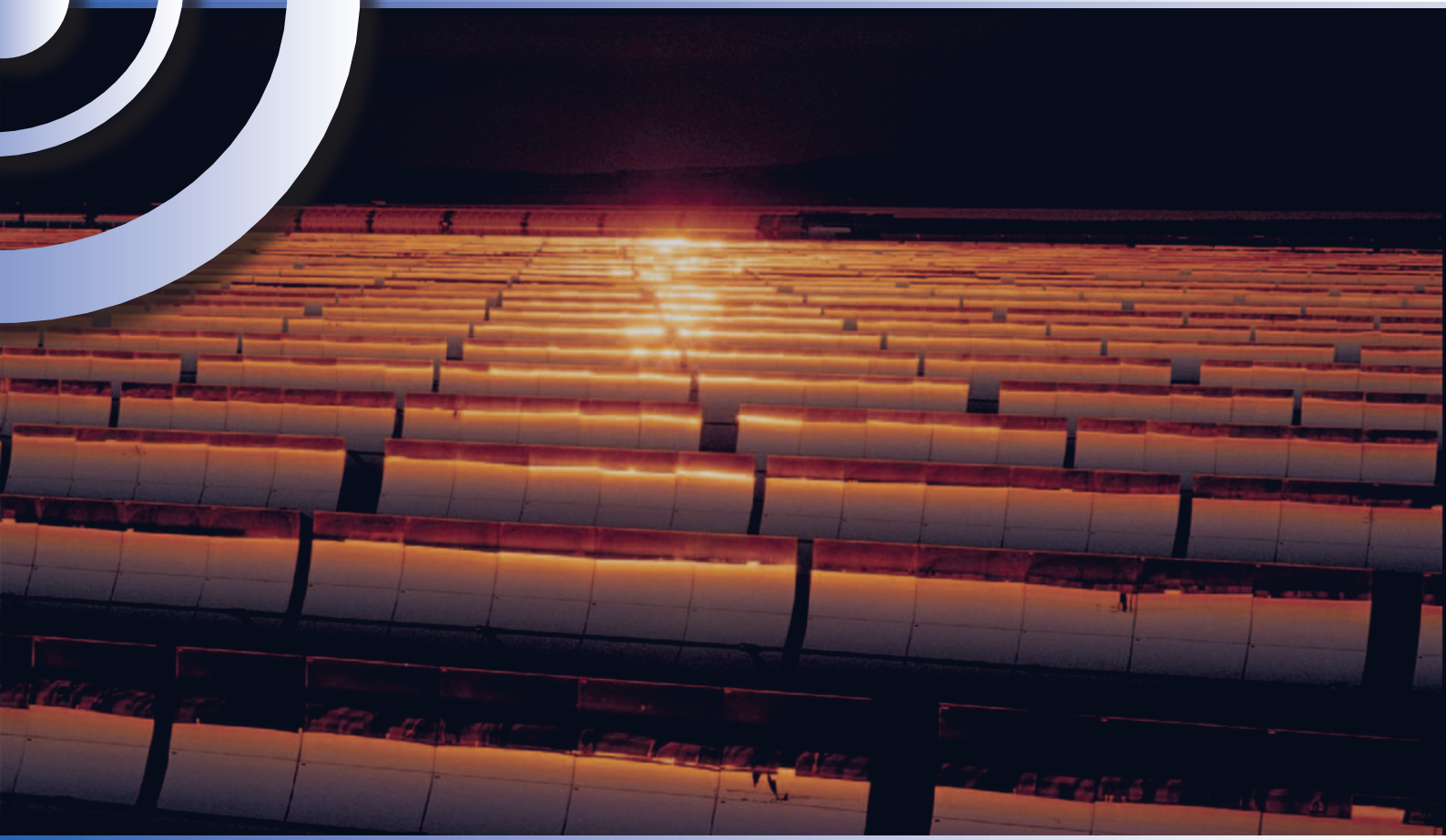


United Northern Queensland Regional  
Development Organisations Submission

# *Growing Queensland's Renewable Energy Electricity Sector*



# Townsville Enterprise

Townsville Enterprise has been the peak economic development and destination marketing organisation in North Queensland for almost 19 years. The organisation covers the councils of Townsville, Burdekin, Charters Towers, Palm Island and Hinchinbrook, representing a population of over 214,000. Townsville Enterprise is an apolitical, not-for-profit organisation dedicated to the sustainable development of North Queensland. Our Mission is to build and develop North Queensland to achieve sustainable economic and lifestyle benefits for the region and Australia.

The organisation is funded by principal sponsor Townsville City Council. Major sponsors are Queensland Nickel, Townsville Airport and Ergon Energy and we have over 380 private and public sector supporters.

## MITEZ

The Mount Isa to Townsville Economic Development Zone (MITEZ) is the peak regional development organisation for North West Queensland and encompasses seven local government areas - Mount Isa, Cloncurry, McKinlay, Richmond, Flinders, Charters Towers and Townsville. Over the past 10 years, the region's resource-rich economy has diversified in a number of new sectors and continued its growth in established industry sectors accounting for around 8 % of Queensland's economic output.

Today, the region's main economic activities include base metal production, basic metal processing, pastoral production, defence, public administration, education and tourism. MITEZ is committed to continuing the diversification of new industries, alongside the expansion of new markets and the promotion of existing investment opportunities. This commitment will help to accelerate the growth of the region and ensure its continued prosperity well into the future.

## Advance Cairns

Advance Cairns is the peak coordination agency for economic development in Tropical North Queensland. Its vision is to develop a vibrant and sustainable regional economy that promotes and facilitates diverse employment, growth, social and lifestyle opportunities.

Advance Cairns facilitates connections between private enterprise, industry, community and government agencies. Advance Cairns undertakes a multi-faceted approach to economic development in Tropical North Queensland and can connect residents to investment, employment, lifestyle and all manner of information on the region.

## North Queensland Development Alliance

The North Queensland Development Alliance (NQDA) is a group dedicated to working in collaboration to drive the sustainable economic development of the region. The group consists of all North Queensland Councils from Townsville, Burdekin, Hinchinbrook, Charters Towers and Palm Island, Townsville Enterprise, regional Departments of Employment, Economic Development and Innovation (DEEDI) and Infrastructure and Planning (DIP), local Chambers of Commerce and James Cook University.



# Introduction

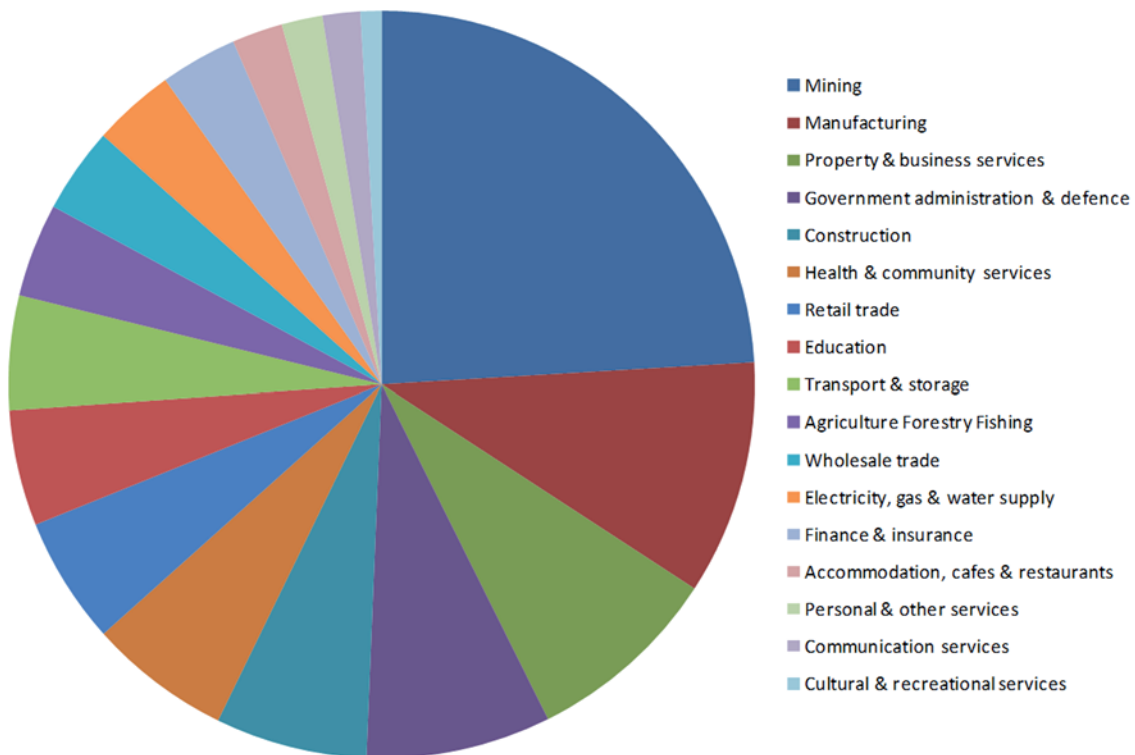
## Regional northern Queensland economies

### North/North West Queensland

North Queensland (comprising the council areas of Townsville City, Burdekin, Hinchinbrook, Charters Towers and Palm Island) has a diverse economy with no one sector contributing more than 13%. The minerals commodities dominated sectors of Mining and Manufacturing (with Manufacturing dominated by minerals processing) make up around 20% of our Value Added production. Manufacturing, Property and Business Services, Government Administration and Defence and the Construction sectors make up the top four economic sectors. Our Manufacturing and the Government Administration and Defence sectors provide a stable platform that underpins the region's growth through turbulent economic times.

North West Queensland (Mount Isa, Cloncurry, Burketown and Julia Creek) has a heavy reliance on Mining, with the sector comprising almost 66% of that region's Value Added production. Value Added production by sector for the 2008/09 year for the North and North West Statistical Divisions combined is shown in Figure 1. The total Value Added estimate for North and North West Statistical Divisions was \$15,382 million. (Source: Compelling Economics)

Figure 1: Breakup of Value Added per industry sector for the North and North West Statistical Divisions for the 2008/09 year



## Far North Queensland

Far North Queensland which stretches from Cardwell north to the tip of Cape York and out into the Gulf, is home to over 267,000 residents with Cairns home to over 142,000. For the past five years, Cairns has seen rapid population growth, averaging around 3.5% per annum. Tourism and Agriculture comprise over half Far North Queensland's Value Added (Table 1).

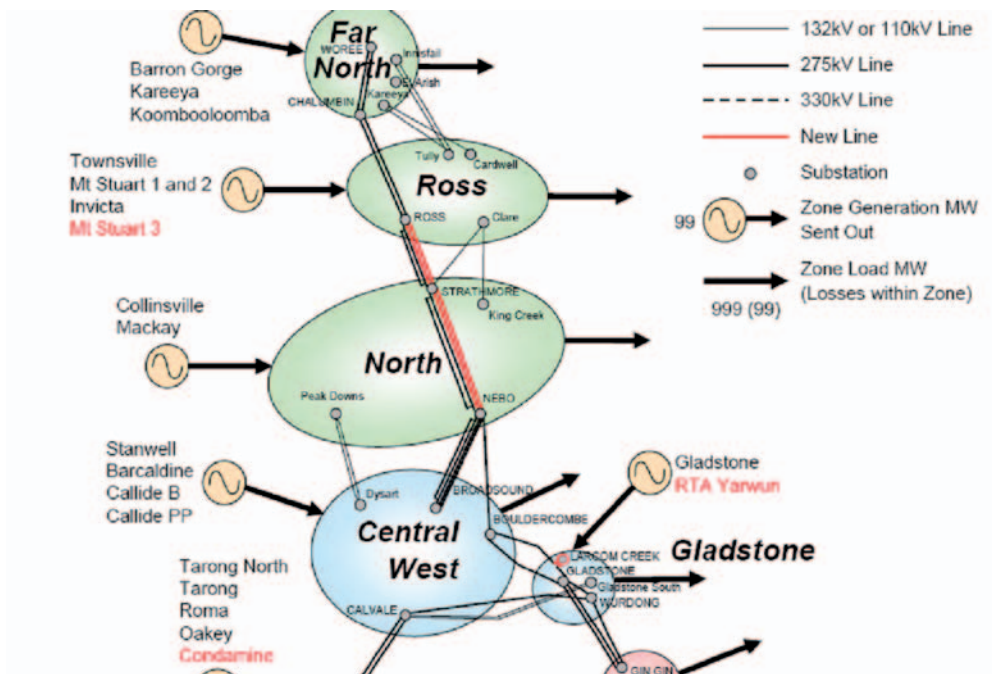
Table 1: Estimated Value of 'Base Industries, 2006/07 Far North Qld Statistical Division

Agricultural & Pastoral (2006/07)	\$1,300 m	21%
Fishing (est.)	\$ 200 m	3%
Mining (sale)	\$ 840 m	14%
Processing (Value Added) & Other Relevant Manufacturing (est.)	\$ 900 m	15%
Tourism (2008)	\$2,450 m	40%
Other	\$ 400 m	7%
<b>TOTAL</b>	<b>\$6,090 m</b>	<b>100%</b>

## Electricity supply and demand in northern Queensland

Electricity demand north of Rockhampton and out to Cloncurry, is largely supplied from coal-fired generation in Rockhampton. The transmission system supplying these regions is shown in Figure 2. The Mount Isa electricity grid is isolated from the National Electricity Market (NEM) and is solely supplied by gas-fired generation located in the city of Mount Isa. North Queensland's current sources of renewable energy are co-generation facilities at the Pioneer (50 MW) and Invicta (30 MW) sugar mills in the Burdekin, the Windy Hill wind farm (12 MW) near Atherton and the Barron Gorge and Kareeya Hydroelectric Power Stations (144 MW combined).

Figure 2: Powerlink's electricity transmission system to northern Queensland.



Over the last seven years, North Queensland had seen very strong economic growth averaging over 10% per annum. The population has also experienced – and is predicted to continue experiencing above-average growth.

The combination of strong economic and population growth has driven a rapid increase in peak demand for electricity over the past five years (Figure 3) and will continue to drive high energy demand in the region (Figure 4). Northern Queensland has two options to meet the demand for energy, major transmission upgrades or more local generation.

Figure 3: Five year growth in peak demand (Source: Powerlink 2008 Annual Planning Reports)

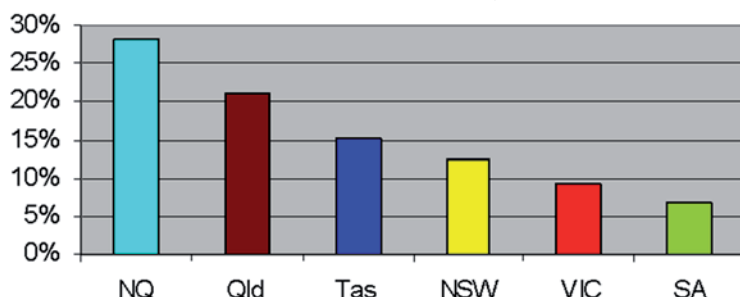


Figure 4: North Queensland Summer Supply-Demand Outlook (Nemmco 2008 SOO)



## The case for renewable energy in northern and north west Queensland

Research in 2007 commissioned by Townsville Enterprise and its regional development partners, Mackay Whitsundays Regional Economic Development Corporation (MWREDC), Mount Isa Townsville Economic Zone (MITEZ), Advance Cairns and the Queensland Department of Planning and Infrastructure (DIP) found:

- high electricity transmission charges in northern Queensland (in comparison to central and southern areas in Queensland) were caused by a deficit of electricity generation in the north and an over-reliance on power imported from central Queensland,
- estimates of demand in the north compared with supply revealed a looming supply problem in 2013/14, and
- unfavourable economics meant investment in coal or gas-fired generation was unlikely in northern Queensland.



Until the Federal Government's enhanced Renewable Energy Target (RET) legislation was passed, the opportunities for new electricity generation projects in northern Queensland looked slim. Now the enhanced RET provides the stimulus for investment in renewable energy generation and North Queensland is perfectly positioned to host a number of renewable projects.

ROAM Consulting was commissioned to explore the opportunities for renewable energy generation in northern Queensland. The key findings of that study were:

1. Northern Queensland has substantial renewable energy resources.
2. Northern Queensland has very high Marginal Loss Factors (MLFs) which are favourable to generation developers.
3. Renewable energy development in northern Queensland will help to prevent continual rise in MLFs in northern Queensland, which will reduce electricity costs for users and ensure continued economic development.
4. Growth in electricity demand and enhanced transmission strength in northern Queensland makes it a very attractive development location for renewable energy.
5. Development in renewable energy will be economically very favourable under the expanded RET.
6. Early investment in renewable technologies will have a significant advantage under the RET scheme.
7. Development in renewable electricity generation, compared to other regions in Australia, is economically competitive, and has long term benefits in comparison with development in fossil fuel technologies.

There are immediate opportunities for development in substantial renewable energy developments in North Queensland.

Northern Queensland has three major renewable resources that can be developed immediately, allowing companies to take first mover advantage in the Renewable Energy Certificate (REC) market. These are wind, sugar cane biomass and solar. ROAM Consulting modelled the impact of installing different renewable generation technologies on electricity transmission costs across northern Queensland and found that combinations of all three technologies resulted in a reduction of transmission costs.



# Resources for future generation development in northern Queensland

## Wind

Northern Queensland has regions suitable for wind powered electricity generation. The Australian Renewable Energy Atlas shows locations in northern Queensland which:

1. Have high mean wind speeds, above 7m/s, over a significant area, based on 3km resolution data at hub height (80m)
2. Are near to existing transmission lines.

Assessment of individual sites for their wind potential requires detailed study of local geography/topography, environmental concerns and actual wind speed on the ground. These sites should be studied to assess their potential for wind farm construction.

### Far North

- A number of companies are actively investigating establishing a wind farm at Archer Point, potentially consisting of 90 turbines for a total of 180 MW.
- A 60 to 80 MW project has been proposed for High Road (just north of Windy Hill) by Transfield Services. They are also undertaking preliminary studies for a 130 MW facility 25 km south west of Mareeba in a joint venture arrangement with Port Bajool Pty Ltd.
- Strong winds occur north-west of Atherton, and also along the 132 kV line between Atherton and Cairns. No proposals have so far been made for specific wind farms in this region, however there is potential for up to 300 MW of additional installed capacity in the Far North region. Further transmission infrastructure may be required to take full advantage of the resources in this area.

### Ross/Townsville

- There are pockets with significant wind resources in the region around Townsville. Although the higher population centres in the region may pose competition for land use, it seems likely that at least 100 MW of total capacity could be installed.

### North/Bowen-Mackay

- Transfield Services are undertaking a feasibility study for a 100 MW wind farm near Bowen. Although the wind resources here aren't as strong as in other Queensland locations, there may be other sites along the coastline with useful resources. Transfield Services are also monitoring wind speeds near Crediton, where excellent wind resources run parallel to the 275 kV transmission line. Transfield Services propose a 40 MW wind farm in this location; however it seems likely that further capacity could be installed in the region, or north west near Collinsville.

### North West

- Windlab has proposed a project near Hughenden, comprising of over 280 wind turbines. Each turbine is expected to have a capacity of between 2.1 and 3 megawatts (MW), providing a total installed capacity of at least 600MW.



## Sugarcane biomass

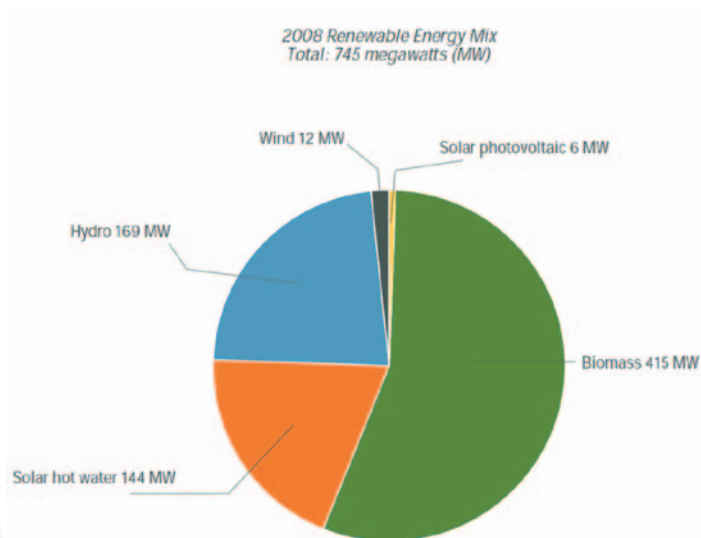
The majority of Australia's sugar mills are located in Queensland, and bagasse is a significant renewable energy source. The Australian Sugar Milling Council (ASMC) estimates that upgrading existing mills would produce around 500 MW for export (Figure 5) including around 400 MW in northern Queensland.

Figure 4: North Queensland Summer Supply-Demand Outlook (Nemmo 2008 SOO)



The Queensland Government also recognises the significant potential of sugarcane biomass cogeneration in meeting its own renewable energy targets (Figure 6).

Figure 6: Queensland's renewable energy plan (Office of Clean Energy)



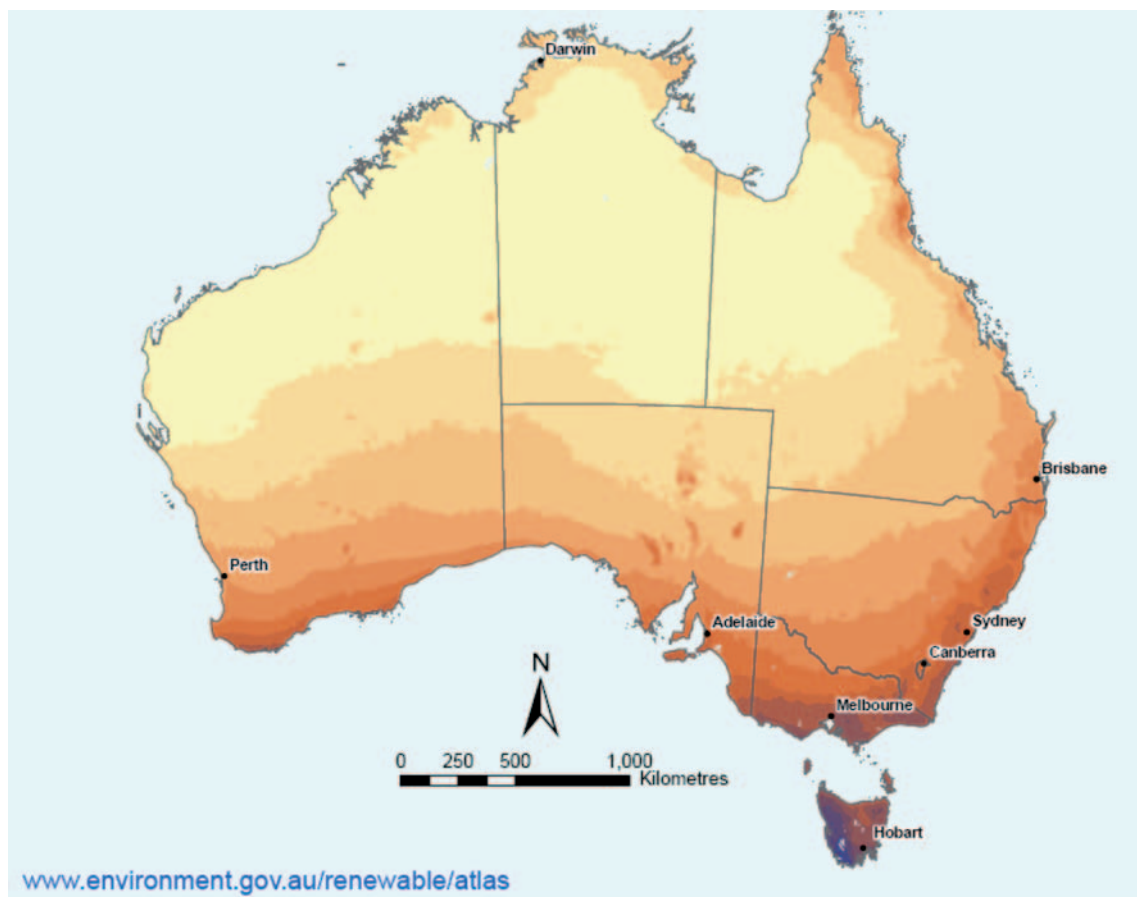
Sugar cane bagasse is a significant renewable resource for northern Queensland. Despite being a mature and viable technology, current development of this resource has been inhibited due to low Renewable Energy Certificate (REC) prices.

Recent changes to the Renewable Energy Target legislation are expected to result in increased REC prices, making cogeneration projects more feasible.

## Solar

Northern and North West Queensland have world class solar resources (Figure 7). Daily solar exposures in North West Queensland are up to 50% higher than in southern states. This has a significant impact on electricity output and hence the Long Run Marginal Costs (LRMCs) of solar electricity are more favourable. The problem with accessing the North West's superior solar resources is adequate transmission capacity to connect to the NEM. This would be overcome by the Copper String proposal to connect Townsville to Cloncurry via a 275kV AC line.

Figure 7: Daily solar exposure – annual average



# Modelling scenarios – how renewables can reduce transmission costs in northern Queensland

Six scenarios, plus a base scenario were modelled to analyse the impacts of renewable generation in northern Queensland on MLFs. The modelling focused on the year 2013/14, the earliest new generation would ideally be installed. Scenarios including transmission connections to Mount Isa via either Townsville or central Queensland were also included. All six scenarios used a common demand outlook. This study assumed low growth in demand for the first two years (2008/09 and 2009/10), reverting to medium growth thereafter (based on NEMMCO/Powerlink forecasts for 2008). ROAM used their 2-4-C Electricity Market Forecasting Package to estimate MLFs under each scenario.

## Scenario 0 – Base Scenario

- No additional renewables in North Queensland
- No major transmission development

## Scenario 1 – Low hanging fruit

- 210 MW bagasse in North Queensland
- 420 MW wind in North Queensland
- No transmission augmentation

## Scenario 2 – Commercial technologies with CuString

- 920 MW wind in North Queensland
- 420 MW bagasse in North Queensland
- Transmission augmentation Mount Isa to Townsville

## Scenario 3 – Commercial technologies with IsaLink

- 420 MW wind in North Queensland (as in Scenario 1)
- 210 MW bagasse in North Queensland (as in Scenario 1)
- Transmission augmentation Mount Isa to central Queensland
- An additional Queensland plant at Spring Gully (500 MW) in southern Queensland would be installed in 2013 to provide the additional capacity for Mount Isa

## Scenario 4 – Solar thermal technology with no transmission development

- 220 MW wind in North Queensland
- 140 MW bagasse in North Queensland
- 200 MW solar thermal in North Queensland
- No major transmission augmentation

## Scenario 5 – Large scale solar development, with CuString

- 800 MW solar thermal in Mount Isa
- Transmission augmentation Mount Isa to Townsville

## Scenario 6 – Large scale development, with IsaLink

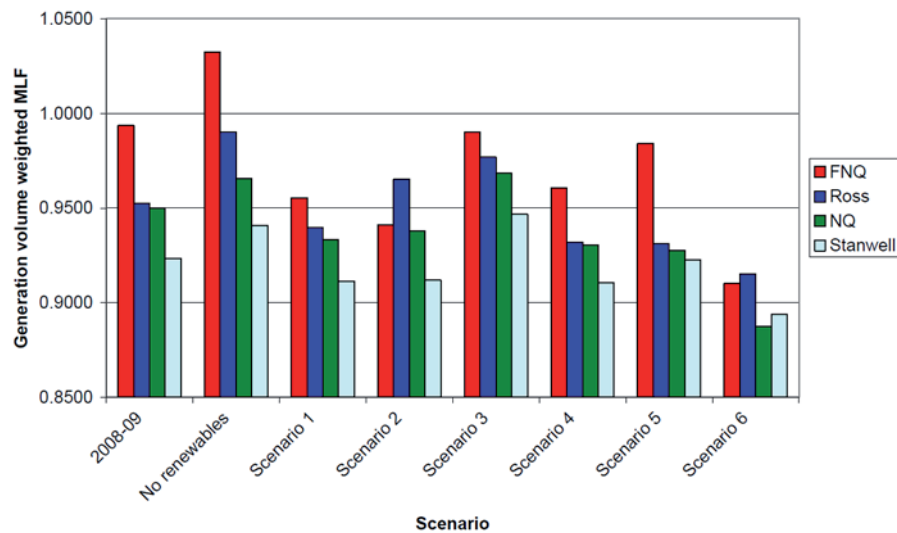
- 220 MW wind in North Queensland (as in Scenario 4)
- 210 MW bagasse in North Queensland (as in Scenario 4)
- 200 MW solar thermal in North Queensland
- 800 MW solar thermal in Mount Isa
- Transmission augmentation Mount Isa to central Queensland



## Findings - Impacts of renewable energy on MLFs

Without any investment in renewable generation in northern Queensland, MLFs for both loads and generators in Far North Queensland and Townsville (Ross) increase (Figure 8). However, in every scenario where renewable energy development was included, marginal loss factors were reduced from the 2013/14 base case, as well as from their current 2008/09 values.

Figure 8: MLFs for electricity users in 2013/14



## Key points from the modelling

### Scenario 1

The development of moderate amounts of wind and bagasse generation in northern Queensland reduces MLFs from the base case.

### Scenario 2

If Mount Isa is connected to the National Electricity Market (NEM) at Ross (Townsville), a substantially larger quantity of renewable energy development will be required in northern Queensland to have the same favourable impact on MLFs.

### Scenario 3

Installing additional gas generation elsewhere in Queensland, e.g. southern Queensland, to meet the Mount Isa load (through IsaLink) reduces MLFs much less than when wind and bagasse generation is distributed around northern Queensland.

### Scenario 4

Due to the superior solar resource available, northern and north west Queensland is the ideal location to develop solar thermal pilot projects. Including solar thermal generation in the generation mix has a marginal effect of distributing the changes in MLFs more evenly across the northern Queensland nodes. If pilot project funding can be sourced for solar thermal projects, this may be marginally more beneficial for northern Queensland than wind and bagasse generation alone.

### Scenario 5

Installing large scale solar thermal developments in Mount Isa, and connecting Mount Isa to the NEM at Ross without any renewable development in North Queensland is unfavourable for generation investors in

northern Queensland and does not substantially benefit users. If Mount Isa is to be connected to the NEM, substantial generation investment will be required in northern Queensland (either renewable or fossil).

### **Scenario 6**

Installing very large quantities of solar thermal generation in Mount Isa (with a connection from Mount Isa to central Queensland), with additional renewable development in northern Queensland very dramatically reduces the MLFs in northern Queensland. This is favourable for investment in energy intensive industry in northern Queensland, but is very unfavourable for generators in northern Queensland and unlikely to appeal to renewable energy investors.

Any generation investment in northern Queensland is best done in moderation, and with prior understanding of the impacts it will have on the MLFs. Further modelling of particular scenarios of interest would allow optimisation of the quantity and locations of renewables to be installed, given transmission developments.

## **Conclusions**

Investment in renewable generation in northern Queensland reduces MLFs regardless of whether wind, bagasse, or solar thermal plants are installed. Installation of very large quantities of solar thermal generation in Mount Isa, with either IsaLink or Copper String connection to the NEM, has very strong impacts on MLFs in northern Queensland which should be carefully investigated to find the optimal planting of generation to avoid decreasing the generator's MLF to unprofitable levels.

Scenario 2 is the most promising of the scenarios analysed, while in Scenario 4, the introduction of Copper String allows large investment in renewable generation in northern Queensland, and MLFs in the region are moderately reduced for users. If CuString does not eventuate, moderate investment in renewable energy in northern Queensland produces a similarly favourable MLF outcome.

## **Recommendations**

The RET provides substantial incentives for investing in renewable energy in Australia. Queensland has substantial renewable energy resources, and is well placed to take advantage of the opportunities provided for renewable development.

Investing in a combination of distributed wind, sugar cane bagasse and solar thermal energy reduces MLFs in northern Queensland, producing lower electricity costs for energy intensive industry and other electricity consumers. If Mount Isa was connected to the NEM (either at Ross, or central Queensland nodes), a much larger and more economically competitive resource of solar thermal energy would be available (through solar development at Mount Isa), and a much larger amount of distributed renewable energy would be required in northern Queensland to ensure competitive electricity prices for energy intensive industry.

Renewable energy investment in northern Queensland to this degree will not happen without the support of government, and other parties involved in the market. The wind resources in Queensland need to be promoted to the market; sugar cane mill owners require guidance in operating in the electricity market and seeking investment, and solar thermal plants require pilot project funding to be competitive in the market. In order to receive the benefits of renewable development in northern Queensland, these barriers will need to be addressed and overcome. Promoting northern Queensland as an ideal location for renewable energy investment is to the substantial benefit of Queensland.



# Issues for comment

## Inquiry Scope Questions

### 1. Should the Queensland Government aim to expand the use of renewable energy sources to generate electricity?

*Yes. The Queensland Government should facilitate the expansion of renewable energy sources in Queensland and it should focus its efforts on northern Queensland to gain maximum benefit from any investment it makes.*

*If northern Queensland is to have a sustainable future power supply not reliant on continual upgrading of electricity transmission infrastructure – the costs of which will be passed on to users (and the Government through increased Community Service Obligation (CSO) payments) – then our region must see investment in electricity generation. The best option for electricity generation in northern Queensland is from renewable sources.*

The introduction to this submission clearly sets out why renewable energy is vitally important to northern Queensland. Figure 8 clearly shows that with no new generation installed in the region, North and Far North Queensland will see significant increases in MLFs over the coming years.

Modelling by ROAM Consulting found that a mixture of renewable projects, including cogeneration linked to sugar mills, wind, hydro and solar, would reduce MLFs by between 4 to 9% (Figure 8). This represents significant savings to wholesale customers in northern Queensland and significant saving in CSOs liabilities for the Queensland Government.

Northern Queensland's rapidly growing population and energy demand will make this situation even more critical over the coming years (Figure 4). A choice on how best to supply northern Queensland with power will have to be made in the next couple of years. Even with Powerlink's upgrade of the transmission line between Strathmore and Ross, with the current rate of demand growth, it is likely further upgrades will be needed by 2014/15 if there is no new generation in northern Queensland.

Substantial increases in transmission infrastructure (as would be required to supply northern Queensland post 2014/15 if no new generation was established) translate into costs passed on to users through Transmission Use of System (TUOS) charges. Already, North Queensland wholesale customers pay around over five times as much in TUOS as central Queensland customers (Table 2).



Table 2: MLFs and TUOS charges for electricity users in 2013/14

	TUOS	MLF
Cairns	0.72	1.09
Gladstone North	0.06	0.96
Mackay	0.34	1.03
South Pine	0.13	1.00
Townville East	0.32	1.08

If the Queensland Government takes a long term view on a sustainable solution to energy supply in the State's north, then it should encourage development of generation in this region.

The most attractive source of generation for northern Queensland is renewable. Our region is not competitive for gas or coal-fired generation, however we boast a range of resources that under the current 20% renewable energy target are ripe for development. To make the most out of the RET legislation the Government should actively encourage the establishment of renewable projects in northern Queensland.

## 2. What are the barriers to increased use of renewable energy for generating electricity and associated investment in Queensland?

The ultimate barrier to increased use of renewable energy is investment in new generation at a large scale. Uptake of rooftop solar Photovoltaics (PVs) has been high in the state, stimulated by significant government incentives such as bonuses to offset the costs, the awarding of multiple Renewable Energy Certificates (RECs) and now generous new feed in tariffs. The cost per MW of delivering this form of renewable to the market is very high. Large scale renewable projects are not subsidised and with the Long Run Marginal Costs (LRMCs) of renewable technologies costing more than traditional fossil fuel based sources, without subsidies there is no incentive for investment.

Hopefully this situation will be alleviated with changes to the Renewable Energy Target legislation boosting the REC price. A high REC price will make the lower costs renewables such as wind and cogeneration more feasible. However, for technologies such as solar thermal, solar PV and geothermal, more incentives will be needed.

Another significant barrier is transmission. Resources such as solar, geothermal and even wind can be located long distances from users and in order to access these resources adequate transmission capacity must be installed.

An ideal opportunity exists in North – North West Queensland where the need to supply power to Mount Isa and the North West Minerals Province could be met by establishing a High Voltage transmission connection between Townsville and Mount Isa. This connection would traverse premium solar and wind resources, high potential geothermal resources and even access biomass sources to feed generation facilities.

A proposal for a 275kv AC transmission line between Townsville and Mount Isa, known as Copper String, has recently been declared a Project of State Significance by the Queensland Government. This project would catalyse a number of renewable projects in the region between the two cities. Projects currently being discussed are listed in Table 3.



Table 3: Renewable energy projects discussed for Copper String

Project Name	Renewable Source	Installed Capacity	Potential Grid Connection
Phytofuel	Biomass	48-400	2013-2022
Kennedy Windfarm	Wind	600	2015/16
Hughenden Solar Project	Solar Thermal	150	2014/16
Pentland Project	Hydro	100	2020+
Pentland Project	Solar Thermal	400	2020+
Pentland Project	Biomass	400	2020+
Mt Isa Solar Project	Solar Thermal	300	Late Decade
Geothermal	Geothermal	200	Late Decade
Mt Isa Wind Farm	Wind	200	Late Decade

Copper String is one of two proposed options for supplying base load power to the Mount Isa region from the National Electricity Market. This means that the users of electricity in the region will substantially pay for the infrastructure required to supply them with power. With Copper String also providing the infrastructure to premium renewable resources, nowhere in Australia does the need to supply energy to large scale users coexist with the opportunity to access outstanding renewable resources. By taking a whole of state view, the Queensland Government could overcome a major impediment to large scale renewable projects by ensuring the Copper String project is the solution to supplying North West Queensland's power needs.

### 3. What are the priority issues the Queensland Government should address to encourage investment in renewable energy for the generation of electricity?

Many factors inhibiting development in renewable energy are typically not economic or technical in nature. To address these barriers, it is recommended that:

1. The process for approval of renewable projects in North Queensland is streamlined. This can be very effective in encouraging increased renewable development. The Victorian Government is currently undertaking this process, and it is recommended that Queensland do the same.
2. High quality information regarding renewable energy resources and transmission availability is made publicly available to potential developers. This will help development occur at the best possible locations, through the most streamlined process. This should include integrated and detailed mapping of wind resources, transmission resources, solar resources, and identification of promising biomass opportunities.
3. Extensive consultation with sugar cane facilities with potential for bagasse generation is conducted. It is important to identify the non-economic and non-technical barriers they face, and to address them for effective utilisation of this resource.



### **Strategic location of projects**

The Queensland Government could reap maximum benefits from investments in renewable energy projects by locating them in regions with the greatest power needs. Northern Queensland is arguably Queensland's area of greatest need on the NEM. Rising transmission costs will occur if no new generation is located in northern Queensland and this will impact on the Government's Community Service Obligation (CSO) liabilities.

### **Take advantage of the opportunities offered by the Copper String project**

As outlined in discussion point 2, the Copper String project offers an unparalleled opportunity for locating high capacity transmission infrastructure in locations with excellent renewable resources. The Queensland Government should seriously consider the whole of state benefits from ensuring this project goes ahead.

### **Provide certainty for investors through power purchase agreements**

Government backed long term Power Purchase Agreements (PPA's) have been used historically in Australia and the UK. Unlike capital subsidies the Government is not exposed to the technology risk under long term PPA's and the funding is drawn down across a longer period of time. A PPA would be a bankable contract that would stimulate more renewable energy development by providing certainty and enabling better financial leverage. There may be scope for the additional cost of the PPA to be structured as a feed-in tariff under the distribution determination issued by the Australian Energy Regulator and as such be recovered by the Queensland Energy Distribution entities rather than represent a direct cost to the State.

### **Opportunities for grid reinforcement**

Smaller scale (1 to 30 MW) renewable projects could be made more feasible by providing strategic grid reinforcement to the distribution network. An example is the 10 MW solar thermal power station proposed for Cloncurry. The project will reduce emissions and supplement the local network, potentially delaying costly infrastructure upgrades (Ergon Annual Stakeholder Report 2008/09). The Government could ensure more emphasis is made to explore opportunities for renewable projects to support the grid network.

## **4. Should the Queensland Government set a state target, or targets, for the proportion of electricity generated from renewable energy sources?**

Rather than setting a target, we believe the State Government should look for opportunities to ensure any new generation required to meet demand, particularly in the State's north, should be from renewable resources. As previously outlined, the best opportunities for the north to see more generation projects are from renewable resources. Of course renewable projects should be considered for the whole State, but we cannot emphasise enough the benefits of locating renewable projects in northern Queensland to meet our future demand needs.



# Supporting Documents



www.mountisa.qld.gov.au

Address all correspondence to  
The Chief Executive Officer  
PO Box 815 MOUNT ISA QLD 4825  
Street Address 23 West Street Mount Isa

Phone (07) 4747 3280 Fax (07) 4747 3209  
Email johnm@mountisa.qld.gov.au

Page 1 of 1

Our Ref: Int. Ref. 565877 File: 2100 Mayoral Letters of Support JM:CEM  
Your Ref: N/A

17 June 2010

Hon Ian Macfarlane MP  
Shadow Minister for Energy and Resources  
Suite RG61, Parliament House  
CANBERRA ACT 2600

Dear Ian

## SUPPORT FOR PROPOSED AC TRANSMISSION LINE TOWNSVILLE TO MOUNT ISA

Mount Isa City Council is the local government at the end of the Mount Isa to Townsville economic corridor and home of the North West Minerals Province where some of the world's greatest metalliferous mines are located. One of the constraints to further development of this rich minerals province is the lack of competitively priced and reliable energy (base-load) that would be available for new mines wanting to establish in the region.

All of the Shires along the MITEZ corridor, including Mount Isa City Council have shown their united support for the concept of a high voltage AC transmission link between Mount Isa and Townsville that will link the North West Minerals Province to the national electricity market (NEM).

This AC link would provide a number of benefits to each of the shires along the economic corridor:-

- Not having to rely on a single source of generation
- Increased energy supply of approx 300MW from NEM
- Opportunity for potential renewable energy projects to plug into the AC link along the corridor
- Opportunity for substantial energy in small towns along the corridor and catalyst for economic growth
- Increased employment during construction stages and further renewable energy projects
- Contribution to Australia's carbon reduction

We understand MITEZ and others have briefed members of the opposition and provided documentation/ reports that further highlight these benefits, however there are concerns that these regional benefits may not be fully appreciated or supported by members of your team.

Mount Isa City Council wishes to emphasise that the main objective in supporting the AC link is to access robust base-load energy from the NEM at a competitive price to meet current and future demand for this region which is a significant contributor to the national economy.

Yours sincerely,

Cr John M.J. Molony  
Mayor of Mount Isa

**FROM THE OFFICE OF THE MAYOR**



*McKINLAY*  
**SHIRE COUNCIL**  
CIVIC CENTRE, JULIA CREEK

Correspondence to be  
addressed to  
The Chief Executive Officer,  
P.O. Box 177,  
Julia Creek, Q. 4823  
TELEPHONE: (07) 4746 7166  
FAX: (07) 4746 7549  
EMAIL: mail@mckinlay.qld.gov.au

Mayor's Office

26<sup>th</sup> June 2010

Mr. David Glasson  
Chair  
MITEZ  
PO Box 1258  
MOUNT ISA Q 4825

Dear Mr. Glasson,

**Re: AC Transmission Line**

I write on behalf of the McKinlay Shire in support of the construction of an AC Transmission Line between the east coast and the Mount Isa Minerals Province.

Such a major piece of infrastructure would at the very least facilitate the introduction of more competitively priced electricity to assist in the growth of not only existing, but future mines across the rich North West Queensland resource region.

It appears obvious even to the casual observer that while the mining sector and the resource communities of Mount Isa and Cloncurry are facing critical electricity constraints within the next three years, they remain bound to one local source of supply to meet their current and future requirements, and are therefore forced to operate in a non competitive environment.

The communities and the mining operations within the North West Minerals Province, due to their isolation, do not currently enjoy the capacity to reduce their bottom line energy & operating costs through variable purchasing at peak or off peak periods.

While electricity is only one of the cost factors affecting the high employment mining operations in North West Queensland, others including the high cost of transport, wages, food and water in a remote region obviously affect the viability of future and emerging mining operations. Of these basic operational costs, electricity at least can be influenced by a High Voltage connection to a commercial market.

"GATEWAY TO THE GULF"

While considerable cost is involved, the whole community is concerned that vision and leadership appears to be lacking in relation to important and nation building projects such as these.

It would appear that there is little or no intention by the Commonwealth to return some of the income from mining activity in North West Queensland, towards vital infrastructure. Worse, it appears to the regional community that a continuation of the current low levels of interest and investment is politically acceptable.

Council extends its congratulations to the Queensland Government in recently recognising a transmission line to the NW Minerals Province as a project of significance to the state. I also understand that one proponent, CuString, has now attracted the support of Leighton's and is about to undertake an EI Study across a proposed corridor.

The community all too well understands that these are preparatory studies only and that some minimal public investment may still be required to allow this significant infrastructure project to get off the ground.

Even in the current tight fiscal environment, it is essential for the Commonwealth to again look to the future and support projects of national significance such as power generation and transmission which have long been a backbone of this nation, projects with a vision, a purpose and a lasting benefit.

We urge the Commonwealth to support this project and its proponents, and we would ask you to convey our views to them for consideration.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Paul Woodhouse', with a horizontal line underneath.

Cr. Paul Woodhouse  
Mayor



# Richmond Shire Council

50 Goldring Street, Richmond, N.Q. 4822  
P.O. Box 18  
Telephone (07) 4741 3277  
Facsimile (07) 4741 3308  
Email: enquiries@richmond.qld.gov.au



Please address all  
communications to  
the Chief Executive Officer

Our Ref.: **MLC:ar:12319**

Your Ref.:

25 June, 2010

David Glasson  
Chair  
MITEZ  
PO Box 1258  
Mount Isa QLD 4825

Dear David

## **AC TRANSMISSION LINK**

I refer to the recent announcement of the State Government identifying the AC Transmission Link as a significant project. Council anticipates that with future irrigation development the upgrade of the AC transmission line would allow for the development of a cotton gin.

In addition Council considers the development of renewable energy projects in the region is a significant reason to develop the AC transmission line. Council looks forward to working with MITEZ and the Government to advance this vitally important project.

Yours faithfully

Michelle Clarke  
**CHIEF EXECUTIVE OFFICER**



# CHARTERS TOWERS REGIONAL COUNCIL

*Exceptional Service for an Exceptional Community*



16<sup>th</sup> June 2010

Our Ref: 456690  
File Ref: 06/PLA/04  
Enquiries: Ben Callcott

The Executive Officer  
Mount Isa to Townsville Economic  
Development Zone Inc. (MITEZ)  
P O Box 1258  
**MOUNT ISA QLD 4825**

Dear Mr Graham

**Re: Proposed AC Transmission between Townsville and Mount Isa**

Further to previous dealings in respect of the above matter I am to commit, hereby, my robust support for the proposed connection of the Mt. Isa grid to Townsville via an AC transmission link.

The benefits of such infrastructure augmentation are manifold and include, but are not limited to the following:

- i) Cheaper power through the affected corridor would encourage investment in new development and lengthen the lives of existing projects.

The corridor in question is characterised by a small and dispersed population which already makes a large per capita contribution to the national economy. The corridor has a base in mining and ancillary ventures however it plays a significant role in regional tourism and other industry.

The advantages of the AC link for Townsville as the major intermodal facility in the region and Mt. Isa as the mining centre are obvious.

- ii) Competitive power pricing as would result from the AC link would bolster and support the State Government's attempts to implement the Northern Economic Triangle Strategy to stage Bowen, Mt Isa and Townsville as internationally competitive centres not only for mining and minerals processing but also for various non extractive industries.
- iii) The connection of the grid would allow immediate connectivity for renewable (or green) alternatives including solar, thermal, wind and geothermal power generation.

Significant interest has already been shown in the corridor in respect of alternative power generation however the burden of retrofitting long haul runs back to the grid has proved problematic if not prohibitive.



# CHARTERS TOWERS REGIONAL COUNCIL

*Exceptional Service for an Exceptional Community*



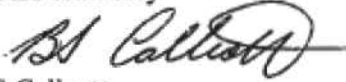
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Date: 16<sup>th</sup> June 2010

Our Ref: 456690

In closing it is my submission that the connection of the Townsville Mt. Isa link would produce a most significant positive impact on the future of industrial growth in this region which would well service not only local but also whole of State infrastructure and population strategies.

Yours faithfully



BS Callcott

Mayor





Date >> 21 June 2010

**Mr David Glasson**  
Chairman  
Mount Isa Townsville Economic Zone  
PO Box 1258  
MOUNT ISA QLD 4825

**OFFICE OF THE MAYOR >>**

TOWNSVILLE CITY COUNCIL  
ADMINISTRATION BUILDING  
103 WALKER STREET

PO BOX 1268, TOWNSVILLE  
QUEENSLAND 4810

TELEPHONE >> 07 4727 9200  
FACSIMILE >> 07 4727 9053

enquiries@townsville.qld.gov.au  
www.townsville.qld.gov.au

Dear David

**A/C Transmission Link Townsville – Mount Isa**

I am writing to re-confirm Townsville City Council's strong support for the development of an A/C electricity transmission line between Townsville and Mount Isa and to commend the good work of MITEZ and Townsville Enterprise in gaining Federal and State Government policy support for this endeavour.

The linking of the North West to the National Electricity Grid is central to the providing the secure competitively priced energy needed to underpin the economic development of our region. This infrastructure will greatly assist the on-going and further exploitation of regional mineral resources and development of a competitive environment for the attraction of major energy intensive industries.

With Mica Creek reaching the limits of its capacity and life, it is important that the power needs of the region be addressed sooner rather than later. The A/C link will achieve this and allow industry to pursue development opportunities which are of benefit to the entire MITEZ region.

Once again, thank you for your efforts in supporting this vital proposal. Should you require further assistance please do not hesitate to contact my office or Council's Executive Manager of Economic Development and Strategic Projects David Lynch on (07) 4727 9401.

Yours sincerely

**Les Tyrell OAM**  
Mayor of Townsville





YOUR REFERENCE:

OUR REFERENCE: SM: FM

Council Chambers,  
34 Gray Street,  
Hughenden, Qld. 4821

30 June 2010

Glen Graham  
Executive Officer  
MITEZ  
PO Box 1258  
MOUNT ISA 4825

Dear Sir

**PROPOSED AC TRANSMISSION LINK TOWNSVILLE – MOUNT ISA**

I refer to the State Government's announcement identifying the HV AC Transmission Link as a significant project and now reinforce our Council's full support for this project. Without the provision of this vital infrastructure not only will North-West Queensland have to keep putting up with an unreliable power supply but numerous renewable energy projects currently being considered in the Hughenden area are destined for failure simply because they can't connect into a suitable power grid.

Projects such as Windlab's that will produce wind power in an area just north of Hughenden, Leighton's proposal and others to produce solar power in areas around Hughenden, Australian PhytoFuel to produce green power along with the extensive coal seam gas reserves in the area are wonderful projects that can help in providing significant renewable energy for the whole of Queensland. Not only will these projects help with providing renewable energy, it will provide a reliable power source and a significant boost to the regional economy through allowing industry to develop locally and therefore providing employment opportunities to the region. This project is one of those visionary projects that will help build a nation and allow the mineral rich north-west region to develop and prosper.

Council looks forward to working with MITEZ, State Government and Industry to help develop the AC Link that in turn will provide the opportunity for the development of our region as the renewable energy capital of Australia.

Please contact me if you require any further clarification.

Yours faithfully

A handwritten signature in black ink, appearing to be "SL", written over a white background.

Stephen McCartney  
CHIEF EXECUTIVE OFFICER



# Cloncurry Shire Council

19-21 Scarr Street  
PO Box 3  
CLONCURRY QLD 4824  
ABN: 76 581 540 914



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Facsimile: (07) 4742 1712  
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Website: [www.cloncurry.qld.gov.au](http://www.cloncurry.qld.gov.au)

*Our Ref: Regional Development/ Mount Isa – Townsville Regional Economic Development Zone (MITEZ)*

30 June 2010

Mr David Glasson  
Chairman  
Mount Isa Townsville Economic Zone  
PO Box 1258  
MOUNT ISA QLD 4825

Dear David

## **A/C TRANSMISSION LINK TOWNSVILLE – MOUNT ISA**

I am writing to re-confirm Cloncurry Shire Council's strong support for the development of an A/C electricity transmission line between Townsville and Mount Isa.

The linking of the North West to the National Electricity Grid is central to providing a secure competitively priced energy supply to the Region. Cloncurry Shire has one of the highest numbers of mining leases in the State and one of the constraints to the further development of this rich minerals province is the lack of competitively priced and reliably energy supply. The proposed A/C electricity line will therefore greatly assist the on-going and further exploitation of the rich mineral province.

Council looks forward to working with the MITEZ to secure this outcome and encourages all levels of Government to support this project which will see the delivery of highly reliable and competitively priced electricity to communities in North West Queensland.

Should you have any queries in respect of this matter please contact the undersigned at this office.

Yours sincerely

A handwritten signature in black ink that reads 'Daniels'.

Andrew Daniels  
Mayor

