Sunshine Coast
Future Careers+ 2025

Clean Technologies

WATER, WASTE, ENERGY, BUILT DESIGN

Study | Sunshine Coast Australia

Sunshine Coast COUNCIL

Sunshine Coast Council is embarking on a strong and prosperous future which includes a progressive approach to sustainable economic growth and opportunities that are unrivalled anywhere in Australia. Council's Regional Economic DevelopmentStrategy is a blueprint for sustainable economic growth until 2033. The strategy will help to ensure the region actively participates in the global economy and delivers an enviable lifestyle and opportunities for local residents and businesses. The Strategy also seeks to ensure the region realises its full potential through support of high value industry sectors. Six sectors, Education, Knowledge and Professional Services, Tourism Sport and Leisure, Clean Technologies and Aviation and Aerospace support the Food and Agribusiness sector.

Current Industry Snapshot

The Clean Technology industry consists of businesses that create new technologies that benefit the environment and business. The sector consists of four main areas which are water, waste, energy and built environment. On the Sunshine Coast Clean Technology businesses strive to provide continuous improvement to people, the planet and profits. The Sunshine Coast has already been recognised as a hub for Clean Tech businesses. Sunshine Coast Council's vision is to become the most sustainable region in Australia – vibrant, green, diverse.

Currently on the Sunshine Coast the Clean Technology industry employs 1,770 people and accounts for 1.5% of all business in the region. There are approximately 150 small to

Projected Growth Snapshot

The Clean Technology industry is set to employ over 2,000 jobs by 2025. New businesses are setting up on the Sunshine Coast due to its lifestyle attractiveness and ability to market worldwide whilst being able to manufacture, engineer or design clean tech products locally. As more stringent policy and cost reduction regarding waste and carbon production comes into effect, businesses will demand more clean technology to position themselves as a 'green company' or to avoid penalties that come through excess waste. This market condition will lead to a surge for clean tech ideas and solutions for which the Sunshine Coast has the opportunity to provide. The Sunshine Coast cleantech industry is well placed to provide. The Sunshine Coast has the potential to become a national business hub for niche clean technologies and solutions.

Game Changers on the Sunshine Coast

The 'game-changer' projects on the Sunshine Coast are large infrastructure developments that will provide jobs in their construction and operation whilst inspiring clean tech businesses to develop or relocate to the region providing growth.

SunCentral Maroochydore

SunCentral Maroochydore will be a vibrant and sustainable 21st century city centre that will create thousands of jobs by 2025 and will include smart technology to assist with city guides, climate-controlled buildings, open data initiatives to monitor usage of facilities, public transport, surveillance systems and traffic management. SunCentral will implement Australia's first pneumatic (air pressured) underground waste collection system, where bins will automatically empty themselves. The city will capture, store and reuse storm water whilst utilising renewable energy and efficient building design.

Aura – the City of Colour

As one of Australia's largest city-building projects and the only 6 Star Green Star community in the nation, Aura will be a city of the future – with business innovation and economic prosperity as its cornerstones. The project will provide an estimated 20,000 onsite and 20,000 offsite jobs over the next 30 years. Aura will also provide ongoing construction and associated employment for the next 30 years. The city will use leading practices in energy efficiency with dedicated bike paths and cycle stations to reduce car traffic and also utilise LED street lighting. The city will plant over 2 million trees with a 700-hectare conservation area and have 2000 solar PV systems installed over the first 10 years.

The Sunshine Coast Solar Farm

The Sunshine Coast Solar farm is the Sunshine Coast Council's next major step towards powering its energy future through a 15 megawatt (MW) solar farm on council-owned land at Valdora. The solar farm will have more than 57,000 solar panels generating electricity into Energex's electricity network and will, at its peak, generate 15,000 kilowatts of electricity from the sun. Over one year, the solar farm will generate sufficient electricity to power about 5,000 homes and is estimated to save millions of dollars on power bills over a 30-year period. The Sunshine Coast Council will be the first council to build a solar farm at utility scale in Australia and effectively offset the Sunshine Coast Councils entire electricity consumption. It is estimated that this project will generate 40 jobs over the course of construction.

medium businesses in this sector generating $214 million in economic activity. Clean technologies have the ability to directly influence the manufacturing industry which is the 4th largest industry on the Sunshine Coast. The manufacturing industry manufactures niche products such as camper trailers, caravans, water management systems, weir minerals, pre-built houses, trussing, framing and metal work.

Cleantech Industries Sunshine Coast Inc, a membership based eco business hub connecting eco-friendly businesses with industry, government and community and is key to promoting the growth of sustainable products, services and renewables. The business hub also provides clean technology industry representation at events and corporate functions.

The Sunshine Coast has embraced clean technology as evidenced by 40,000 solar panel rooftops with 43% of all households in Caloundra installing solar panels.

Future Careers 2025

Four main career areas have been identified within the clean technology industry; engineering, science, manufacturing and design, and installation.

Engineering	Science	Manufacture & Design	Installation
Civil Engineer	Scientist	Factory Worker	Plumber
Mechanical Engineer	Research and Development	Trade / Technician Blend	Electrician
Electrical Engineer	Data Analyst	Construction	Installation Specialist
Clean Tech Engineer	Mathematician	Architect	Off-Grid Electricians
Environmental Engineer	Intellectual Property	Smart Building Designers	Trade Worker
	Licensing / Litigation		Technician

Top 3 Careers

1. Environmental Scientist – designs technologies to help businesses become more environmentally sustainable e.g. technologies that remove or reduce pollutants, increase water efficiency and better handle stormwater and wastewater. Environmental scientists may also design transport efficiency through electric and hybrid vehicles, biodiesel-fuelled buses, boats and aircraft that emit fewer carbon emissions.

2. Smart Building Designers – design efficient and ergonomic buildings using smart design and sustainably sourced materials to maximise physical space and lower operational costs e.g. less reliance on air conditioning or lights which reduces power consumption.

3. Recycling and Pollution Prevention Professionals – design control systems to prevent air and water pollution and operating systems that convert waste to energy. These professionals may also provide consultation and educational services to businesses seeking to reduce wastage and promote recycling.

Subjects to look for at High School		
Manufacturing	Building & Construction Skills	Engineering Skills
Information Technology Systems	Mathematics A, B, C	Biology
Engineering Technology	Marine Science	Agricultural Science
	Physics	Chemistry
	English	Technology Studies

Tertiary / University Education Pathway at the University of the Sunshine Coast		
Bachelor of Science (Major or Minor in Sustainability)	Health Degrees (Major or Minor in Sustainability)	Education Degrees (Major or Minor in Sustainability)
Engineering Degrees (Major or Minor in Sustainability)	Arts Degrees (Major or Minor in Sustainability)	Business Degrees (Major or Minor in Sustainability)

TAFE Education Pathway		
Dual Diploma of Sustainability - Mooloolaba Campus	Certificate III in Light Vehicle Mechanical Technology (Apprenticeship) – Nambour	Certificate II in Automotive Service Technology (Traineeship) – Nambour
Certificate III in Air-Conditioning and Refrigeration (Apprenticeship) – Nambour	Certificate II, III in Plumbing (Apprenticeship)	Certificate III in Gas Fitting - Nambour Campus
Certificate II, III in Electrotechnology Systems Electrician (Apprenticeship) – Nambour	Certificate II, III in Engineering (Apprenticeship) - Nambour Campus	Certificate III in Information, Digital Media and Technology – Mooloolaba Campus

Career Pathways & Education

The clean technology industry will require professionals from several different backgrounds and expertise. STEM subjects (science, technology, engineering, mathematics) will best position students to enter in tertiary studies with major focus on sustainability leading into research and development. Equally as important, vocational pathways into trades and other vocational areas will lead to opportunities to become specialist tradespeople and industry experts.

Crossover Industries

Clean technology will employ experts from all fields to improve current processes, products, machines, infrastructure or systems that will benefit the environment. People with a background in IT can design smart systems to analyse data that will enhance efficiency. Agribusinesses can implement sustainability practices to increase crop yield and lower the impact to land conditions. Tourism, sport and leisure can benefit by using new ways of organising events that reduce traffic congestion or pollution to the environment. Experts in sustainability can be employed in the education industry by training organisations or students about sustainability. Aviation will look towards clean technologies as airlines and other organisations seek to lower carbon emissions and improve fuel efficiency. Health workers may be required by clean tech businesses to analyse the impact that proposed innovations may have to the public's health. Clean technologies and cleantech solutions will be the catalyst to provide the solutions to improve productivity and processes globally.

Further Information

Study Sunshine Coast promotes the area as the ultimate destinationfor education and providesstudents with everything they need to know about studying on the Sunshine Coast. From educational facilities, to the best places to find delicious food and drink (and save your dollars). Study Sunshine Coast is your go-to student guide, 24/7!

For more information go to:

www.studysunshinecoast.com.au

Sunshine Coast COUNCIL

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