



Joint Select Committee on Northern Australia  
PO Box 6100  
Parliament House  
Canberra ACT 2600

Dear Committee Chair,

### **Submission for the Inquiry into Energy, Food and Water Security in Northern Australia**

Townsville Enterprise is the peak economic development body and destination management organisation for Townsville North Queensland. We represent the five major local government areas of Townsville, Burdekin, Charters Towers, Hinchinbrook and Palm Island and aim to attract both government and private investment to the region.

For over 30 years, Townsville Enterprise has played a critical role in the economic development of the region through strong political advocacy, investment attraction, tourism development, and by promoting Townsville North Queensland as an attractive place to live, visit, and invest. We are a not-for-profit organisation funded by over 300 members across the region—both private businesses and local government.

Our purpose is to secure the future of Townsville North Queensland.

Townsville Enterprise would like to thank the Joint Select Committee on Northern Australia for the opportunity to provide potential actions for improving energy, food and water security within our region.

Townsville Enterprise has the following suggestions for actions to improve energy, food and water security within Townsville North Queensland and, by extension, across Northwestern Queensland.

#### **1. Funding for Stage 2 of the Port of Townsville, Port Expansion Project – Outer Harbour Development.**

One of the pivotal factors for Townsville and its continued economic growth is its strategic geographical position in Northern Australia. Townsville has one of the only flat passes through the Great Dividing Range in Northern Queensland and acts as a major logistical hub for food and energy transportation throughout North and Northwest Queensland.

The Port of Townsville acts as the lynchpin for economic activity in the North and Northwestern Queensland. It is already Australia's largest exporter of base minerals, sugar, and fertiliser. It is also Northern Australia's largest container and automotive port. The Port of Townsville is currently on a trajectory that will see its annual trade triple to 30 million tonnes per annum by 2050.

With rapid developments in existing and new industries in the North Queensland region, there is an increasing need for investment in the port's Outer Harbour Development. Once funding is secured it is expected that the development can be delivered over a five-year period, which will meet the



timeframes required by its customers investing into generational critical minerals and renewable energy projects across the North and Northwest corridor.

The benefits of the Outer Harbour Development will facilitate trade and industries that align with federal priorities such as renewable energy exports including green methanol, sustainable aviation fuel, and other biofuels. It will also enhance exports of critical minerals and support advanced manufacturing in Australia. Lastly, expansion will support the import and export of agricultural goods ensuring food security for the region.

From the increased logistical and supply chain capabilities for North and Northwest Queensland, it is expected to unlock an estimated \$500 billion's worth of critical mineral deposits and support the development of over 25GW of renewable energy projects, securing the energy requirements for the North and Northwest of Queensland.

This development will also enable the \$41.6 billion pipeline of other Commonwealth, State and private investments in the region to proceed.

With \$450 million of Federal Government investment funding the Townsville Port Expansion – Outer Harbour Development through the construction of 2 common user berths and infrastructure, we believe this would facilitate large scale economic growth and security for the regions of North and Northwestern Queensland for generations to come.

## **2. The Eastern Access Rail Corridor (TEARC)**

The Eastern Access Rail Corridor has been in planning for over 15 years, and the rail corridor has long been identified as the critical piece of infrastructure needed to improve rail access into the Port of Townsville and, by extension, improving the logistical and supply chains networks to the North and Northwest of Queensland. The port expansion is intrinsically linked to TEARC, a program that will support a more efficient rail infrastructure design within the port precinct and will relieve a known bottleneck and remove significant rail freight movements from the Townsville CBD.

In 2017 a business case for TEARC, in conjunction with an assessment of innovative financing models, was undertaken. At the time it was identified that the project was not economically viable, however future developments such as stage 1 of the Townsville Port Expansion Project and other future developments now trigger the need for to revisit the project and to preserve the land corridor identified for the project.

Members of the Committee, the time has come to review the business case due to the large amount projects in development in the Northern Queensland pipeline and commit to developing TEARC. Over the previous eight years since the original business case, additional developments have occurred that were not considered by the original business case. The current delivery of the CopperString alone—one of the largest investments ever made into regional Queensland—has triggered largescale investment into the region. As a result of this project, in conjunction the Lansdown Eco-Industrial park precinct and the proposed development of two new major minerals



refining projects, it is forecast that the current Southern Access Road will have difficulty serving demand by 2027 and would be completely unable to meet expected traffic demands by 2036.

It is critical that the Federal Government recommits to updating the business case and commit to the delivery of TEARC to ensure continual economic growth of the region and to secure its energy and food security well into the future.

### **3. Queensland's Transmission Network**

As Northern Western Australia and the Northern Territory look North to international markets to export their abundant renewable electricity, Northern Queensland is looking south to the National Electricity Market.

North Queensland is emerging as a leader and powerhouse in the generation and transmission of renewable energy to the National Electricity Market. Construction is underway for the CopperString transmission project which will unlock the abundant solar and wind resources of Northwest Queensland.

It is estimated that the full potential of renewable energy generation could exceed over 33GW of electricity. This massive output would likely exceed even the highest growth models for industry, commercial, and residential energy demand of North Queensland. At time when the national grid is severely under stress, the excess energy supply into southern markets would be a welcome relief for ageing power generation facilities in the southeast of Australia. This would also be imperative in meeting the renewable energy targets for Australia.

The CopperString transmission network has been designed to both support both existing and future renewable energy outputs. The transmission line is being upgraded to a 500-kilovolt line along the Eastern alignment of the project. The challenge lies in the existing coastal transmission line between Gladstone and Townsville that is a 275-kilovolt system. Clearly, this will be unable to support the amount of power needed to be transmitted to the load centres in the Southeast. The transmission network from Gladstone to Townsville will require either upgrading or new backbone infrastructure to be built to support the energy requirements.

With investment from the Rewiring the Nation fund into supporting transmission line upgrades between Gladstone and Townsville to support network upgrades, large scale renewable energy will be able to be transmitted south, relieving the National Grid at a time when it is greatly needed and help power the nation well into the future.

### **4. Green Energy and Fuel Incentives**

Townsville North Queensland has laid its foundation in heavy industry, and our path forward is clear with the emerging opportunities in green manufacturing, renewables, and future fuels. There are currently two major refineries operating in the region and both have committed to decarbonising their operations and transitioning to renewable energy where possible. There are another five new refineries and processing facilities to be developed in the region, all seeking to capitalise on the



region's close proximity to critical mineral deposits and the announcement of the Copperstring transmission project providing plentiful supply of renewable electricity into Townsville.

Townsville will be the home of Australia's first commercial-scale sustainable aviation fuel (SAF) production facility and will provide the aviation sector the first low-emissions fuel resource. The energy company ABEL Energy have proposed to build a green methanol production facility that will look to produce over 300,000 tones of green methanol annually, sourced from the large sugarcane biomass availability in the region. This green methanol will significantly reduce emissions for the shipping industry.

Sugarcane is the largest export from the agricultural regions of the Burdekin and Hinchinbrook and provides significant biomass for biofuel production. These biofuels will also increase the security for energy and food in Northern Australia, underpinning vital energy security to our aviation and maritime sectors. Importantly, this industry and sovereign supply chain provides the added benefit of bolstering national security through locally produced and refined fuel sources.

With investment from the Capacity Investment Scheme to support renewable energy projects in North Queensland, we believe that these projects will utilise the abundance of wind and solar resources and ensure that demand can be met for emerging future fuels projects.

Also, by the Federal Government providing financial incentives to establish the Australian future fuels industry and to implement demand incentives by committing to use SAF in government operated and military aviation fleets, we at Townsville Enterprise believe it would help establish the industry and thrive into the future. The introduction of a Contracts for Difference (CFD) mechanism for SAF would enable the government to stabilise SAF prices, reducing the revenue uncertainty for SAF producers and support the sectors viability long term. A Government mandate requiring industry to use at least 10% renewable fuels in aviation and maritime transport operations would ensure that green energy and fuel production in Australia would thrive and bring long term economic benefits and energy security to the region.

## **5. Flinders Highway Upgrade**

The Flinders Highway is a critical arterial network and is one of Australia's most vital national economic freight routes. The highway extends over 800kms from Townsville to Cloncurry and then connects to the Barkly Highway connecting Queensland's North to the bordering Northern Territory. The traffic along this route is expected to significantly increase over the next five years, as more renewable energy, critical minerals, and defence operations begin to ramp up.

The Flinders Highway already supports nearly \$15 billion worth of mining and cattle input annually. Construction activity along this corridor will exponentially increase, with the highway becoming a major throughfare for wind turbines, solar panels, and transmission tower components for CopperString.

With this increased activity, the already poor condition of the highway will present an amplified risk to the productivity of the region. The Flinders Highway is also a highly strategically valuable transport

route that links the northeast coast of Australia to Darwin. The Flinders Highway is also the main road that links the two largest defence precincts in Australia; Townsville and Darwin. The risk of not investing into the critical maintenance and upgrade works will be dire, and will result in serious implications for defences capabilities for supply chain movements, transport and communication between the bases.

With the Federal Government working in conjunction with the Queensland State Government by funding the Flinders Highway upgrades, we believe it would accommodate the anticipated surge in critical mineral activities, CopperString, renewable energy projects, and defence.

## **6. RegenAqua Hinchinbrook**

RegenAqua is a transformational technology that will drive sustainable growth of agriculture and aquaculture industries plus municipal infrastructure in North Queensland, whilst reducing existing levels of nitrogen and phosphorous being discharged into rivers and Great Barrier Reef waters from aquaculture and municipal wastewater treatment facilities.

RegenAqua is a homegrown, world leading technology pioneered by James Cook University in partnership with Pacific Biotechnologies Pty Ltd. The Basic principle of RegenAqua is that native green algae uses sunlight to grow and absorb phosphorus and nitrogen (nutrient pollutants) from the wastewater stream prior to discharge into the environment. The algae is then harvested and converted into a bio-stimulant that enables the return of these elements back into agriculture biosphere. The natural hormones enable plant growth and enrich soils reducing the dependency on traditional nitrogen, phosphorus, and potassium fertiliser systems.

Another RegenAqua pre-facility has been in operation since 2021 located in the Burdekin Shire area. The facility is consistently delivering exceptional results with nutrient pollutant reductions being below global best practice on nitrogen and phosphorus. Due to the exceptional results construction has commenced on the facility in the Burdekin Shire.

With \$11.1 million in funding from the Federal Government to establish a 6 hectare facility in the Hinchinbrook Shire, we believe this would support jobs and economic development in North Queensland, but most importantly the funding would help implement a cost effective practical solution to help protect one of the nation's greatest national assets, with the added benefits of securing clean water discharge and securing another nutrient source for food production.

## **7. Big Rocks Weir**

Big Rocks Weir is located 26kms northwest of Charters Towers and upon completion would be capable of storing at least 10,000 ML of water—double that of Charters Towers' existing water infrastructure. Investment into the Big Rocks Weir will facilitate over 3,000 hectares of new irrigated agricultural land to be developed from the guaranteed water supply. The Weir will also provide water for new manufacturing and industrial development to help meet future urban water demands for the population of Charters Towers and the surrounding regions.



The project has been agreed to be jointly funded by both State and Federal Governments. The Queensland Government has affirmed its commitment to advancing the project. It is now over to the Federal Government to deliver the Big Rocks Weir project jointly with the Queensland Government over the next three years.

This vital project will create 170 new jobs and an additional \$35 million in agricultural production annually. This will also be a vital step in securing water security and food security in the region and will have the added benefit of providing more on-farm, food processing and handling services employment for the regional economy.

## **8. Enhancing the Burdekin River System**

The Burdekin River is one of Australia's largest river systems with the Upper Burdekin catchment located in the wet tropics. The abundance of water in the Burdekin catchment and its potential to support our economic future is a competitive advantage for Northern Queensland.

Significant investment has been undertaken into developing new water infrastructure storage proposals in this catchment, including the business case development of the Hell's Gate Dam and the Big Rocks Weir, in addition to Sunwater's development of the proposed 2-metre raise of the Burdekin Falls Dam.

Townsville Enterprise acknowledges the decision of the Federal Government to withdraw a \$5.4 billion funding commitment to develop Hells Gate made by the previous Government in 2022. Townsville Enterprise always seeks to act in the best interests of the economic future of our region and will continue to do so.

Townsville Enterprise welcomes the decision of the Federal Government to take a holistic review of the entire Burdekin catchment to assess the most appropriate development of infrastructure to support North and Northwest Queensland's economic future. It is incumbent on governments to ensure the previous money committed is reserved for future investment in the projects identified in the future regional water assessment and review of the Burdekin Water Plan.

TEL welcomes the decision to review the Burdekin Water Plan and undertake a Water Infrastructure Assessment. TEL Notes:

- 73% of rainfall occurs during the wet season a four-month period (December to March).
- 7.8 million megalitres per year flows from the mouth of the Burdekin River.
- Water losses and unallocated water reserves exist in the lower Burdekin that could be captured and re-allocated.
- With a changing climate it is expected to see shorter but more intense rainfall periods that result in the same volume of rain. this means that additional capture and storage infrastructure will be required.
- North Queensland's water security is critical because droughts can last 8-10 years.



TEL believes that the upper and lower Burdekin catchments must work as a combined system to maximise the use of available water within the catchment.

#### Burdekin River Irrigation Area Channel Enhancement and Modernisation Project

An immediate priority for infrastructure investment is required to upgrade the open earth water distribution channels that exist in the Burdekin River Irrigation Area (BRIA). Extensive work has been undertaken by the state government in 2017 that identified a risk to the future of agricultural development in the lower Burdekin due to salinity impacts caused by rising groundwater tables.

Studies undertaken by the Queensland Competition Authority found that over 50,000 megalitres of is lost in the BRIA channel system each year through seepage which contribute to rising groundwater issues. In recent discussion papers released by the QLD government identified options to reduce channel seepage by improving the open earth channels and upgrading the distribution infrastructure to prevent these losses.

Approximately 200,000ML is normally allocated in the Burdekin Water Plan to account for water losses in the system. With the ability to recover actual losses and return some part of the nominal allocation for use in other parts of the basin will contribute significantly to the development of other storage and distribution projects.

#### Hells Gates Dam

Hells Gates Dam project would provide security for Energy, Food and Water in the North Queensland region. Hells Gates Dam will support population growth within the region, capture and provide the regions water needs for green hydrogen production and unlock prime agricultural land to enhance Northern Australia's food security. The proposed Hells Gates Dam is located approximately 120kms northwest of Charters Towers and 160kms west of Townsville. It will be capable of storing 2,100GL of water to irrigate 60,000 hectares of prime agricultural land.

Hells Gates Dam and irrigation scheme presents a transformational economic development opportunity for Northern Australia, which comprises a unique agricultural project that doubles the value of regional crop production utilising world leading land management and high-tech agriculture practice. Hells Gates Dam will allow for the region's population growth and will support new industries such as hydrogen production.

A secure water system is vital to support the agriculture industry in providing the food for the future and enhancing the regions resilience to global food shortages. This water infrastructure will also be imperative for emerging energy industries such as hydrogen production, that will help secure the nation's energy production needs into the future.

The business case for the project shows that it will have positive outcome for the Great Barrier Reef. It will reduce sediment and nutrient loads to the Burdekin Dam. By expanding irrigated agriculture in the upper, rather than the lower Burdekin basin, the dam will provide buffering against pollutants that affect the Great Barrier Reef.





Hells Gate Dam will support the emerging hydrogen industry and therefore increase energy security for the nation. Green hydrogen is produced by taking renewable power, high-purity water and converting to hydrogen and oxygen gas via electrolysis.

The Hells Gate Dam Detailed Business Case confirmed the project will deliver a benefit cost ratio of 1.05 for the full scheme, generate \$6 billion increase in GRP from agricultural projects, and positively impact the entire supply chain from the farm to the export terminals. It will also shore up long term water security and reliability for Townsville, Charters Towers and surrounding regions. The project will provide more than 10,000 jobs during construction and more than 3,000 ongoing jobs. These jobs will also be high-skilled high-paid roles for generations to come. This project will also be one of Queensland's largest irrigation schemes and open 60,000 hectares of prime agricultural land whilst doubling the value of crop production regionally.

We believe that comprehensive water monitoring infrastructure needs to be established in the upper Burdekin to accurately measure water availability for storage and economic use at the Hells Gates Dam site. With \$50 million funding from the government to complete the Environmental Impact Assessment on the Burdekin River System would enable both State and Federal Governments a better understanding on how to proceed on how to best harness such a vital resource and help secure the regions water security into the future.

Townsville Enterprise would like to thank the members of the Joint Select Committee on Northern Australia for taking the time to review and consider our challenges and potential actions for improving Energy, food and water security in the Townsville North Queensland region. We are strongly committed to continuing to work with the Australian Government in the delivery of these shared objectives across the North Queensland region. We will continue to support the Government to overcome future challenges raised in energy, food and water security inquiry.





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