, or sustainability may be their primary work responsibility.

Skills covered by this unit may be applied individually or in a team context.

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

Pre-requisite Unit

Nil

Competency Field

Sustainable operations

Unit Sector

Not applicable

Elements and 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 the value chain for analysis.
		1.2	Identify process steps along the chain.
		1.3	Identify the 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 CO2 equivalent tonnes for each emission.
		3.3	Determine total carbon embodied in product.
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	Consult with stakeholders, as appropriate.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect

performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- Carbon emissions include all of the following known or able to be physically measured emissions of**
- 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
 - relevant greenhouse gases, including those defined under the Kyoto protocol.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS015001A Measure and report carbon footprint.

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 MSS015001 Measure and report carbon footprint

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include the ability, for one or more product or product class, to:

- identify and map a value chain (or portion thereof) for carbon footprint analysis
- quantify carbon footprint, including embodied carbon into each process step
- identify strategies for minimising carbon footprint as part of measure and report process.

Knowledge Evidence

Must provide evidence that demonstrates sufficient knowledge to interact with relevant personnel and be able to determine the carbon footprint of a product or product class across the value chain including knowledge of:

- process and changes which occur at each step in selected value chain
- carbon emission sources
- root cause analysis
- methods of reducing carbon emissions and embodied carbon
- carbon equivalence of different emissions
- relevant legislation, regulation and protocols, including greenhouse gas protocols and associated ISO standards.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
 - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
 - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real project where the determination of the carbon footprint along a value chain or portion of a value chain occurs for an operational workplace.

- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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