

# Renewable Energy Career Guide



# Our energy system is changing

Our energy sector is undergoing a transformation. The NSW Government has committed to achieving a 50% reduction in emissions by 2030 and has set out to achieve this through a shift to renewable energy sources. This shift will demand skilled labour to meet the needs of this emerging sector, with growth in NSW annual workforce demand predicted to rise from 9,000 in 2023 to 13,000 in 2027, and further peaks in 2028 and 2035.



## Elements of the renewable energy sector



### Battery Storage

Batteries are a great long-term strategy for storing surplus energy to keep our electricity supply stable, whilst helping businesses and households to efficiently manage their energy use.



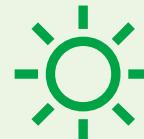
### Hydroelectricity

Hydroelectricity and pumped hydro energy storage is a proven technology that is one of the cleanest, cheapest sources of energy storage and will help transform our energy system to deliver clean, reliable and affordable energy across Australia.



### Hydrogen Energy

Hydrogen, a versatile clean energy source, holds the potential to pave the way to a more sustainable future by being used as fuel for transportation and heating, to store electricity, and functioning as a key raw material in industrial processes.



### Solar Energy

NSW is a leader in the development of large-scale solar projects, helping to diversify our energy mix. Millions more photovoltaic solar panels need to be installed, while solar farms need to be designed, built and maintained.



### Wind Energy

NSW has world-class wind resources, making wind energy a key part of our energy mix. There is a strong pipeline of proposed wind energy projects that will require specialist skills to design, construct and maintain.



# Your pathway to a renewable energy career

TAFE NSW works closely with industry to offer training that will help bridge the skills gap and support the transition to net zero.

Specialist skills are needed to design, construct and maintain machinery and technology to transition to renewable energy sources. There are also diverse career opportunities across a range of industries in renewable energy.

Whether you're just starting out, or want to upskill or transition into a renewable energy industry to make a positive difference, TAFE NSW has a course for you.

# Courses in Renewable Energy

TAFE NSW offers courses addressing renewable energy in the following industries:

- Automotive
- Business
- Civil
- Construction
- Electrical
- Engineering
- Maritime
- Surveying
- Sustainable Practice
- Transport and Logistics





# Automotive

 Battery Storage  Hydro-electricity

 Hydrogen Energy

 Solar Energy

 Wind Energy

Work with alternative fuels (including hydrogen), batteries and electric vehicles as the industry switches from fossil fuels to renewable energy.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Accessory Fitter, Automotive Electrical Assistant, Automotive Electrical Component Installer and Automotive Electrical Trainee	Certificate II in Automotive Electrical Technology (AUR20420)	 
	Automotive Electricians	Certificate III in Automotive Electrical Technology (AUR30320)	 
	Light Vehicle Technician, Quick Service Technician, Service Advisor and Workshop Supervisor	Certificate III in Light Vehicle Mechanical Technology (AUR30620)	 
	Electric Vehicle Repair Technician	Certificate III in Automotive Electric Vehicle Technology (AUR32721)	 
Looking to progress my career in renewable energy	Expand your skills and knowledge to work in renewable energy vehicles	Introduction to Fuel Cell Electric Vehicles, Systems, and Components –Microskill Refuelling of a Hydrogen Fuel Cell Electric Vehicle –Microskill Electric Vehicle Baseline Training –Microskill Electric Bus Driver's Incident Response –Microskill	       
	Electric Vehicle Repair Technician	Statement of Attainment in Battery Electric Vehicle Inspection and Servicing Skill Set (AURSS00064): Units of competency: AURETH101 Depower and reinitialise battery electric vehicles. AURETH102 Inspect and maintain battery electric vehicles. AURETH103 Diagnose and repair high voltage rechargeable energy storage systems in battery electric vehicles. AURETH107 Diagnose and repair system instrumentation and safety interlocks in battery electric vehicles.	 
	Panel Beaters, Mechanics and Auto Electricians	Statement of Attainment in Depower and Reinitialise Battery Electric Vehicles (900-83365) (Unit of competency: AURETH101 Depower and reinitialise battery electric vehicles)	 

# Business



Plan activities, oversee finances, ensure compliance, and care for employees, customers, and the community as you build a career in the renewable energy sector.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Health and Safety Representative	TAFE Statement in Health and Safety Representative (HSR) (800-000166)	
	Personal Assistant, Administration Supervisor, Office Supervisor, Clerical Supervisor, Reception Manager, Administration Coordinator, Project Administrator, Office Coordinator, Administration Assistant, Office Administrator, Secretary and Office Team Leader	Certificate IV in Business (BSB40120)	
	Safety Inspector, Work Health and Safety (WHS) Systems Officer, Work Health and Safety Coordinator and Safety Health and Wellbeing Advisor	Certificate IV in Work Health and Safety (BSB41419) TAFE Statement in Health and Safety Representative refresher (800-000167)	
	Supervisor, Business owner, Manager, Program or Project Administrator or Manager, Customer Service Manager, Client Services Manager	Certificate IV in Entrepreneurship (BSB40320)	
	Administrative Assistant, Customer Service Representative, Receptionist and General Clerk	Certificate III in Business (BSB30120)	
	IT Helpdesk and Call Centre Support	Certificate III in Information Technology (ICT30120)	
	Project Manager Assistant	Certificate IV in Project Management Practice (BSB40920)	
Looking to progress my career in renewable energy	Project Manager	Diploma Project Management (BSB50820)	
	Corporate General Manager, Senior Manager, Departmental Manager, Business Manager and small to medium sized Business Owner	Diploma of Leadership & Management (BSB50420)	

# Civil



Design and construct civil works such as roads, accessways, dams, structures and pipe networks used by future energy infrastructure.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Civil Construction Labourer, Civil Construction Worker, Civil Construction Road Surfacing Worker, Civil Construction Site Maintenance Worker, Civil Construction Road Maintenance Worker, Civil Construction Bridge Maintenance Worker and Civil Construction Pipe Laying Worker	Certificate II in Civil Construction (RII20720)	
	Earthmoving Plant Operator	Certificate III in Civil Construction (Civil Construction General) (RII30920)	
	Civil Engineering Draftsperson	Diploma of Civil Construction Design (RII50520)	
	Civil Engineering Designer, Civil Engineering Draftsperson and Civil Engineering Technician	Certificate IV in Civil Construction Design (RII40820)	
	Earthmoving Plant Operators, Earthmoving Plant Operator, Civil Construction Worker, Excavator Operator, Front-End Loader Operator, Mobile Plant Operator, Grader Operator, Skid Steer Operator and Haul Truck Operator	Certificate III in Civil Construction Plant Operations (RII30820)	
Looking to progress my career in renewable energy	Site Manager, Engineering Project Officer, Engineering Designer, Quantity Surveyor, Engineering Draftsperson, Engineering Technical Assistant and Civil Construction Project Manager	Advanced Diploma of Civil Construction Design (RII60520)	
	Civil Construction Site Supervisor, Civil Construction Technical Specialist and Civil Construction Asset Manager	Certificate IV in Civil Construction (Supervision) (RII40720)	
	Surveying Technician, Construction Surveyor	Diploma of Surveying (CPP50121)	
	Spatial/GIS Analyst, Planning Technician	Diploma of Spatial Information Services (CPP50221)	



# Construction



Battery Storage



Hydro-electricity



Hydrogen Energy

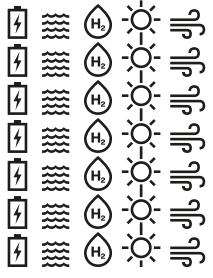


Solar Energy



Wind Energy

Construct civil works such as roads, accessways, dams, structures, buildings and pipe networks used by future energy infrastructure.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Construction labourer, Construction worker, Construction road surfacing worker, Construction site maintenance worker, Plant operator, Rigger, Scaffolder, Dogger, Work Safety Inspector	Basic Rigging – Short course Advanced Rigging – Short course Basic Scaffolding – Short course Advanced Scaffolding – Short course Elevated Work Platforms – Short course General Induction Training (White Card) – Short course Work Safely at Heights – Short course Dogging – Short course	
	Gasfitter, Plumber, Plumbing Contractor	Certificate III in Plumbing (CPC32420)	
	Upskill in Plumbing	Hydrogen Energy Fundamentals – Microskill Certificate IV Plumbing and Services (Operations) (CPC40920)	

# Electrical/Electrotechnology



Install and maintain vital electricity assets from the generation of electricity to the end user as the state shifts from carbon-intensive energy sources to renewables.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Pathway to Apprentice Electrician, Apprentice Refrigeration and Air-Conditioning Mechanic, Apprentice Electronics and Communication Technician and Apprentice Electrical Fitter	Certificate II in Electrotechnology (Career Start) (UEE22020)	
	Electrician	Certificate III in Electrotechnology (Apprenticeship) (UEE30820)	
	Electronics Technician	Certificate III in Electronics and Communications (UEE30920)	
	Refrigeration and Air Conditioning Mechanic	Certificate III in Air Conditioning and Refrigeration (UEE32225)	
	Instrumentation Technician; Electrical Technician; Electrician Special Class (Not entry level), Electrical Equipment Tradesperson, Plant Instrumentation Technician, Electrical Instrumentation Tradesperson, Maintenance Technician and PLC/HMI Programmer	Certificate IV in Instrumentation & Control (UEE42220)	
	Electrical Technician; Electrician Special Class (Not entry level)	Certificate IV in Industrial Electronics and Control (UEE40920)	
	General Hand in renewables sector; Cleaner; any trade worker who is entering the renewables sector	Prepare to work in the Renewable Energy Sector – Microskill	
	Refrigeration and Air Conditioning Team Leader, Project Manager	Diploma of Air-Conditioning & Refrigeration Engineering (UEE51225)	
	Technical Officer (Electrical Engineering)	Diploma of Electrical Engineering (UEE50420)	
	Team Leader, Project Manager	Advanced Diploma of Electrical –Engineering (UEE62220)	

# Electrical/Electrotechnology (continued)



Install and maintain vital electricity assets from the generation of electricity to the end user as the state shifts from carbon-intensive energy sources to renewables.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Looking to progress my career in renewable energy	Design Officer in an engineering team, Technical Sales in the renewables industry and Technical Support in the renewable energy industry	<p>Statement of Attainment in Grid-connected Battery Storage Systems Designer – Installer Skill Set Course (UEESS00191): Units of competency: UEERE0077 Install battery storage equipment power conversion equipment to grid. UEERE0060 Design grid-connected battery storage systems. UEERE0054 Conduct site survey for grid-connected photovoltaic and battery storage systems. UEERE0078 Install battery storage to power conversion equipment.</p> <p>Statement of Attainment in Grid Connected Photo Voltaic Systems – Design and Install Accreditation (901-00107): Units of competency: UEERE0081 Install photovoltaic systems to power conversion equipment. UEERE0054 Conduct site survey for grid-connected photovoltaic and battery storage systems. UEERE0061 Design grid-connected photovoltaic power supply systems. UEERE0080 Install photovoltaic power conversion equipment to grid.</p> <p>Statement of Attainment – Energy Storage Systems (MHE20502C) Statement of Attainment – Grid-Connected Solar PV Systems Design Accreditation (MHE20502A) Statement of Attainment – Principles of Electrical Engineering (MHE20502E) Statement of Attainment – Foundation Studies in Renewable Energy and Sustainability (MHE20502D) Wind Energy Conversion Systems (MHE20502B)</p>	 
	Specialist skills in renewable energy	Engineering, Procurement and Construction – Microskill	    
	Wind farm maintenance	Wind Turbine fundamentals maintenance – Microskill	
	Wind farm fitter and machinist/scafolder/electrician	Intro to wind farms – Microskill	
	Manage and maintain grid scale battery	Grid Scale Battery – Microskill	
	Technician role maintaining and supporting systems that integrate renewable energy technologies	Diploma of Renewable Energy Engineering (HE20552)	    
	Technician role maintaining and supporting systems that integrate renewable energy technologies	Develop renewable energy solutions for manufacturing (NAT11364003)	    

# Engineering



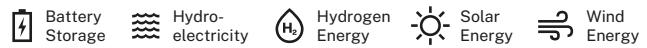
Develop practical solutions to complex problems and solve future energy challenges.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Fabricator, Welder, Boilermaker and Sheet Metal Worker	TAFE Statement in Basic Welding (800-000030)	
	Metal Engineering Process Worker and apprenticeship or traineeship in a trade of your choice	Certificate II in Engineering Pathways (MEM20422)	
	Boilermaker, Sheetmetal Worker and Welder	Certificate III in Engineering –Fabrication Trade (MEM30319)	
	Technical Fitter, Machinist and Fitter and Machinist	Certificate III in Engineering –Mechanical Trade (MEM30219)	
	Protective Coatings Paint Applicator and Abrasive Blaster	Certificate III in Surface Preparation and Coating Application (MSM30216)	
	Mechanical Engineering Draftsperson, Mechanical Engineering Technician	Certificate III Engineering –Technical (MEM30522)	
Looking to progress my career in renewable energy	Engineer	Certificate IV in Engineering (MEM40119) Diploma of Engineering –Technical (MEM50222)	



# Maritime

Construct and maintain wind farms in offshore waters.



I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	General purpose hand in coastal	Certificate I in Maritime Operations (General Purpose Hand Near Coastal) (MAR10224)	
	Maritime engineer or engine room worker	Certificate II in Maritime Operations (Marine Engine Driver Grade 3 Near Coastal) (MAR20424)	



# Surveying

 Battery Storage  Hydro-electricity

 Hydrogen Energy

 Solar Energy

 Wind Energy

Gather information on the shape of the land to support the construction and layout of future energy infrastructure.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Surveying or Spatial Science Technician	Certificate III in Surveying and Spatial Information Services (CPP30221)	    
	Surveying or Spatial Science Technician	Certificate IV in Surveying and Spatial Information Services (Spatial Information) (CPP41721)	    
	Surveying or Spatial Science Technician and Surveying Technician	Certificate IV in Surveying and Spatial Information Services (Surveying) (CPP41721)	    
Looking to progress my career in renewable energy	Surveying or Spatial Science Technician and Surveying Technician	Certificate IV in Surveying and Spatial Information Services (Surveying) (CPP41721)	    

# Sustainable Practice



Protect natural resources on the land used by future energy systems.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Farm, Forestry and Garden Workers	Certificate II in Conservation and Ecosystem Management (AHC21020)	
	Ecological Restoration Practitioner, Landcare Worker, Bush Regenerator, National Parks Field Officer, Pest Control Officer, Cultural Lands Worker and Soil Conservation Assistant	Certificate III in Conservation and Ecosystem Management (AHC31421)	
	Environmental Officer, National Park Ranger, Biodiversity Conservation Manager, Indigenous Land Manager, Pest and Feral Species Manager, Ecological Restoration Manager, Sustainability Manager, Threatened Species Manager and Mine Site Rehabilitation Manager	Diploma of Conservation and Ecosystem Management (AHC51120)	
Looking to progress my career in renewable energy	Sustainability Officer, Sustainability Manager, Sustainability Coordinator, Sustainability Consultant, Sustainability Specialist, Sustainability Engagement Officer, Climate Impact Consultant, Climate Emergency Coordinator, Energy Officer, Climate and Nature Coordinator, Community Organiser and Waste Education Officer	Diploma of Sustainable Practice (HE20517) Undergraduate Certificate in Sustainable Practice (HE20537)	



# Transport and Logistics

 Battery Storage  Hydro-electricity

 Hydrogen Energy

 Solar Energy

 Wind Energy

Shift production, storage, inventory, delivery, and distribution to support the renewable energy industry.

I am:	Job Outcome	TAFE NSW Course	Energy Sector
Just starting out in my career	Logistics Operator, Supply Chain Administration Operator, Supply Chain Administration Officer, Logistics Administrator and Supply Chain, Logistics Support Administrator, Warehouse Operator, Supply Clerk, Supply Chain Customer Service Representative, and Supply Chain Export Manager	Certificate III in Supply Chain Operations (TLI30325)	    
	Depot Yard Person, Despatch Clerk, Inventory Clerk, Loader, Pick Packer, Reach Truck/Forklift Driver, Receiving Clerk, Store Person, Transport Clerk and Warehouse Operator	Certificate II in Supply Chain Operations (TLI20421)	    
Looking to progress my career in renewable energy	Supervisor (Warehouse Logistics), Purchasing Procurement Officer, Inventory Controller, Supply Chain Coordinator, Operations Supervisor, Line-Haul Coordinator, Fleet Controller, Freight Forwarder, Pallet Controller, Transport Scheduler	Certificate IV in Supply Chain Operations (TLI40324)	    
	Contract Administrator, Contract Manager, Logistics Manager, Purchasing Manager, Supply Chain Customer Service Manager, Warehousing Manager, Logistics Coordinator and Logistics Supervisor	Diploma of Logistics (TLI50221)	    

 [tafensw.edu.au/programs/renewable-energy](http://tafensw.edu.au/programs/renewable-energy)