



# Sustainable technology

## OVERVIEW

Townsville is well positioned as a future hub for sustainable technologies.

Townsville possesses strong natural energy resources, particularly for solar and tidal energy methods. Climate conditions in Townsville are such that solar resources are world class (see Table 1).

The region leverages world class research through locally based institutions including James Cook University (JCU), the Australian Institute of Marine Science (AIMS), and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Townsville's participation in the Australian Government's Solar Cities initiative, a leading-edge program trialing new, sustainable models for electricity supply, has built a national profile in the application of solar energy generation to domestic networks.

By also fostering innovation in building design, water efficiency, cooling technology and network demand management, Townsville is positioning itself as an exemplar of sustainable tropical living.

**Table 1: Solar generation indicators**

Indicator	Townsville
Summer Avg. Temp.	20-31°C
Winter Avg. Temp.	13-25°C
Avg. Days Sunshine Per Year	320
Avg. Hours Sunshine Per day	8.5

Source: QLD Government (2015), BOM (2015)

## CURRENT CONTRIBUTIONS

Like many areas across Australia, Townsville faces significant challenges facilitating significant population growth in an era of rising energy prices and increasingly scarce water supply.

Key regional stakeholders are taking the lead in the development and application of sustainable technologies and practices.

### James Cook University

In 2010 JCU constructed the largest Central District Cooling System (CDCS) in the southern hemisphere, incorporating high efficiency chillers and large scale thermal energy water storage. The development allows JCU to double the air-conditioned building footprint without increasing net energy consumption.

### Townsville City Council (TCC)

Through key initiatives including Energy Transformation Townsville, TCC is applying sustainable technologies and practices to achieve significant energy efficiency, greenhouse gas reduction, and network demand management outcomes.

Energy Transformation Townsville involves three key elements:

- **Energy conservation measures at TCC facilities:** With clear measurable reductions in energy use
- **Smarter instrumentation and data management:** Reducing energy use through innovative technology, sensors and development of an enterprise-wide energy management system
- **Community education and capacity building:** Expanding on TCC's established practices to engage the community and promote sustainable technology uptake and real behaviour change.



## OUTLOOK

Townsville has developed a strong reputation for adapting new technologies and implementing sustainability actions with proven results.

Residents of Townsville are able to access a number of rebates and incentives in order to make houses more sustainable in terms of energy efficiency and renewable energy.

As environmental awareness increases more efforts will be made in improving sustainable living practices in the tropics.

The Townsville region has extensive research capabilities and a strong tropical architecture industry to further leverage the benefits arising from sustainable technologies.

The proximity of the ocean has Townsville well positioned to undertake research in tidal energy technology should this industry expand.

Recent advancements in sustainable technologies place Townsville's industry and community in a strong position to benefit from adapting and utilising a broad range of new sustainable technologies and practices.

## MORE INFORMATION

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