

<b>Title</b>	<b>Explain sustainability, resource efficiency, and cleaner production in relation to zero waste</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	People credited with this unit standard are able to explain concepts of sustainability, resource efficiency, and cleaner production in relation to zero waste.
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<b>Classification</b>	Zero Waste > Zero Waste Theory and Practice
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<b>Available grade</b>	Achieved
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### Guidance Information

- References relevant to this unit standard include but are not limited to:  
 Local Government Act 1974;  
 Local Government Act 2002;  
 Resource Management Act 1991 (RMA);  
 Regional Policy Statements;  
 regional and district plans;  
*The New Zealand Waste Strategy: Reducing Harm, Improving Efficiency* 2010  
 Ministry for the Environment, available at <http://www.mfe.govt.nz>;  
 information provided on government, local authority, academic institution, and  
 industry organisations websites such as:

Sustainability Victoria, at <http://www.sustainability.vic.gov.au>;  
 Energy Efficiency and Conservation Authority, at <http://www.eeca.govt.nz>;  
 Green Globe, at <http://www.greenglobe.com>;  
 Ministry for the Environment, at <http://www.mfe.govt.nz>;  
 New Zealand Business Council for Sustainable Development (NZBCSD), at  
<http://nzbcscd.org.nz/zerowaste>;  
 Auckland Council, at <http://www.aucklandcouncil.govt.nz>;  
 New Zealand Recycling Symbols, at <http://www.branz.co.nz>;

Waste Management Institute of New Zealand (WasteMINZ) at  
<http://www.wasteminz.org.nz/>;  
 Zero Waste New Zealand, at <http://www.zerowaste.co.nz>.

- Definitions  
*Agenda 21* refers to a comprehensive plan of action to be taken globally, nationally and locally by organisations of the United Nations, governments, and major groups in every area in which humans impact on the environment. Information is available at <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>.

*Industry publications* refer to materials available in electronic or hard copy from organisations that promote zero waste principles including but not limited to those listed in Guidance Note 1.

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## Outcomes and performance criteria

### Outcome 1

Explain concepts of sustainability in relation to zero waste.

#### Performance criteria

- 1.1 Sustainability is defined in accordance with Agenda 21, the RMA and/or industry publications.
- 1.2 Sustainability is explained in terms of the global context.
- Range includes but is not limited to – finite resources, renewable resources, pollution prevention, international agreements, future needs.
- 1.3 Sustainability is explained in terms of the national context.
- Range includes but is not limited to – finite resources, pollution, legislation, national environmental standards.
- 1.4 Sustainability is explained in terms of the local context.
- Range includes but is not limited to – regional plan, district plan, solid waste plan.
- 1.5 The explanation identifies and details business and/or community programmes that promote and encourage sustainability.
- Range evidence is required of four programmes.
- 1.6 Sustainability is explained in terms of relevant technologies, their benefits and disadvantages.
- Range evidence is required of three technologies.

### Outcome 2

Explain concepts of resource efficiency in relation to zero waste.

#### Performance criteria

- 2.1 Resource efficiency is defined in accordance with industry publications.
- Range includes but is not limited to resource – use, conservation, reuse, recycling.

- 2.2 The need for encouraging resource efficiency is explained in terms of resource exploitation and renewable and non-renewable sources.
- Range evidence is required of two renewable and two non-renewable sources.
- 2.3 Resource efficiency is explained in terms of the impact of Local Government Act 2002, and the RMA, and *The New Zealand Waste Strategy*.
- Range political issues relating to – solid waste, liquid waste, gaseous waste, energy, transportation.
- 2.4 The explanation describes tools for measuring resource efficiency.
- Range four of – waste minimisation assessment, environmental reviewing and auditing, life cycle assessment and product improvement analyses, risk reduction analyses, total cost assessment, landfill statistics, recovered materials statistics, one other.
- 2.5 Resource efficiency is explained in terms of responsibilities and methods for changing attitudes to resource use.
- Range responsibilities – personal, education, business, government; evidence is required of one method for each.
- 2.6 Issues relating to resource efficiency are identified and explained in terms of perceptions and misconceptions.
- Range leadership, true cost of products, consumerism, integration of industry, community initiatives, government initiatives.

### Outcome 3

Explain concepts of cleaner production in relation to zero waste.

#### Performance criteria

- 3.1 Cleaner production is defined in accordance with industry publications.
- Range aims, effects.
- 3.2 Benefits of cleaner production are described in relation to business, community, and nation.
- 3.3 Cleaner production is explained in terms of stages of production.
- Range stages – product design and redesign, supply of input materials, resource inputs, process operations, waste outputs and treatment required, packaging.
- 3.4 Priorities for cleaner production are explained in accordance with government and industry guidelines.

- 3.5 Avoiding and reducing the amount of waste produced by industries and individuals are explained in terms of product purchasing, packaging, and transportation.

Range industries – manufacturing, food processing, retail, tourism, sports; individuals – employee, consumer.

- 3.6 Explanation relating cleaner production principles to hazardous substances in an industry is supported by a case study.

Range one industry of – agriculture, food production, mining, energy, metal manufacture and processing, manufacture of mineral products, chemical, engineering, leather, timber processing, textiles, paper manufacture, printing, medical, cleaning services.

<b>Planned review date</b>	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

<b>Consent and Moderation Requirements (CMR) reference</b>	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](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.