40600 Research resource recovery practices to enhance environmental sustainability in a resource recovery environment

Kaupae | Level	3
Whiwhinga | Credit	8
Whāinga | Purpose	This skill standard is intended for people who are already working in a resource recovery environment including resource recovery facilities, construction or demolition worksites. This skill standard provides an overview of strategies, regulations and practices relating to waste minimisation and environmental impacts in the resource recovery industry. People credited with this skill standard will be able to research resource recovery practices and potential solution(s) to minimise the impacts of workplace activities in a resource recovery environment. This skill standard aligns with the New Zealand Certificate in Resource Recovery (Level 3) with strands in Organic Materials Processing, Recovery and Recycling, and Metal Recycling [Ref: 2744].

Hua o te ako me Paearu aromatawai \| Learning outcomes and assessment criteria

Hua o te ako | Learning outcomes	**Paearu aromatawai** | Assessment criteria
1. Describe strategies, regulations, and procedures to eliminate or minimise waste and environmental impacts in a resource recovery environment.	a. Describe strategies to eliminate or minimise waste of different material streams.
	b. Describe strategies to promote resource recovery of key materials.
	c. Explain influences on classifying material as a waste or a resource in relation to a local government and a business.
	d. Describe legislation, regulations, and codes of practice relevant to material streams in a resource recovery workplace.
	e. Identify workplace procedures for the elimination or minimisation of potential environmental impacts of workplace activities.

Hua o te ako | Learning outcomes	**Paearu aromatawai** | Assessment criteria
2. Research resource recovery practices that can enhance environmental sustainability and resolve issues relating to land, air and water.	a. Identify issues in the resource recovery industry that impact land, air and water.
	b. Research practices that enhance the environmental sustainability of land, air, and water.
	c. Discuss how land, air and water issues have been resolved using real world examples.
	d. Identify external stakeholders who are potentially impacted by workplace activities.
	e. Review resource recovery practices to identify potential solution(s) to eliminate and/or minimise the impact of workplace activities and any barriers to the implementation of potential solution(s).

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

Evidence presented against assessment criteria 1a and 1 b must each include a minimum of three different materials.

Evidence presented against assessment criterion 1d must include a minimum of five examples in total of legislation, regulations, and codes of practice.

Learning outcome two must include evidence of one issue each for land, air, and water except for assessment criterion 2e, which must include potential solution(s) for a minimum of one impact of workplace activities.

Evidence presented for assessment against this skill standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.

Definitions

CFC refers to chlorofluorocarbons.

LPG refers to liquified petroleum gas.

Key materials refer to materials identified as high-impact or high-value due to their environmental, economic, or regulatory significance. These may include materials that contribute significantly to landfill waste, are hazardous, have high recovery value, or are subject to government policies.

Material streams refer to distinct types of materials that move through the resource recovery system. These streams are typically sorted by material composition and recovery potential, such as organics, plastics, metals, glass, paper, e-waste, and construction and demolition materials.

NIMBY refers to not in my back yard.

Practices refers to traditional, indigenous or resource recovery industry practices.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. 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, manufacturer's requirements, 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 resource recovery industry.

Ngā momo whiwhinga | Grades available

Achieved.

Ihirangi waitohu | Indicative content

Resource responsibilities and strategies

- Government and non-government strategies such as policy, legislation, regulation, incentives, and penalties.
- Influences on classification of waste and resources such as personal attitude, education, convenience, social norms, available infrastructure, cost, and legal compliance.
- Allowable limits of discharge relating to individual material streams.

Environmental case studies

- Land issues such as landfill, toxic chemicals, volume of waste, fly tipping of waste, contaminated sites, heavy metals in soils, land degradation, windblown litter, dust, or NIMBY.
- Air issues such as methane and other greenhouse gas emissions, CFC use, degassing of refrigerators and/or LPG cylinders, composting bio-aerosols, odour, or pollution from incineration.
- Water issues such as landfill leachate, liquid trade waste discharge, wastewater treatment, motor oil disposal, chemical spills, or land-based treatment.

Rauemi | Resources

Legislation, regulations and industry guidelines relevant to this skill standard include but are not limited to:

- Climate Change Response Act 2002.
- Hazardous Substances and New Organisms Act 1996.
- Resource Management Act 1991.
- Waste Minimisation Act 2008.
- Climate Change (Waste) Regulations 2010.
- Resource Management (National Environmental Standards for Air Quality) Regulations 2004
- Waste Minimisation (Information Requirements) Regulations 2021.
- Ministry for the Environment. (2023). Te rautaki para | Waste Strategy. Available from: http://www.mfe.govt.nz.

- Ministry for the Environment. (2002). Solid Waste Analysis Protocol. Available from: http://www.mfe.govt.nz.
- Standard Materials for Kerbside Collections Notice 2023 (Notice No. 1. Available from: https://gazette.govt.nz/notice/id/2023-go4222.
- WasteMINZ. (current edition). National Waste Data Framework. Protocol for Mandatory Reporting to Ministry for the Environment. Available from: https://www.wasteminz.org.nz/.
- BRANZ. REBRI Resource recovery map. Available from: https://www.branz.co.nz/.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this skill standard will take precedence for assessment purposes, pending review of this skill standard. Legislation can be accessed at: https://www.legislation.govt.nz.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa | Standard Setting Body	Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai | DASS classification	Service Sector > Resource Recovery > Resource Recovery Theory
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga | CMR	0014

Hātepe | Process	**Putanga** | Version	**Rā whakaputa** | Review Date	**Rā whakamutunga mō te aromatawai** | Last date for assessment
Rēhitatanga | Registration	1	24 April 2025	N/A
Kōrero whakakapinga | Replacement information	This skill standard replaced unit standard 22636.		
Rā arotake | Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development at qualifications@hangaarorau.nz to suggest changes to the content of this skill standard.