



Australian Government

MSS015003 Analyse product life cycle for sustainability

Release: 1

MSS015003 Analyse product life cycle for sustainability

Modification History

Release 1. Supersedes and is equivalent to MSS015003A Analyse product life cycle for sustainability.

Application

This unit of competency covers analysing the life cycle of an existing or a proposed product to inform sustainability related decision making.

This unit applies to analysing all aspects of a product, including its design, production, storage and distribution, use, and end of life reuse, recycling or disposal. This analysis may be undertaken to assist in improving the sustainability of a product or process.

This unit applies inside organisations and their value chains. The unit has been developed with manufacturing operations as a focus. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations. 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. The technologist may undertake this alone or as part of a team.

The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

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.

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|---|---|--|
| 1 | Assess raw sources of material and resources | <p>1.1 Identify current or planned materials back to their source in the value chain.</p> <p>1.2 Identify possible alternative materials/sources.</p> <p>1.3 Assess the sustainability impacts of each material.</p> |
| 2 | Assess the production process | <p>2.1 Identify design brief for product.</p> <p>2.2 Map out the current or planned process.</p> <p>2.3 Assess the sustainability impacts of each process.</p> <p>2.4 Assess the sustainability impact of each material on the process sustainability.</p> <p>2.5 Identify possible alternative steps or processes.</p> <p>2.6 Determine if alternative steps or processes maintain design brief while improving sustainability.</p> |
| 3 | Assess the product life and end of life disposal | <p>3.1 Determine sustainability impacts from steps to final consumer.</p> <p>3.2 Determine sustainability impacts from likely uses and applications.</p> <p>3.3 Determine sustainability impacts from final use or disposal at end of life.</p> <p>3.4 Identify possible alternative steps to customer, use and disposal.</p> <p>3.5 Determine sustainability impacts from these alternatives.</p> |
| 4 | Develop strategies to improve life cycle | <p>4.1 Identify alternative processes, logistics, usage and disposal with better sustainability impacts.</p> <p>4.2 Determine requirements to implement these alternatives.</p> |

- 4.3 Determine benefit/cost for each alternative.
 - 4.4 Select preferred alternatives.

- 5 **Prepare a recommendation for life cycle improvement**
 - 5.1 Consult with key stakeholders.
 - 5.2 Prepare a recommendation for improving product life cycle.

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.

Materials include one or more of

- materials directly used and also materials which comprise components which are used
- materials/resources which may be consumed to make a physical product
- materials which may be consumed in delivering a service (e.g. fuel, energy and other consumables).

Design brief includes all of

- regulatory environment
- material specifications
- production process
- estimated and actual material and energy consumption
- budget
- timelines
- product use and disposal assumptions
- market assumptions, including target groups, product image and cost.

Sustainability impact includes one or more of

- carbon footprint of product and process
- current and future availability of raw materials
- current and future availability of energy
- waste generation and disposal
- efficiency of process
- the extent to which the production process and product affects the environment (e.g. on climate, quality of local air and water, ecology, noise)
- relationship with the local and broader community, (e.g. effect of operations on aesthetic appearance, preservation of heritage, and proximity to schools and religious facilities)
- extent of regulatory oversight and cost of compliance.

Final use or disposal at end of life includes decisions and actions on one or more of

- reuse for modified or different purpose
- recycling of components
- disposal.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>