LATRONICS

Showcasing Latronics, William Street, Moffat Beach as part of a series of case studies that have been developed to illustrate best practice Clean Technology solutions.

The Clean Technologies industry has been identified as one of seven high value industry sectors for the Sunshine Coast region, as defined in the Sunshine Coast Council's Regional Economic Development Strategy 2013-2033.

Latronics is Australian owned and was one of the pioneering companies to design and manufacture inverters that convert DC battery power generated by renewable sources such as solar or wind into AC mains power.

Clean Technology Solutions at Latronics:

- Sustainable architectural design and structural materials
- Sustainable design and engineering of products
- Renewable electricity generation and storage
- Research and development into renewable energy and product innovation
- Employment and training in Green Technology
- Rainwater capture
- Stormwater treatment
- Food production in the workplace

BENEFITS:

- On-site solar power generation saves $25 000 p.a. in electricity costs
- Reduction in daily carbon emissions of 243 kg CO_2e
- Capture of 360 000 L p.a. of rainwater
- Showcase for clean technology and innovation

LATRONICS®

The Clean Technology industry on the Sunshine Coast generates $214 million in economic activity, employs 1,770 people and has become a model for sustainability in Australia*.

Please contact us to provide you with a list of regional solution providers.

Cleantech INDUSTRIES Sunshine Coast

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What is Clean Technology?

Economically viable products, services and processes that harness renewable materials and energy sources, dramatically reduce the use of natural resources and cut or eliminate emissions and wastes.

Sustainable Design and Structural Materials

Using natural systems and processes as their inspiration, Latronics worked with Gomango Architects to design unique and self-sustainable headquarters that would reflect the company's commitment to clean technology and sustainable living.

Built on a derelict industrial site the distinctive omega shaped building, constructed by Evans Harch, has two manufacturing wings with a central egg shaped office space that maximise natural air flows and lighting.

Computer simulations at the design stage assisted in the development of a naturally efficient building.

The 'solar pergola' that expands right across the top of all three facilities provides shading and a framework to support a vast solar array.

The entire building is fully insulated with cladding sourced from sustainable plantations, recycled plastic panels or leafy vine arbours on tensile wire.

A roof top garden over the office space also helps to maintain comfortable temperatures.

FEATURES:

- 'Solar pergola' and sun blocking awnings support 327 solar panels
- Entire western wall is externally insulated with 127 low maintenance high density polyethylene panels made from recycled milk bottles
- Ceiling to floor horizontal windows (that can be opened in all weather) encircle the entire office space so breezes from any direction can be utilised for natural ventilation.
- External sliding and operable sunshades along sun facing walls
- Edible landscaping includes four raised corrugated vegetable beds, fruit trees and vine arbours

BENEFITS:

- Reduced air-conditioning and lighting requirements
- Showcases company's commitment to innovation
- Healthy and vibrant workplace for staff
- Functional, food producing gardens

Sustainable Product Design and Manufacturing

Latronics design and manufacture all their inverters and consider the environmental impacts of their products across the whole lifecycle from the sourcing of materials to end of life disposal.

The manufacturing process itself generates very little waste with everything from cardboard to copper and obsolete PCB components recycled.

Their products reflect their philosophy to produce items that abstain from a 'throw-away' society.

FEATURES:

- Durable and long-lasting materials including a 100% recyclable aluminium inverter casing for better physical resistance
- Designed to enable easy repair and recommissioning
- Recyclable housing
- 64% of the materials sourced locally

BENEFITS:

- Product robust enough for harsh Australian conditions
- High product quality ensures customers can differentiate Latronics merchandise from cheaper products or imports

Latronics Environmental Statement

As an environmentally responsible company, we embrace every opportunity to develop a sustainable future.

Energy Efficiency, Generation and Storage

Latronics is 100% solar powered. Power generated on site is utilised during the day. In the evening the site's Tesla 55 kW car battery system, that charges during the day, is used to power the building using a Latronics designed and built inverter. Any excess power is fed back into the grid.

As the site is restricted to feeding only 15 kW per day back into the grid it is very important that power generated on site is used to its full potential and that the building behaves as one integrated, seamless system. With this in mind Latronics has designed and built its own site balancer.

The balancer enables the building to maximise the use of all its harvested solar power before sending excess to the grid.

FEATURES:

- 74 kW solar system that meets all the site's energy requirements with room to increase to 120 kW
- Two 3-phase EV car charging stations and two Tesla 3-phase chargers designed for rapid charging of Tesla vehicles
- Solar hot water heating
- Energy efficient lighting including LEDs and T5s installed by Sunshine Coast company, Megabay Lighting
- 2.4 m wide fans on the ceilings in the manufacturing sections

BENEFITS:

- Solar PV meets 100% of electricity requirements
- Annual electricity costs reduced by $25 000 p.a.
- Daily reduced carbon emissions of 243 kg CO_2e

Research and Development

Latronics commitment to clean technology includes investing over 2.5 million $AUD in research and development into renewable energy over the last 10 years.

Expanding Green Tech opportunities in the community is important to Latronics with $14 million spent employing largely unskilled locals who are trained on the job.

"Latronics has been doing business on the Sunshine Coast for 31 years and has a philosophy of using the skills of people to better the community rather than resorting to using machines in production lines."
Klaus Langner

FEATURES:

- All inverters are designed and manufactured by Latronics staff
- Solar panels made in five different countries by six different manufacturers allows for research. Latronics collect data on different panel brands
- 80% of the firm's primary suppliers for its manufacturing activity are from Australia, and of those approximately 80% are in South East Queensland

BENEFITS:

- Relying on skilled local staff means greater flexibility in production and the ability to customise products to meet the client's needs
- Ability to configure and test a wide range of system set-ups and measure the performance of each
- Continual innovation and improvement in product lines

Water Capture and Stormwater Treatment

Rainwater from the roof top is captured in tanks and used for servicing, washing machines, toilets and showers and cleaning of the Latronics fleet of commercial vehicles.

The roof top garden rests on 'floating' floor tiles that are raised several inches off the floor to allow rainfall to flow through the gaps and flow into four rainwater tanks used for irrigation purposes.

All stormwater from the site is directed to two bio-retention systems where the water filters through a bed of sedges and native grasses before being released to stormwater drains.

FEATURES:

- Rainwater storage 150 000 L
- Irrigation from the tanks controlled automatically by rain sensors
- Two stormwater bio-retention filtering systems

BENEFITS:

- Capture of 360 000 L p.a. of rainwater reducing mains water consumption costs

[1]Data referenced in the Regional Economic Development Strategy (2013 - 2033).

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FOR MORE INFORMATION

Go to www.invest.sunshinecoast.qld.gov.au or email invest@sunshinecoast.qld.gov.au or call the Coordinator - High Value Industries on +617 5475 9932.

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