

# YES: Townsville can be a Renewable Manufacturing and Industry Powerhouse

## Turning Townsville into a Renewable Energy Industry Precinct would...

- Power **11,000** new local jobs
- Add **\$154 billion** to the economy
- Unlock over **3GW** of new local solar, wind and storage projects

## Right now in Townsville...

- **4 companies** are looking to manufacture materials for household storage and electric vehicle batteries
- **4 large-scale** solar farms are already pumping out clean energy in the area
- **30,000** households and businesses are slashing their bills with rooftop solar

Analysis by Acacia Sustainability, March 2021

Photo: Ross River Solar Farm



## Abundant and cheap renewable energy can help power **3,656 new local jobs** in advanced manufacturing and minerals processing



By Stephanie Gray  
Queensland Energy  
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**North Queensland has all the right ingredients to power up new manufacturing industries with abundant and cheap renewable energy.**

There are already several manufacturing and minerals processing projects proposed here in Townsville that would create 11,000 jobs if they proceed and are powered by new solar, wind and storage plants.

There's a growing global demand for cleaner energy and transport solutions, and Townsville is well-placed to manufacture things like renewable hydrogen and battery materials for electric vehicles.

Queensland is one of the sunniest places in the world and this sunshine can be turned into abundant solar energy.

The North West Minerals Province has key minerals that are needed to make technology like battery storage.

Townsville in particular, is strategically located to establish and expand clean energy manufacturing because of its port and skilled workforce.

Clean energy innovation is also one of Australia's specialties.

Aussies invented the modern solar cell, and even now, Australian companies are developing new cleaner ways to process minerals and make battery materials for electric vehicles and household storage.

The world's transition to cleaner energy and transport provides a massive opportunity for Queensland – our natural renewable energy advantage and home-grown innovation mean we can revive local manufacturing.

Seizing this opportunity will build a stronger economy now and into the future.



# Townsville's Big Opportunity



Kennedy Energy Park, just outside of Hughenden

## Unlocking North Queensland's Best Solar and Wind Resources

**New energy infrastructure between Townsville and Mt Isa has the potential to unlock new clean energy generation, and in doing so, create an extra 3,560 mining jobs and \$54 billion worth of income for Queensland.**

The North West Minerals Province (NWMP) is a huge area near Mt Isa that has mineral and rare earth metal deposits known to be worth \$680 billion.

Demand for many of these minerals, like cobalt and copper, is expected to rise as the world transitions towards renewable energy and electric transport.

But at the moment, industry and mining operations in and around Mt Isa are hamstrung by high electricity prices because they have to rely on expensive gas-fired generation.

Mt Isa is not connected to Australia's main electricity grid and this is stopping local industries from expanding.

To solve this issue, the Copperstring 2.0 transmission line is proposed to connect Mt Isa to Australia's main grid close to Townsville – unlocking access to some of the state's best solar and wind resources along the way. When the line is built, more cheap renewable energy generation will be able to connect to the national grid.

Creating a local supply of abundant and cheap renewable energy can facilitate the expansion of mining and minerals processing operations in the NWMP, creating thousands of long-term jobs.

And what's more, constructing new solar and wind farms will provide a much-needed economic boost for communities that over the years have been hit hard by drought.

One of the few renewable energy projects already constructed in the area is the Kennedy Energy Park just outside of Hughenden.

Kennedy was the world's first solar, wind and battery plant. During construction in 2018, \$20 million flowed into the local community, saving some shops from having to close their doors.

Hughenden locals Sally and Steve started their own earthworks contracting business, SJ & SC Reddie, in 2006. They were principal contractors for the construction of Kennedy Energy Park and during that time their business expanded to employ about 60 staff.

"The influx of people during that period was phenomenal and all those people were spending money in the local community," said Sally.

"We'd been in drought for quite a number of years, work was fairly quiet, so that was the shot in the arm that the local people needed. I think every business in town benefited immensely," said Steve.

"These larger projects certainly do add a big boost to the local economy."



Sally and Steve, SJ & SC Reddie, Hughenden

## Powering the World with North Queensland's Sunshine

**There's a growing global buzz about renewable hydrogen. So, what even is hydrogen?**

Hydrogen is the most abundant chemical in the entire universe. It's also one of the keys to powering heavy vehicles and entire cities with clean, renewable energy 24-hours a day.

Hydrogen can be produced by splitting water using electricity. This is where solar and wind energy comes in: we can use Australia's plentiful renewable energy resources to create hydrogen when the sun is shining and the wind is blowing. We can then store that hydrogen and literally use it for a rainy day. When hydrogen reacts with oxygen it creates energy and water – so we can burn renewable hydrogen like we burn gas, but unlike gas it's entirely clean.

That means we can power our electricity grid with renewable hydrogen and the only by-product is water. Countries like Japan and South Korea are interested in importing renewable hydrogen from Australia because we've got some of the best solar resources in the world.

But renewable hydrogen has many more uses than just energy storage. Renewable hydrogen can power vehicles and be used instead of polluting gas to power stoves and barbecues. It can even be used to make steel in the place of metallurgical coal.

Companies are already planning to construct renewable hydrogen plants in Townsville. The proposed North Queensland Hydrogen Hub will produce 36,000 tonnes of renewable hydrogen every year and create 164 ongoing jobs.

Australian company, Edify Energy, are also looking to build a large-scale green hydrogen facility at the Lansdown Eco-Industrial Precinct, south of Townsville. Their proposed Majors Creek Solar Power Station will provide renewable energy to the hydrogen facility and other manufacturers at the Lansdown precinct.

"North Queensland, and in particular Townsville is strategically placed to take advantage of the exciting opportunity of renewable hydrogen production," said Edify's John Cole.



John Cole (right) and Peter Asplin on Hamilton Solar Farm, North Queensland



Site of new Townsville solar farm

"Green Hydrogen production will bring enormous economic benefits to the country, attracting investment, creating new jobs and skills, as well as utilising existing skill sets as Australia transitions to a cleaner, green energy source.

"The proposed hydrogen facility will be able to provide renewable green hydrogen for domestic applications. It also has future potential to scale up to export green hydrogen from the Port of Townsville to the rest of the world."



QPM Managing Director, Stephen Grocott

## Battery Manufacturing to Power Jobs Bonanza

**Townsville could soon be making electric vehicle battery materials for the world with plans for four new battery plants driving ahead.**

Three companies are looking to establish chemical processing plants to produce materials needed in lithium-ion batteries and a fourth has plans to assemble batteries right here. All of these projects are being proposed to meet the growing global demand for household battery storage and electric vehicles.

If all four battery projects move ahead they will create an incredible 1,400 ongoing jobs.

Queensland Pacific Metals (QPM) is one of the businesses looking to process chemicals for lithium-ion storage batteries.

QPM is also working with James Cook University to establish if their Townsville Energy Chemical Hub Project (TECH) can be the first of its kind in the world to produce zero waste and they've signed a Memorandum of Understanding with Edify Energy, developers of the proposed Majors Creek Solar Power Station.

The TECH project will be located in the Lansdown Eco-Industrial Precinct.

"Queensland Pacific Metals' business is built on sustainability – our processing methodology is far superior to alternatives for the production of nickel and cobalt chemicals for lithium-ion batteries," said Managing Director Stephen Grocott.

"The world's transition to electric vehicles will result in unprecedented demand for nickel, in particularly the battery chemical nickel sulphate. This provides an exciting opportunity for Australia to become a major supplier of critical chemicals.

"The TECH project at Lansdown is almost the opposite of what typically happens in Australia where you export ore and do the value-add overseas.... we're doing the value-add here and turning ore into high quality battery chemicals.

"You couldn't really ask for a much better location than Townsville – it ticks every box. It's got infrastructure, all the port facilities, and a highly skilled workforce. This is a complex chemical manufacturing facility so you need highly skilled employees."

During construction 1,000 people will be employed building the TECH project, and once in operation, the facility will support 250 ongoing jobs.



# Townsville Locals Are Driving the Clean Transition

## Richard

Richard bought his Tesla 18 months ago and he says it's a fantastic car to drive. While his old car was costing him a substantial amount in repairs and petrol, Richard is now able to charge his car at home with solar. He decided to upgrade to an electric car after crunching the numbers and determining his new car would only cost an extra \$30 a week.

**"Electric cars don't need servicing. I haven't spent a cent on petrol either because I have a large solar and battery system at home. It's just seamless," said Richard. "It's a really, really good experience. It's also one of the safest cars on the road. The range on this one can go about 350km on a single charge. There is charging infrastructure to see you to places like Cairns and Mackay. When you talk about next generation technology, this is certainly it. Once you've driven one there's no going back."**



## Sylvia

Sylvia invested in battery storage in November last year to add to her newly expanded 5kW solar system. Adding more solar panels and battery storage meant that her electricity usage in January this year was half that of January 2020.

**"There were two main reasons I got a battery. The first one was that I wanted something for cyclone season when the power goes off. The second was because I was looking at my system and it was putting a lot of power back into the grid, and I thought: this is silly, I put it in during the daytime and then buy it back at night."**



## Michael

Michael, a local paramedic, purchased an electric vehicle because he's concerned about the health impacts of car pollution.

**"Buying an electric vehicle was an opportunity for me to make a contribution to the health of my community, and the health of the planet," said Michael. "My wife and I bought this car in October 2019, and we're very happy with it. We can drive to Cairns on a single charge, but also enjoy stopping off in Tully to charge up halfway. It is very zippy around town with immediate acceleration. Driving 500kms costs at most \$12 and it costs nothing if we're able to charge entirely off our solar panels."**



## Solar Shade for Townsville Shoppers



Townsville's Willows Shopping Centre  
Credit: Caldwell Media

**Townsville's Willows Shopping Centre is home to one of the largest solar car parks in the country, with 4,800 solar panels creating enough shade for an impressive 500 car spaces.**

Owners of the shopping centre, Dexu Wholesale Property Fund, invested in the landmark solar project to provide more shaded car spaces for shoppers while moving towards a net zero emissions property portfolio by 2030.

"In total the 4,800 solar photovoltaic panels installed generate approximately 2,500 MWh per annum, which is the equivalent to the usage of 375 households in Queensland," said Donna Schifilliti, Willows Shopping Centre Marketing Manager.

By generating all that electricity on-site, Dexu is significantly reducing the amount of electricity that the centre has to buy from the grid. And, in true North Queensland style, all of the solar panel structures have been built to last through extreme weather events, including cyclones.