

UEE CVIG CERT I & II IMPLEMENTATION ADVICE

UEE Electrotechnology Training Package
CVIG Attachment D

Contents

- 1 About this document**
- 2 Pending development**
- 3 Certificate II in Gateway to the Energy Sector**

About this document

This Attachment provides qualification-specific implementation guidance for UEE Certificate I and Certificate II Qualifications. It supports the overarching information contained in the UEE Training Package Companion Volume Implementation Guide (CVIG) and has been developed to assist RTOs, schools, and industry partners in the delivery and assessment of these qualifications.

The purpose of this Attachment is to expand on the guidance in the CVIG by providing further information and contextual examples relevant to Cert I & II qualifications. Where relevant, this includes pathways advice, delivery and assessment guidance, resource and equipment requirements, and industry context information that reflect the intent and target learner group for these programs.

This document is controlled separately from the CVIG and may be updated independently of the CVIG to reflect changes in qualification releases, industry practice, or implementation experience. It is referenced, not embedded, within the CVIG and is intended to complement, not replace, the mandatory implementation guidance contained in the main document. Each Attachment is versioned and dated individually to ensure traceability against the relevant qualification release. Qualification-specific chapters identify the applicable release number and current information for each qualification at the time of publication.

Pending development

Additional qualification-specific implementation advice is not yet available for the qualifications listed in the table below.

At this stage, users should refer to the main CVIG for all current delivery and assessment information. Further details will be developed and published as part of the next major review of each qualification.

For any questions regarding implementation of these qualifications, please contact training@poweringskills.com.au

Table 1: Current Cert I and II Qualifications pending detailed implementation advice

Code	Title	Release	Release Date	Usage
UEE10120	Certificate I in ElectroComms Skills	2	20/12/2022	Current
UEE20120	Certificate II in Split Air Conditioning and Heat Pump Systems	3	20/12/2022	Current
UEE20520	Certificate II in Computer Assembly and Repair	2	20/12/2022	Current
UEE20720	Certificate II in Data and Voice Communications	3	20/12/2022	Current
UEE20920	Certificate II in Electronic Assembly	3	20/12/2022	Current
UEE21020	Certificate II in Fire Alarms Servicing	3	20/12/2022	Current
UEE21220	Certificate II in Antennae Equipment	3	20/12/2022	Current
UEE21420	Certificate II in Remote Area Power Supply Maintenance	3	20/12/2022	Current
UEE21620	Certificate II in Security Assembly and Set-up	2	20/12/2022	Current
UEE21720	Certificate II in Technical Support	3	20/12/2022	Current
UEE21920	Certificate II in Electronics	2	20/12/2022	Current
UEE22025	Certificate II in Electrotechnology (Career Start)	2	25/22/2025	Current

Code	Title	Release	Release Date	Usage
UEE22125	Certificate II in Sustainable Energy (Career Start)	3	25/22/2025	Current

Certificate II in Gateway to the Energy Sector

Qualification Code	UEE22226
Qualification Title	Certificate II in Gateway to the Energy Sector
Release	1
Release Date	15 June 2026
Status	Current

Qualification overview

Purpose

Description

The Certificate II in Gateway to the Energy Sector provides learners with the foundational knowledge and skills to explore a range of career opportunities within the Australian energy sector.

It introduces learners to key industry areas including electrotechnology, renewable energy, industrial gases, battery storage systems, heavy electrical mobile plant, and emerging fields such as automation and climate control.

The qualification supports the development of core capabilities required for entry to energy-related pathways, including teamwork, communication, digital literacy, safe work practices, and the use of basic tools and equipment.

Learning is project-based and exploratory, enabling learners to apply foundational concepts of energy generation, storage, and use in simulated or classroom environments using extra-low voltage (ELV) direct current (d.c.) systems.

Work is performed under supervision in structured learning environments, requiring learners to exercise autonomy and limited judgement to carry out basic assembly, testing, and problem-solving tasks following established routines and safe work practices.

This qualification is intended for individuals considering a career in the energy sector, including secondary school students, school-to-work transition learners, and others seeking to understand career options within the sector. Graduates will be prepared to undertake further vocational education and training or pre-apprenticeship programs within the energy sector.

Qualification reform context

This qualification was developed under the Training Package Organising Framework (TPOF) as part of national reforms to create a more purpose-driven and principles-based system of vocational qualifications.

The Gateway qualification is exploratory in nature, designed to support early engagement in energy careers to support learners to make informed decisions about further training or employment within the sector.

The qualification responds to:

- identified entry-level barriers for school-aged learners and others without prior technical experience
- the need for cross-sectoral (energy sector) and foundation skills development reflecting the convergence of technologies across energy disciplines
- stakeholder feedback emphasising the value of exploratory, project-based learning prior to choosing a trade or occupational pathway.

This approach reduces product duplication, promotes consistency of foundational outcomes across the energy sector, and provides a structured stepping stone into existing Certificate II and III qualifications within energy sector training packages.

Rationale

This qualification provides an entry point for learners interested in careers in the Australian energy sector by offering broad exposure to industries and occupations within the sector and combining foundational technical skills with structured career exploration activities.

Through practical, hands-on tasks across a range of energy technologies, learners develop the essential knowledge and skills to make informed decisions about future training and employment pathways, supporting progression into pre-apprenticeship programs or vocational qualifications at Certificate II and III levels in areas such as electrotechnology, renewable energy, and technical support roles.

This qualification is not linked to a specific employment outcome. It contains knowledge and skills that can be transferred across multiple industries within the energy sector.

Learner cohort

This qualification is designed for:

- secondary school students participating in VET in Schools (VETiS) programs
- school-to-work transition learners exploring entry-level VET pathways or technical trades
- career changers or early-exploration learners seeking an introduction to energy systems and occupations.

Learners are not expected to have prior industry experience. The qualification provides a supportive, structured environment where foundational knowledge, safety awareness, and curiosity about emerging energy technologies can be developed progressively through guided projects and collaborative learning.

Alignment

Training Package Organising Framework (TPOF)

This qualification has been designed to support exploration, transferable skill development, and cross-sectoral understanding rather than immediate occupational specialisation. It applies the principles of simplification, transparency, and learner-centred design through:

- a purpose statement focused on exploration and informed career decision-making
- a qualification structure that integrates foundation, technical, and employability skills through project-based learning
- a pathway orientation that promotes continuity between school, VET, and employment
- a cross-sectoral approach that exposes learners to multiple energy technologies and occupations without duplicating existing trade qualifications.

Australian Qualifications Framework (AQF)

In line with the AQF Level 2 descriptors, this qualification supports the development of:

- basic factual, technical, and procedural knowledge of energy systems, safety, and tools relevant to exploratory learning contexts
- cognitive and technical skills to apply known solutions to routine problems and complete structured tasks under supervision
- communication and employability skills to work collaboratively and use limited judgement in familiar, structured contexts
- application of knowledge and skills with limited autonomy and responsibility, consistent with supervised learning environments such as classrooms or simulated settings.

This alignment ensures the qualification is fit-for-purpose, supports learner progression, and maintains consistency with the principles of the national vocational education and training system.

Key design features summary

The design of the Certificate II in Gateway to the Energy Sector is a considered combination of practical learning, structured exploration, and foundation skill development. The qualification:

- integrates project-based and exploratory learning that enables learners to investigate energy generation, storage, and use through practical activities using extra-low voltage ELV d.c. systems in classroom or simulated environments
- combines technical and employability skills by embedding teamwork, communication, problem-solving, and digital literacy within authentic project tasks

- supports transferable learning by exposing learners to multiple energy technologies and occupational areas, reducing duplication of entry-level content across the UEE Training Package
- encourages structured career exploration through basic research, reflection, and presentation activities that help learners identify and document potential vocational pathways in the energy sector
- promotes safe and responsible learning practices through progressive development of safety awareness, tool use, and procedural discipline appropriate to supervised environments
- aligns with school-based and foundation-level delivery models, supporting contextualised programs that build learner confidence and readiness for further VET study or employment pathways.

Together, these features ensure the qualification achieves its intended purpose, delivering consistent outcomes across diverse delivery contexts while maintaining compliance with AQF Level 2 and the Qualification Development Quality Principles.

Structure

The structure of the Certificate II in Gateway to the Energy Sector has been designed to support a scaffolded progression of learning that reflects the qualification's purpose. It introduces learners to fundamental energy concepts and technologies while developing transferable and employability skills through integrated, project-based tasks.

The qualification consists of core only units. These are comprised of fundamental type units that establish foundational safety, employability, and basic technical competencies, and exploration type units that enable learners to investigate different energy technologies and occupational areas through applied project activities. This design ensures flexibility for schools and RTOs to tailor delivery to local contexts and available resources while maintaining consistent national outcomes.

Integrated and flexible delivery

Each unit integrates practical tasks, guided research, and information sharing to strengthen learners' transferable skills and understanding of industry contexts. The qualification supports flexible delivery models including:

- clustering multiple units through integrated projects
- school-based programs, enabling alignment with curriculum schedules and local energy contexts
- simulated or classroom-based environments, ensuring safety and accessibility for early-stage learners.

This structure ensures that the qualification is achievable within school and pre-vocational settings, promotes consistent national learning outcomes, and supports learner transition into further VET qualifications within the UEE Training Package.

Delivery and assessment guidance

Overview

The Certificate II in Gateway to the Energy Sector has been designed to support flexible, project-based delivery in school and pre-vocational contexts.

Learning and assessment should provide learners with opportunities to apply foundational concepts in safe, simulated or classroom environments using ELV d.c. systems and commercially manufactured educational kits.

Delivery should emphasise exploration, collaboration and practical problem-solving, enabling learners to connect theoretical knowledge to energy applications while developing transferable employability skills such as teamwork, communication, and planning.

The qualification is suited to delivery:

- within secondary school VET programs
- through partnerships between schools and RTOs
- in simulated training environments or mobile learning facilities.

Duration and sequencing

The volume of learning for a Certificate II qualification is typically 0.5–1 year.

For delivery to secondary school learners in VETiS/pre-vocational contexts, this volume is achieved progressively through a mix of classroom learning, guided practical work, research activities, and project-based assessment over one or more school terms/semesters (as determined by the local delivery model).

Delivery and assessment arrangements must provide sufficient structured learning and supervised practice for learners to demonstrate the requirements of each unit to the standard described in the Training Package. Where local timetables limit scheduled delivery time, RTOs and schools should adjust sequencing, clustering and supervised evidence collection to ensure learners can achieve all unit requirements.

Table 2: Suggested delivery pattern

Delivery Context	Suggested Duration	Example Structure
Full-time RTO delivery	~24 weeks (0.5 year)	4 days per week in a simulated workshop and classroom setting, integrated projects and assessment.
School-based VET program	2–4 terms (6–12 months)	Day-release or a scheduled training day, typically delivered as a full training day at the provider's site/within the school environment,

Delivery Context	Suggested Duration	Example Structure
		with hours and sequencing set by the school/RTO timetable and local supervision arrangements.

Practical sequencing guidance

The following is an example of how the Certificate II in Gateway to the Energy Sector can be delivered as a program.

It shows how units may be sequenced into term-based projects that build progressively from foundation and safety skills to applied exploration of energy technologies.

RTOs and schools may adjust the sequence or duration to suit local timetables, available resources, and supervision arrangements, provided all units are delivered and assessed in accordance with Training Package requirements. This example does not reduce or vary the assessment requirements of any unit.

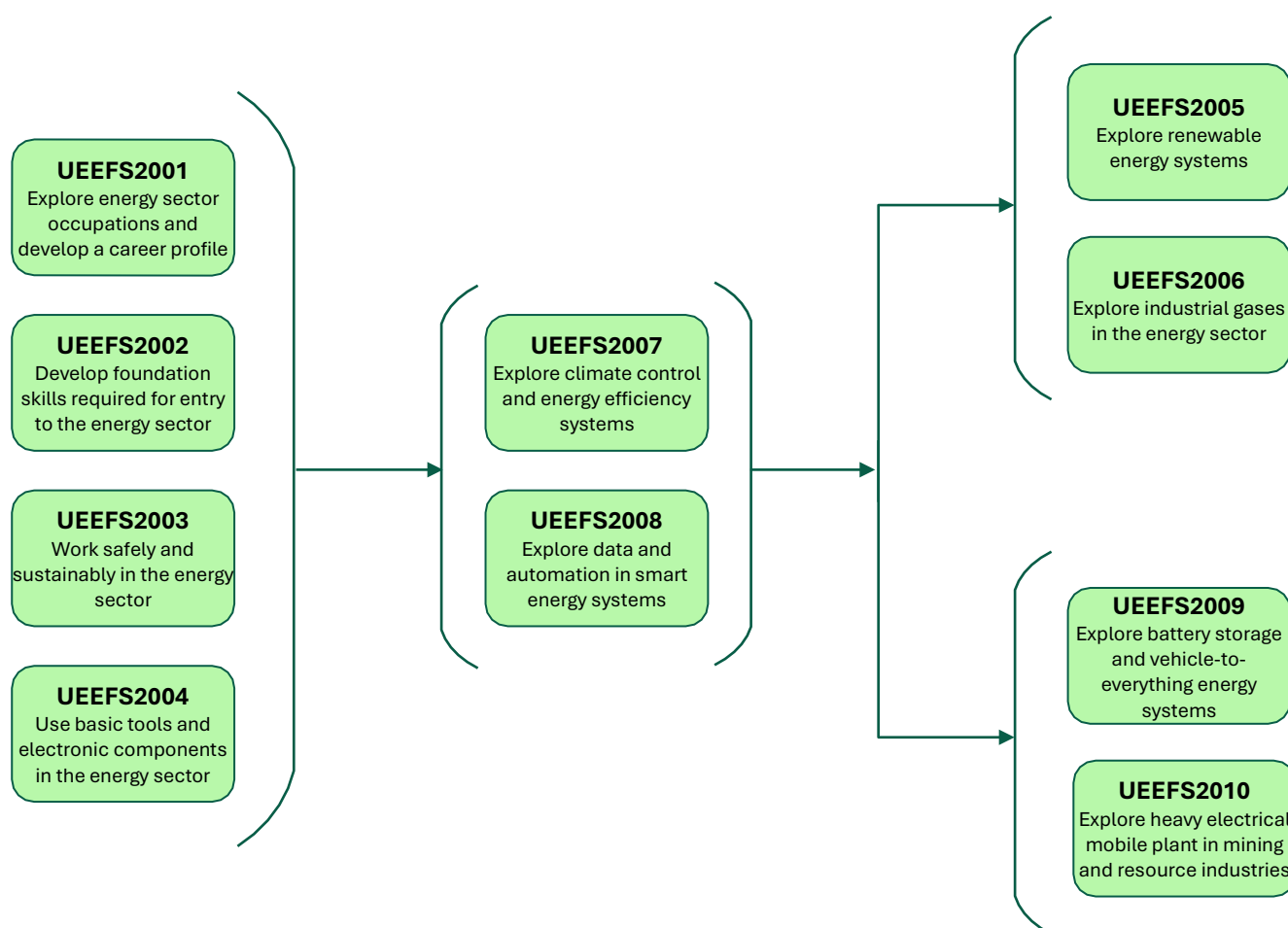


Figure 1: Example delivery sequence

Note: This diagram is provided as a guide only. Training organisations should determine sequence based on their own delivery models, timetables, and learner needs.

Table 3: Example term-by-term sequencing plan (illustrative delivery model only)

Term	Learning Focus	Units of Competency	Typical Activities and Assessment Evidence
Term 1 – Foundation, Safety and Career Exploration	Building awareness of the energy sector, safe work and sustainability practices, and developing foundation and employability skills.	UEEFS2001 Explore energy sector occupations and develop a career profile UEEFS2002 Develop foundation skills required for entry to the energy sector UEEFS2003 Work safely and sustainably in the energy sector	Identify hazards and practise isolation/shut-down procedures using ELV d.c. systems. Apply PPE and sustainability practices. Research entry-level energy occupations and create a personal career profile. Record teamwork, communication, and planning reflections in journals. Assessment evidence: safety checklists, journals, short written reflections, career profile.
Term 2 – Tools, Components and Early Technology Projects	Applying safe tool use and exploring introductory technologies through structured projects.	- UEEFS2004 Use basic tools and electronic components in the energy sector - UEEFS2007 Explore climate control and energy efficiency systems - UEEFS2008 Explore data and automation in smart energy systems	Inspect and safely use hand tools, meters, and ELV components. Assemble and test simple ELV circuits for lighting or fan control to demonstrate energy efficiency concepts. Explore automation using sensors or timers to control loads. Collect simple data (e.g., temperature or motion) and interpret how automation can improve efficiency. Assessment evidence: project folders with circuit diagrams, data sheets, observation notes, and group presentations.
Term 3 – Renewable Energy and Industrial Gas Projects	Investigating energy generation, storage, and gas applications through applied projects.	UEEFS2005 Explore renewable energy systems UEEFS2006 Explore industrial gases in the energy sector	Build and test solar, wind, or hydro ELV models to show generation and energy transfer. Analyse simple data on energy output and efficiency. Conduct demonstrations or safe classroom experiments showing the properties and uses of industrial gases. Research how gases are used in power generation, storage, or manufacturing. Assessment evidence: data tables, labelled diagrams, reports, photo logs, presentations.
Term 4 – Emerging Systems and Heavy Mobile Plant	Exploring advanced applications of energy storage, transport, and control in modern industries.	UEEFS2009 Explore battery storage and vehicle-to-everything (V2X) energy systems UEEFS2010 Explore heavy electrical mobile plant in mining and resource industries	Investigate battery energy storage and EV charging concepts using ELV classroom models. Model energy flow and control in heavy mobile plant using simple ELV d.c. circuits. Identify and rectify simple faults; explain energy flow and safety processes.

Term	Learning Focus	Units of Competency	Typical Activities and Assessment Evidence
			Research and present how emerging technologies are changing energy jobs and skills. Assessment evidence: project portfolios, annotated circuit diagrams, observation checklists, and group presentations.
Continuous evidence collection through journals, observation checklists, diagrams, project artefacts, and presentations across program period.			

Note: This table is provided as a guide only. Actual delivery will vary by jurisdiction, school timetable, provider operating model, travel arrangements and local supervision requirements. Delivery sequence and duration may be adjusted by training organisations to suit local delivery models, timetables, and learner needs, provided all core units are delivered and assessed in accordance with Training Package requirements. Additionally:

- RTOs and schools may adapt to local calendars by clustering Term 1–2 or Term 3–4 content into semester-based blocks.
- Units may overlap, allowing teachers to cluster delivery across projects (see Flexible Delivery Approach).
- Teachers should progressively gather evidence in student portfolios that combine written, digital, or visual artefacts for each project.
- The sequencing keeps more considered “Explore” units until later in the year, once learners have established safety awareness and tool proficiency.

Flexible delivery approach

Flexible delivery can be structured around integrated projects that combine theory, practice and sharing of information. Exploration projects focus on energy topics or themes related to the unit outcome, using underpinning foundational skills and knowledge from the fundamental type units, allowing learners to demonstrate competency across multiple units through coordinated activities.

A typical model may involve:

- teacher-led introductions to energy concepts and safety
- group planning and collaborative investigation
- supervised practical assembly or testing of ELV model systems
- research and presentation components focused on career pathways or energy systems themes
- reflective discussion linking learning to industry applications and safe work practices.

Assessment activities may be completed individually or as part of a group, provided each learner's evidence demonstrates individual achievement of all requirements of the unit. Assessment evidence for project tasks may be gathered via observation checklists, through one on one and group discussions, and learner documentation such as journals, photos, and digital artefacts.

Delivery and assessment may be adapted to suit local resources and contexts, provided each unit's requirements are fully met.

Example of clustered evidence gathering during project work

By clustering multiple units into integrated projects, evidence can be gathered progressively as learners plan, complete, and review their project tasks.

Typical opportunities include project activities that embed careers research, numeracy, literacy, safety, tool use, energy generation observations, problem solving and communication skills, such as:

- Researching learning and career pathways, connecting project experiences with real-world occupations and future training options.
- Recording and interpreting measurements or data (e.g. voltage, current, temperature, or resource use) to confirm circuit function or compare system performance.
- Reading and interpreting diagrams or project briefs to plan a model, assemble components, and check safety requirements.
- Participating in safe and sustainable practices, such as inspecting equipment, following isolation procedures, and recycling materials where possible.

- Selecting and correctly using basic hand tools and ELV components to assemble, test, and adjust simple circuits or model systems.
- Observing and documenting energy generation or system operation, such as changes in output, efficiency, or load behaviour.
- Applying simple calculations to compare energy use, estimate efficiency, or identify basic faults or improvements.
- Communicating findings through presentations, group discussions, or visual demonstration supported by labelled diagrams and written reflections.

This holistic approach supports integrated assessment and promotes recognition of foundation skills, technical capability, and industry awareness across all ten core units in the qualification.

Project implementation notes

All tasks should be completed in supervised, simulated, or classroom environments using commercially manufactured ELV educational kits.

Evidence may include observation checklists, annotated photos, diagrams, journals, and presentation materials.

Foundation and safety units provide shared evidence of safe work, teamwork, and communication that supports assessment across all units in this project.

Teachers should emphasise conceptual understanding of energy flow and safe work practices rather than technical precision, consistent with AQF Level 2 expectations.

Practical advice

Keep activities conceptual and visual. The model is a teaching aid to help learners see how energy moves, not to replicate live systems.

Use pre-built or classroom ELV d.c. kits with clearly marked components; avoid improvised wiring or unsupervised tool use.

Integrate industry context visually. Use photos, diagrams, or videos of heavy mobile plant to relate model components (switch = operator control, lamp = headlight, motor = traction system).

Keep separate assessment tools for each learner if project activities and presentations are conducted in pairs or small groups.

Industry engagement opportunities

Delivery of the Certificate II in Gateway to the Energy Sector should incorporate structured opportunities for trainers, assessors, and teachers to maintain currency with current energy sector practices and emerging technologies.

This ensures delivery reflects authentic industry context and supports compliance with the Standards for RTOs 2025, which requires all persons delivering or assessing training to maintain up-to-date industry skills and knowledge relevant to the training product.

Schools and RTOs are encouraged to build these links in practical, accessible ways suited to their local context and resources. Practical ways to stay connected with industry include:

- Invite industry speakers from local energy, utilities, or mining companies (in person or via video call or recorded video) to talk about their work and emerging technologies.
- Organise short site visits to local facilities such as solar farms, substations, or council energy management sites, or arrange virtual tours when travel and site access isn't possible.
- Partner with nearby RTOs or employers to design small, authentic projects, for example, analysing real data from solar panels on local buildings, or exploring energy-efficiency ideas for community facilities.
- Join teacher immersion or “industry taster” days to help teachers understand current technology and work practices.
- Use free or open-source digital tools and simulations (such as virtual control panels, energy flow apps, or augmented site tours) to demonstrate real-world concepts safely in the classroom.
- Invite a local electrician, technician, or engineer to co-present during a practical lesson or provide feedback on student projects, under the RTO's supervision.
- Subscribe or connect online with energy industry associations (e.g. Clean Energy Council, Minerals Council, or local utilities) to stay up to date with changes in technology, electrification, and safety requirements.

Participation in these activities helps teachers and trainers stay current with real-world technology, safety standards, and occupational trends, supporting the intent of the standards without adding unrealistic compliance burden.

Supervision requirements and teacher capability guidance

The Gateway qualification content is well suited to delivery by STEM or technology teachers, who bring strong pedagogical and technical knowledge to support student learning. However, additional industry engagement, mentoring, or credentialed supervision may be required to meet current training and assessment requirements or to strengthen real-world industry context.

In practice, delivery in a school this is an RTO, or has an established partnership with and RTO for delivery can look like:

- A qualified, trainer or assessor engages with the program regularly (in person or online) to guide project work, observe learner progress, and verify assessment evidence.
- A STEM or technology teacher leads day-to-day classroom delivery, using project-based activities that align with the units of competency, under the supervision and direction of the qualified trainer or assessor.
- The qualified trainer or assessor reviews lesson plans, learning materials, and student work samples to ensure they meet the unit requirements.

- Where an industry expert (for example, an electrician, technician, or engineer) contributes to project delivery, they do so under the direction of the qualified trainer/assessor and do not make assessment judgements independently.

Assessment evidence can be gathered collaboratively, for example:

- The teacher collects journals, photos, and project artefacts as evidence of participation and skill development.
- The qualified assessor reviews this evidence, conducts interviews or observations (live or remote), and makes the final competency judgement.
- A short, shared supervision plan outlines how direction, communication, and verification will occur throughout the project.

Schools must always confirm arrangements with the RTO to ensure that delivery, supervision, and assessment comply with the Standards for RTOs.

Pathways advice

The Certificate II in Gateway to the Energy Sector was developed in response to strong industry and education feedback identifying a gap between school-level STEM learning and entry into energy-sector trade and technical pathways.

While traditional Certificate II qualifications within the UEE Training Package are designed for learners already committed to a trade or technical role, this qualification recognises that many potential entrants need time and structured support to explore the sector, build confidence, and develop the essential skills required for safe and successful participation in energy-related learning and work environments.

This qualification has been designed under the TPOF using a purpose-led, principles-based approach that reflects contemporary shifts across the VET system. It aligns with the intent of qualifications focusing not on employment in a defined role but on preparing individuals with the foundational and transferable capabilities needed to enter and succeed in future vocational training or employment contexts.

It reflects the role of individuals who have not yet entered the workforce and are developing the core safety awareness, numeracy, problem-solving, and technology skills required for further study or entry-level work in the energy sector.

This qualification also responds to the complex entry requirements of electrical and energy-related trades, where learners must demonstrate strong safety consciousness, applied mathematics, and an understanding of emerging technologies before progressing into apprenticeship or technical pathways.

By engaging learners in applied projects that explore renewable energy, automation, electrification, and industrial systems through ELV learning environments, Gateway builds the knowledge and confidence needed to make informed decisions about future training and careers.

The qualification provides a foundation pathway consistent with the AQF Pathways Policy, designed to help learners move confidently between school, VET and work environments.

Graduates may progress to entry-level Certificate II or III qualifications within the UEE Training Package, or to other industries related to the qualification learning outcomes.

The broad and transferable learning outcomes also support entry to foundation-level employment programs or pre-apprenticeships where strong safety, teamwork, and problem-solving skills are valued.

For RTOs and schools, this qualification offers a structured, nationally recognised model to engage younger or exploratory learners in the energy sector while maintaining clear alignment with VET and industry expectations.

It bridges the gap between school-based learning and trade-level competency, providing a safe and scaffolded environment that promotes learner readiness, industry awareness, and informed progression into technical training or work.

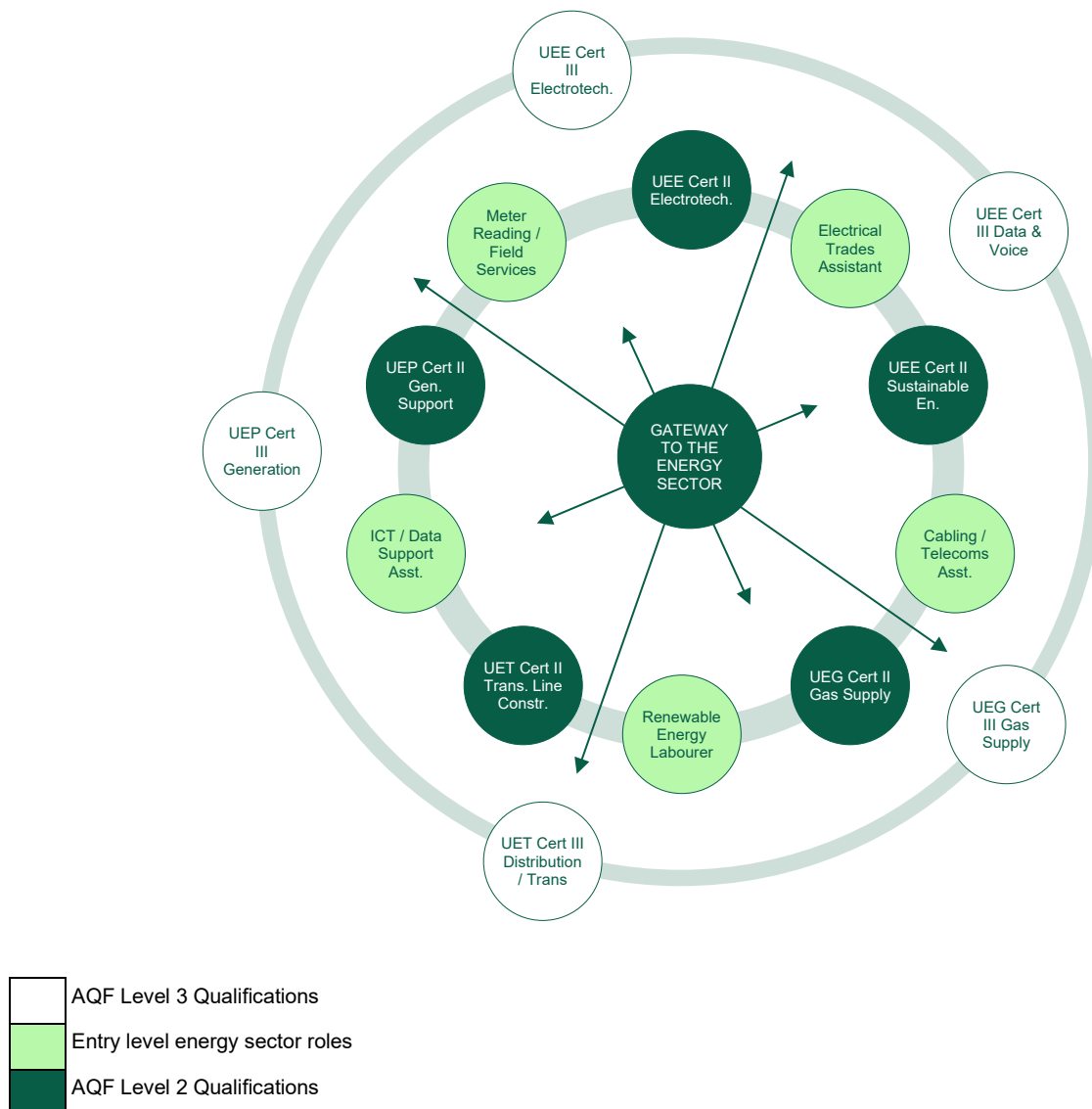


Figure 2: Energy sector pathways from the Gateway

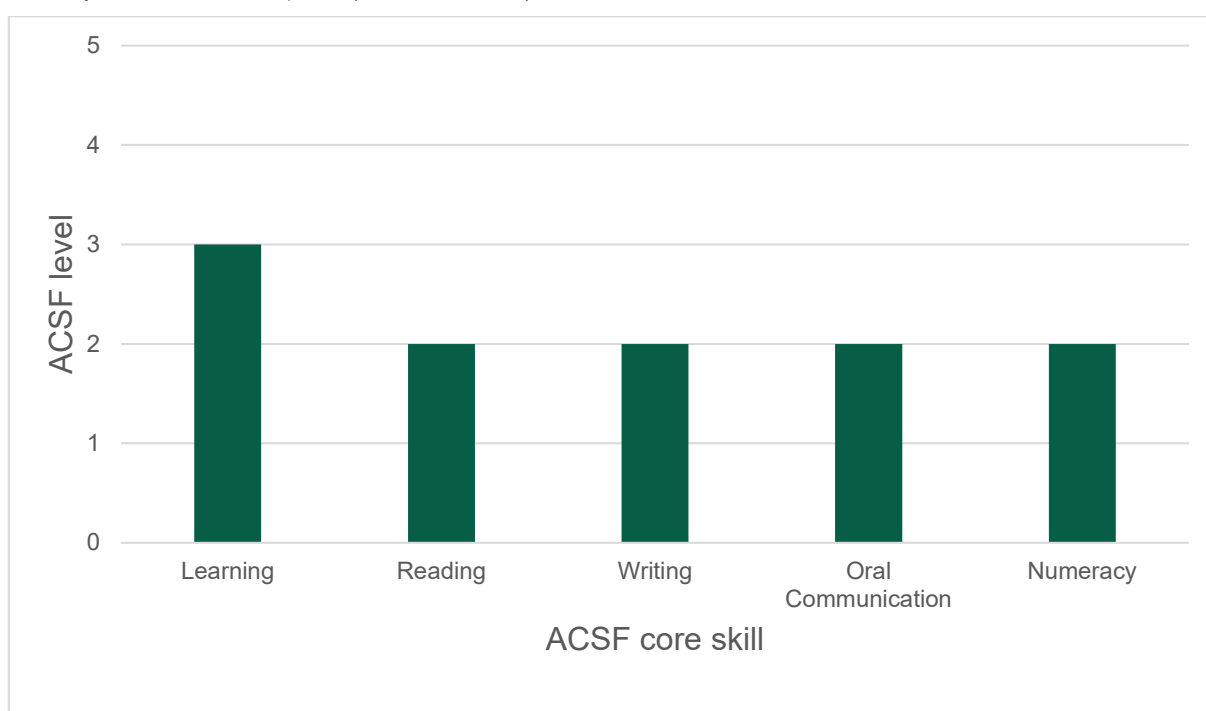
Foundation skills

Australian Core Skills Framework

Australian Core Skills Framework (ACSF) levels in the Certificate II in Gateway to the Energy Sector qualification have been determined by analysing the performance requirements and assessment demands of the core units that make up the qualification, and mapping those demands to the ACSF core skills (Learning, Reading, Writing, Oral Communication and Numeracy).

The levels represent the typical level of performance expected on successful completion of the qualification. They are not derived from the AQF level of the qualification.

Table 4: Gateway Qualification ACSF profile (core unit baseline)



Rationale (qualification level):

Learning = 3

Multiple core units explicitly require learners to plan and manage tasks with “autonomy and limited judgement” in structured project work.

Reading/Writing/Oral Communication/Numeracy = 2

The dominant demands across the core units are interpretation of project briefs/scenarios, short-form recording (notes/diagrams/digital entries), and basic comparisons/measurements/readings.

A list of ACSF for each unit, and a short rationale are provided below.

Table 5: Gateway core unit ACSF levels and rationale

Unit	Learning	Reading	Writing	Oral Communication	Numeracy	Rationale
UEEFS2001	3	2	2	2	2	Research, compare and plan/produce a career profile using structured information and formats; includes planning/managing tasks with autonomy.
UEEFS2002	3	2	2	2	2	Plan and document routine project tasks; interpret checklists/signage; perform basic electrical numeracy (Ohm's Law concept, measurements) and record results.
UEEFS2003	2	2	2	2	2	Follow procedures, interpret safety information/signage, report hazards/concerns, complete basic records; numeracy limited to simple identification/selection and safe ELV handling.
UEEFS2004	2	2	2	2	2	Follow written/diagram instructions, use tools/components safely, test circuits and interpret basic readings, record notes/diagrams/digital results.
UEEFS2005	3	2	2	2	2	Interpret brief, plan/manage a simple ELV renewable model, test/adjust, record results and communicate outcomes in project activities.
UEEFS2006	3	2	2	2	2	Interpret scenario, compare gas types against defined criteria, record comparison clearly, communicate solution; includes planning/managing tasks with autonomy.
UEEFS2007	3	2	2	2	2	Interpret case study/scenario, identify inefficiency, develop basic solution, record

Unit	Learning	Reading	Writing	Oral Communication	Numeracy	Rationale
						observations (written/digital) and communicate outcomes.
UEEFS2008	3	2	2	2	2	Interpret project brief, plan/represent automation solution, assemble/test/adjust ELV system, record actions/results, communicate in project activities.
UEEFS2009	3	2	2	2	2	Interpret residential scenario, represent conceptual system, demonstrate ELV model, test/adjust, record results, explain system to others.
UEEFS2010	3	2	2	2	2	Interpret project brief, plan/assemble/test/adjust ELV model, record notes/diagrams/digital results, communicate features/outcomes.

Digital competence advice

Digital competence advice (DigComp 3.0 profile) describes digital competence across five competence areas and provides four proficiency levels:

- Basic
- Intermediate,
- Advanced
- Highly advanced.

DigComp levels in the Certificate II in Gateway to the Energy Sector qualification have been determined by analysing the explicit digital task demands in the core units of the qualification (e.g., requirements to use digital tools to research, record, organise, compare, represent or present project information; and requirements relating to safe and responsible use of digital tools).

The levels represent the typical level of performance expected on successful completion of the qualification through the core units. Where a unit requires a higher level of digital competence, this is explicitly identified below.

Table 6: Gateway Qualification DigComp levels (core unit baseline)

DigComp competence area	Expected proficiency on completion (core baseline)
1. Information search, evaluation and management	Basic
2. Communication and collaboration	Basic
3. Digital content creation	Basic
4. Safety	Basic
5. Problem solving	Basic

Rationale (qualification level):

Across the core, learners are typically required to use digital tools in structured activities to access information, record or present results, and communicate project information (e.g., digital tools for recording and sharing project information, record actions/results using written notes, labelled diagrams or digital tools).

Some units lift digital demands above the core baseline because they require more purposeful digital research, digital representation/simulation, or attention to privacy/security in connected systems. A summary of Digital Competency levels for each unit, and a short rationale are provided below.

Table 7: Gateway core unit DigComp levels and rationale

Unit	Digital competence required (summary)
UEEFS2001	Intermediate - digital research, organisation and presentation of career information.
UEEFS2002	Basic – Intermediate - use digital tools to record/organise/present and (where required) share project information.
UEEFS2003	Basic - communication/reporting may occur via verbal, written, or digital methods.
UEEFS2004	Basic - digital tools may be used to record/represent/present project information.
UEEFS2005	Basic - digital tools may be used to record/represent/present project information during renewable energy model tasks.
UEEFS2006	Basic - digital tools may be used to record/compare/communicate project information. (unit text indicates digital tool use)
UEEFS2007	Basic - written or digital formats used to record observations and project information.
UEEFS2008	Intermediate - digital simulations/representation, digital organisation/comparison, and privacy/security considerations in connected systems.
UEEFS2009	Basic - may use digital displays/apps for monitoring concepts and digital tools to record/represent/present.
UEEFS2010	Basic - record actions/results using written notes/diagrams or digital tools; use digital tools to record/represent/present project information.

Resource and equipment guidance

The following resources and equipment are suggested to support delivery and assessment of the Certificate II in Gateway to the Energy Sector.

They are intended to assist schools, RTOs and training partners to establish safe, engaging, and realistic learning environments that reflect current energy sector practices.

Resources may be adapted according to delivery mode, available facilities and local context, provided that all practical activities are conducted within ELV limits and in accordance with relevant safety standards.

Note: All practical activities must be conducted using ELV systems and equipment suitable for educational use. They must not require individuals to install, configure, connect to, or interact with live mains-connected systems and infrastructure, or tasks restricted to licensed electrical work.

Kits and models should be commercially manufactured educational products designed for STEM or VET learning, not improvised from uncertified components.

Equipment must comply with relevant safety standards and be maintained in accordance with manufacturer specifications and RTO or school safety policies.

Table 8: Suggested resources and equipment

Category	Examples of Resources and Equipment	Notes / Specifications
General Learning Environment	• Classroom or workshop space with electrical outlets and safe work surfaces	Suitable for classroom or simulated work environments. Supports blended delivery and group-based learning.
	• Whiteboard, projector/smartboard, computers or tablets with internet access	
	• Display materials (posters, diagrams, models)	
	• Access to technical drawings, schematics, videos, data sheets	
Tools and Equipment	• Tools for assembling and testing ELV DC circuits (hand tools, connectors, test leads, multimeters)	All tools and instruments must operate within ELV safety limits. Equipment must be suitable for educational use.
	• Breadboards, wiring looms, modular panels for circuit assembly	
	• Measuring instruments (multimeters, voltmeters, ammeters, clamp meters – ELV rated)	
	• Switches, relays, sensors, actuators, motors and solenoids for basic control demonstrations	

Category	Examples of Resources and Equipment	Notes / Specifications
ELV Kits and Models	Commercially manufactured educational kits or models designed for STEM or VET contexts simulating renewable energy, automation, or control systems (e.g. solar, wind, hydro, battery, motor control, or smart system kits)	Must be commercially manufactured educational products intended for classroom use, not improvised from uncertified components. Operate only at ELV levels.
Renewable and Energy Systems	- Demonstration kits or models for solar PV, wind, and hydro generation at ELV - Battery or energy storage models for education - Monitoring or data logging equipment to record voltage, current, or power - Small models showing energy conversion and efficiency	Must demonstrate energy flow and system interaction at a safe, observable scale. May be integrated into project-based learning tasks.
Automation and Smart Energy Systems	- Programmable or modular controllers, sensors, actuators (ELV only) - Robotics or smart-system kits for automation tasks - Software for basic programming or system simulation (block-based preferred) - IoT or data acquisition devices for simple monitoring projects	Kits and software should support safe, applied learning of automation concepts.
Safety and Work Practice Resources	- PPE: safety glasses, gloves, overalls, closed shoes - Electrical safety signage and lock-out/tag-out devices - Fire extinguisher (CO₂ or dry chemical) and first aid kit - Risk assessment templates and incident report forms	All practical work must comply with school/RTO safety procedures and site policies. Equipment must be maintained and checked regularly.
Career Exploration and Research	- Access to current job profiles and training pathway information - Guest speaker or virtual industry presentations - Templates for career profiling and reflection activities	Supports career awareness and research activities within the Gateway program.

Category	Examples of Resources and Equipment	Notes / Specifications
Optional / Extension Equipment	• 3D printers or laser cutters for prototyping	Optional items to enhance engagement and contextualisation, depending on resources available.
	• Mobile learning workstations or demonstration boards replicating workplace systems	
	• Simulation or VR resources related to energy systems	

Useful links

The following links provide access to additional information, learning materials, and reference resources, provided by industry, that may assist with the delivery and contextualisation of the Gateway qualification.

These links are provided for convenience and are occasionally reviewed and updated to maintain relevance.

Please note that Powering Skills Organisation is not responsible for the maintenance or content of external websites. If a link is broken or the information appears outdated, users should contact the organisation hosting the resource directly for support or updated materials.

Schools and RTOs should review external resource to determine suitability and appropriateness for their learners, teaching teams, and local delivery context. Resources vary in complexity and technical depth, and not all materials may be suitable for school-aged learners.

Before using any external content, educators should check that the information aligns with ELV learning environments, safety expectations, and the Gateway qualification's intended AQF Level 2 outcomes.

Table 9: Suggested links to Australian energy-sector organisations and resources

Source / Organisation	Focus / Relevance	Suggested Use	Link (last verified Oct 2025)
Powering Skills Organisation (PSO)	National Jobs and Skills Council for the energy sector. Career insights, workforce data, and Gateway qualification information.	Reference for current industry initiatives and Gateway context; teacher PD.	https://poweringskills.com.au/energy-jobs-and-skills/
Australian Energy Market Operator (AEMO)	Explainers, fact sheets, and short courses on how Australia's energy markets, generation, and transmission systems work.	Classroom research or discussion starter for energy supply and demand topics.	https://www.aemo.com.au/learn

Source / Organisation	Focus / Relevance	Suggested Use	Link (last verified Oct 2025)
Australian Energy Council (AEC)	Industry body representing electricity and downstream gas businesses; offers publications and market information.	Use to illustrate current industry operations and career diversity.	https://www.energycouncil.com.au/
Energy Networks Australia (ENA)	Industry body for electricity and gas network businesses. Fact sheets, infographics, and workforce resources.	Support materials for understanding energy transmission and distribution.	https://www.energynetworks.com.au/
Energy Efficiency Council (EEC)	Professional association providing energy management and efficiency learning modules and industry updates.	Supplement UEEFS2007 projects on energy efficiency and sustainability.	https://www.eec.org.au/
Smart Energy Council	Free webinars, videos, and explainer guides on renewable, battery, and smart-energy technologies.	Visual classroom resources for UEEFS2005 and UEEFS2009 project topics.	https://smartenergy.org.au/knowledge-centre/
Clean Energy Council (CEC)	Careers guide and resources covering renewable energy pathways, occupations, and accredited training.	Career profiling and research activities in UEEFS2001.	https://cleanenergycouncil.org.au/working-in-clean-energy/careers-guide
Future Energy Skills	Career pathway maps and information for electrotechnology, new energy technologies, and gas supply sectors.	Teacher planning resource or learner reference for pathways advice.	https://futureenergyskills.com.au/careers-information/pathways/
Utilities & Electrotechnology NSW/ACT (UENSW)	Energy career flow charts, teaching resources, and learning tools across electrotechnology and gas.	Classroom career-mapping and industry-overview activities.	https://uensw.au/energy-career-resources/
Australian Refrigeration Council (ARC)	Learning and compliance guides for climate control, air-conditioning, and refrigeration systems.	Reference for UEEFS2007 projects on climate control systems.	https://www.arcltd.org.au/user-guides/

Source / Organisation	Focus / Relevance	Suggested Use	Link (last verified Oct 2025)
My Training SA – Renewable Energy and Hydrogen	Information about renewable energy, hydrogen and high-demand industry careers (South Australia).	Regional careers information for renewable and emerging energy pathways.	https://mytraining.skills.sa.gov.au/career/high-demand-industries/renewable-energy-and-hydrogen
AusEarthEd – Powering Careers in Energy (PCiE)	School-based learning program connecting students with energy industry pathways and resources.	Example model for school-industry engagement activities.	https://ausearthed.com.au/wa/pcie/
Minerals Council of Australia (MCA)	Careers guide for mining and resource industries including heavy mobile plant and electrification pathways.	Reference for UEEFS2010 and career exploration tasks in mining contexts.	https://minerals.org.au/wp-content/uploads/2025/03/MCA-Careers-Guide-2025.pdf
National Hydrogen Skills Hub	Information and micro-learning resources related to hydrogen technologies and workforce skills.	Research or enrichment activities linked to UEEFS2006 gas and hydrogen concepts.	https://www.hydrogenskills.com.au/
Electric Vehicle Council of Australia	Fact sheets, research reports, and career information on EV manufacturing, maintenance, and charging infrastructure.	Reference for UEEFS2009 battery storage and V2X systems.	https://electricvehiclecouncil.com.au/
CSIRO – Data61 and Energy Research	Educational content and open-access data on automation, AI, and digitalisation in energy systems.	Research reference for UEEFS2008 data and automation topics.	https://data61.csiro.au/

Safety and risk management

All Gateway project work must be conducted within extra-low voltage (ELV) direct current (d.c.) environments that are safe for school and pre-vocational learners.

No live low-voltage or high-voltage work is permitted. This qualification does not authorise learners to perform electrical work on live systems or equipment. All activities must be conducted under supervision in accordance with relevant school or RTO safety procedures.

The purpose of Gateway projects is to build an awareness and conceptual understanding of real-world electrical safety, not to replicate licensed electrical work.

Learners should develop respect for energy systems, understand how electrical risk is managed, and practise safe habits such as inspection, isolation, and reporting.

Schools and RTOs must implement a risk management process appropriate to their environment, ensuring that:

- activities involving ELV d.c. kits and components are supervised at all times by a competent person
- equipment meets relevant Australian standards and is maintained in safe condition
- clear instructions and safety briefings are provided before each activity
- students understand their responsibility to follow directions and report hazards.

Teachers and trainers are encouraged to model safe work practices consistently so that learners connect classroom safety routines with expectations in real industry settings.