

Title	Demonstrate knowledge of sustainable practices for manufacturing processes		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: identify and describe pollutants and pollutant control procedures in manufacturing processes; demonstrate knowledge of benefits to organisations of using sustainable practices in manufacturing processes; and describe sustainability practices used in manufacturing processes.
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Classification	Manufacturing Skills > Manufacturing Processes
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Available grade	Achieved
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Guidance Information

1 Definitions

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider manufacturing industries as examples of best practice.

Eco-efficiency refers to the management philosophy where organisations practice being an efficient business while at the same time protecting our environment. It is all about reducing ecological damage to a minimum while at the same time maximizing efficiency.

Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs and aims to use our resources efficiently to benefit future generations of people and the planet.

Workplace procedures refer to documented policies and procedures set by the organisation carrying out the work, and to documented or other directions provided to staff, and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the manufacturing industry sectors.

2 Assessment information

Numerous reference texts, publications, and/or training manuals on sustainability in manufacturing industries are available and may be used; however, no one textbook or source of information is envisaged. All activities and evidence must be in accordance with workplace procedures and accepted industry practice.

Outcomes and performance criteria

Outcome 1

Identify and describe pollutants and pollutant control procedures in manufacturing processes.

Range may include but is not limited to – air, water, ground, noise; evidence of two is required.

Performance criteria

- 1.1 Pollutants are identified and described in terms of their environmental impacts.
- 1.2 Plant contingency plans and procedures for pollutant control are described in terms of actions required.
- 1.3 Processes for monitoring, testing, analysing, and reporting of pollution levels are described.

Outcome 2

Demonstrate knowledge of benefits to organisations of using sustainable practices in manufacturing processes.

Performance criteria

- 2.1 Key factors for practising and achieving sustainable manufacturing are explained.

Range evidence of at least three factors is required.
- 2.2 Cost-effective or cost-saving areas by organisations using sustainable practices and making environmentally conscious decisions are described.

Range evidence of three areas is required.

Outcome 3

Describe sustainability practices used in manufacturing processes.

Performance criteria

- 3.1 The difference between waste and scrap is described.
- 3.2 Repurposing and waste exchange are described.

3.3 Sustainability practices used in manufacturing industry sectors and their impact on natural resources and/or the environment are described.

Range includes but is not limited to – recycling, re-use, recovery, substitution, waste reduction, optimizing use of fossil fuel, recovering energy, re-designing, re-engineering.

3.4 Methods to lower energy consumption of a manufacturing process are described.

Range may include but is not limited to – waste minimisation, material efficiency, resource efficiency, eco-efficiency.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 January 2021	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.