

Title	Develop a programme for measuring and monitoring resource efficiency and cleaner production		
Level	5	Credits	30

Purpose	<p>This unit standard is for people working in business or government whose role it is to promote, support, and encourage the implementation of sustainable management practices and cleaner production.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of the measurement and monitoring of resource efficiency and cleaner production; develop a programme for measuring the resource efficiency and cleaner production of a product; and develop a programme to monitor the resource efficiency and cleaner production of a product.</p>
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Classification	Zero Waste > Zero Waste Theory and Practice
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Available grade	Achieved
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Guidance Information

- References relevant to this unit standard include but are not limited to:
The New Zealand Waste Strategy: Reducing Harm, Improving Efficiency 2010
Ministry for the Environment, available at <http://www.mfe.govt.nz>;
AS/NZS ISO 14001:2016 *Environmental management systems – Requirements with guidance for use*, available at <http://www.standards.co.nz>.
- Definitions
Cleaner production is defined by United Nations Environment Programme as: ‘the continuous application of an integrated preventive environmental strategy to processes, products, and services to increase overall efficiency, and reduce risks to humans and the environment. Cleaner Production can be applied to the processes used in any industry, to products themselves and to various services provided in society’.
- For this unit standard *industry guidelines* refer to publications provided by government and business organisations that may include but are not limited to – the *Business Guide to Sustainable Development Reporting*, available for free download at www.sbc.org.nz.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the measurement and monitoring of resource efficiency and cleaner production.

Performance criteria

- 1.1 Measurement is described in terms of scope and types required to quantify resource efficiency and cleaner production.
- Range scope – raw materials, production processes, packaging, distribution, disposal; types may include but are not limited to – quantities, costs, usage, distance, change, valuation, ranking, magnitude, normalisation of discrepancies; evidence is required of one type for each extent.
- 1.2 Measurement and monitoring are described in terms of importance of staff competence and robust systems to ensure validity of data.
- 1.3 Resource efficiency monitoring is described in accordance with industry guidelines and legislation.
- Range three industry guidelines.
- 1.4 Environmental monitoring is described in terms of key indicators of impacts on the environment.
- Range key indicators – global warming, resource depletion, human toxicity, eco-toxicity, one other; impacts – potential, actual.

Outcome 2

Develop a programme for measuring the resource efficiency and cleaner production of a product.

Performance criteria

- 2.1 The programme determines the sustainability, toxicity, and locality of raw materials in accordance with industry guidelines and quantifies the amount of raw material in the finished product.
- Range sustainability includes harvesting of finite resource and use of renewable resources.

2.2 The programme measures the resource efficiency of manufacturing processes in accordance with industry guidelines.

Range resource efficiency includes but is not limited to – conservation of materials, energy, and water, environmental management or cleaner production practice, elimination of hazardous materials, reuse and recycling of process materials.

2.3 The programme measures the resource efficiency of product packaging.

Range includes but is not limited to packaging – type, amount, source.

2.4 The programme measures the resource efficiency of product distribution.

Range includes but is not limited to – comparison of transport options for minimising greenhouse gas emissions.

2.5 The programme quantifies the resource efficiency of the product in relation to consumer use.

Range expected lifetime of product, product reuse and recycling options; may include but is not limited to – ability to be repaired, after sale energy consumption.

2.6 The programme quantifies the impact of product disposal.

Range disposal – for reuse or recycling, residual to landfill.

Outcome 3

Develop a programme for monitoring the resource efficiency and cleaner production of a product.

Performance criteria

3.1 The monitoring programme is based on relevant and reliable data measured in accordance with industry guidelines.

Range relevance and reliability may be evidenced by following industry guidelines and/or the Solid Waste Analysis Protocol and/or ISO standards.

3.2 The programme ensures the validity and reliability of monitoring data collection and recording in accordance with industry guidelines.

Range includes but is not limited to – staff competence, measuring equipment, recording system.

- 3.3 The programme provides information for management decisions that result in continued resource efficiency and clean production.

Range may include but is not limited to – regular reporting, staff feedback, monitoring system audit.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 January 2007	N/A
Rollover and Revision	2	28 March 2019	N/A

Consent and Moderation Requirements (CMR) reference	0014
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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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.