Title	**Demonstrate knowledge of alternative energy systems**		
Level	**4**	**Credits**	**3**

Purpose	People credited with this unit standard are able to demonstrate knowledge of: – alternative energy generation systems; and – safe practices when isolating and testing generation, charging, and storage systems.

Classification	Electrical Engineering > Electrical Installation and Maintenance

Available grade	Achieved

Guidance Information

1 References
AS/NZS 3000 (version as cited in the Electricity (Safety) Regulations), *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*;
AS/NZS 3010:2017, *Electrical Installations (Generating sets);*
AS/NZS 4509.1:2009, *Stand-alone power systems - Safety and installation*;
AS/NZS 4509.2:2010, *Stand-alone power systems - System design*;
AS/NZS 4777.1:2016, *Grid connection of energy systems via inverters - Part 1: Installation requirements*;
AS/NZS 4777.2:2020, *Grid connection of energy systems via inverters - Part 2: Inverter requirements*;
AS/NZS 5033:2014, *Installation and safety requirements for photovoltaic (PV) arrays*;
or any current subsequent amendments and replacements.

2 Definition
Examples of a*lternative energy generation systems* include but are not limited to – photovoltaic/solar, wind, fuel driven, micro hydro, tidal, wave.

3 This unit standard can be used together with other relevant unit standards, additional learning and workplace training to meet the requirements of the Electrical Workers Registration Board (EWRB) core competencies, available at https://www.ewrb.govt.nz.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of alternative energy generation systems.

Performance criteria

1.1 Describe the basic installation and operation of alternative energy generation systems.

Range two different systems.

1.2 Describe the basic configuration, installation, operation, and appropriate use of energy output components.

Range two components;
may include but is not limited to — inverters, chargers, energy storage systems, electric vehicle charging systems.

1.3 Identify applicable standards for alternative generation systems.

Range two different standards.

Outcome 2

Describe safe practices when isolating and testing generation, charging, and storage systems.

Performance criteria

2.1 Describe appropriate foundational safe practices when isolating and testing generation, charging, and storage systems.

Range may include but is not limited to — battery storage systems, charging systems, inverters, and generators.

Planned review date	31 December 2026

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 March 2022	N/A

Consent and Moderation Requirements (CMR) reference	0003

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.