

Planning for a Transition Economy & Hydrogen Ecosystem Evolution in the Gladstone Region

Darwin – 17 August 2021

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Gladstone Regional Council



Economic Profile

\$5,602m

in Gross Regional Product (GRP)



63,412 residents

2.5% of Regional QLD's total population

Top 4 employers



Manufacturing **4,513 jobs** (15.5%)

Construction **3,251 jobs** (11.2%)



Retail **2,821 jobs** (9.7%)

Transport & Logistics **2,510 jobs** (8.6%)



Representing 3.1% of Regional QLD's economy

Supported an estimated **29,072 jobs**

3,701 Local Businesses

566,000 visitors

to the region annually

In 2041, the population of Gladstone is expected to reach **75,327**

Economic Profile

Competitive Advantages and Economic Assets:

The Gladstone Region has many natural and economic assets, and a competitive advantage:

- ✓ Natural deep-water port that is one of the largest, bulk commodity ports in the world
- ✓ Strategic location in proximity to considerable natural resources across Central Queensland (and the Surat Basin)
- ✓ Existing industry strengths, including
 - Large scale industry
 - Resources and energy
 - Engineering and advanced manufacturing
- ✓ Strong existing supply chains for major industry as well as a highly skilled workforce
- ✓ Considerable infrastructure including power, water, rail and interconnected road and airport
- ✓ Locally based construction capacity to deliver major projects.



Current World Class Industrial Hub

- Port of Gladstone - 124Mt of cargo per annum with a 50-year strategic plan to guide commercial trade to +300Mt per annum.
- 3 LNG processing plants exporting 24MT per annum
- 2 Alumina Smelters producing 7Mt per annum
- Boyne Aluminium Smelter – 550,000 tonne per annum
- Gladstone Power Station – 1680Mw
- Orica Yarwun – Ammonium Nitrate, Nitric Acid, Sodium Cyanide
- Cement Australia – 1.7Mt per annum of cement
- Northern Oils – Recycled lube oils (Southern Oil Refining)
- Tourism - 53,000 International & 432,000 Domestic Visitors
- Agribusiness - \$87M





Up to five coal plants ‘unprofitable by 2025’

Elouise Fowler and Peter Ker

Feb 24, 2021 - 12.00am

As many as five coal-fired power stations will be running at a loss by 2025 and at least one faces early closure as the ageing generators struggle to compete against cheaper renewables surging into the national power grid, say researchers.

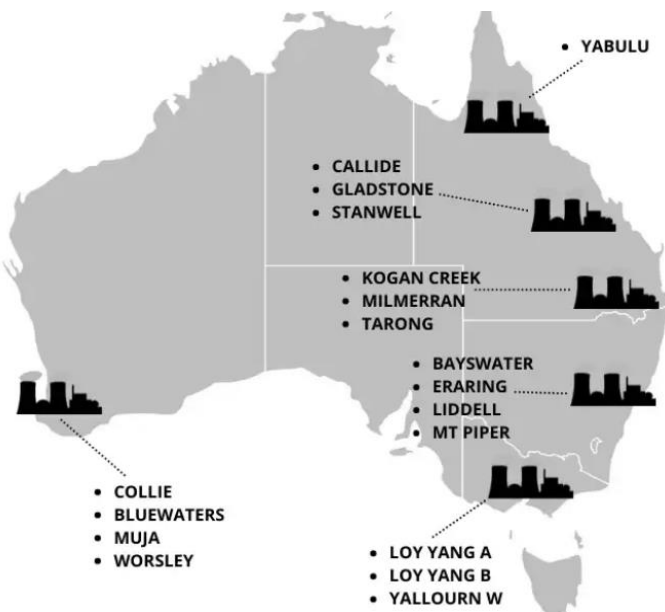
The Gladstone power station in Queensland part-owned by Rio Tinto, will tip into loss-making territory if power prices dip even lower than 2015 levels.

At least one power station is likely to face closure several years sooner than planned.....

More than \$1 billion has been wiped off the value of Queensland government-owned fossil fuel generators as falling wholesale electricity prices slash generator profit.

Energy Security Board chairman Kerry Schott warning earlier this month that coal power plants were “going broke” and some risked closing four or five years before the end of their rated life.

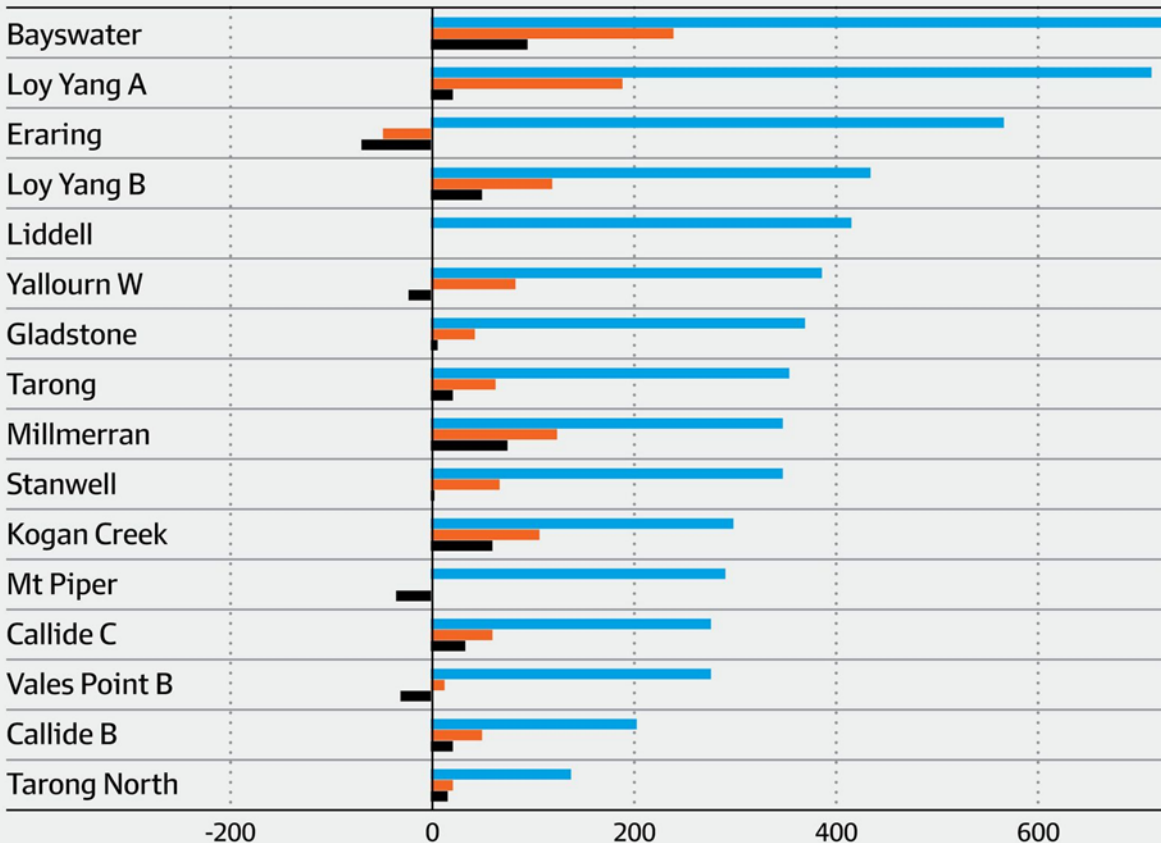
Coal Fired Power



Power stations EBIT scenarios (\$m)

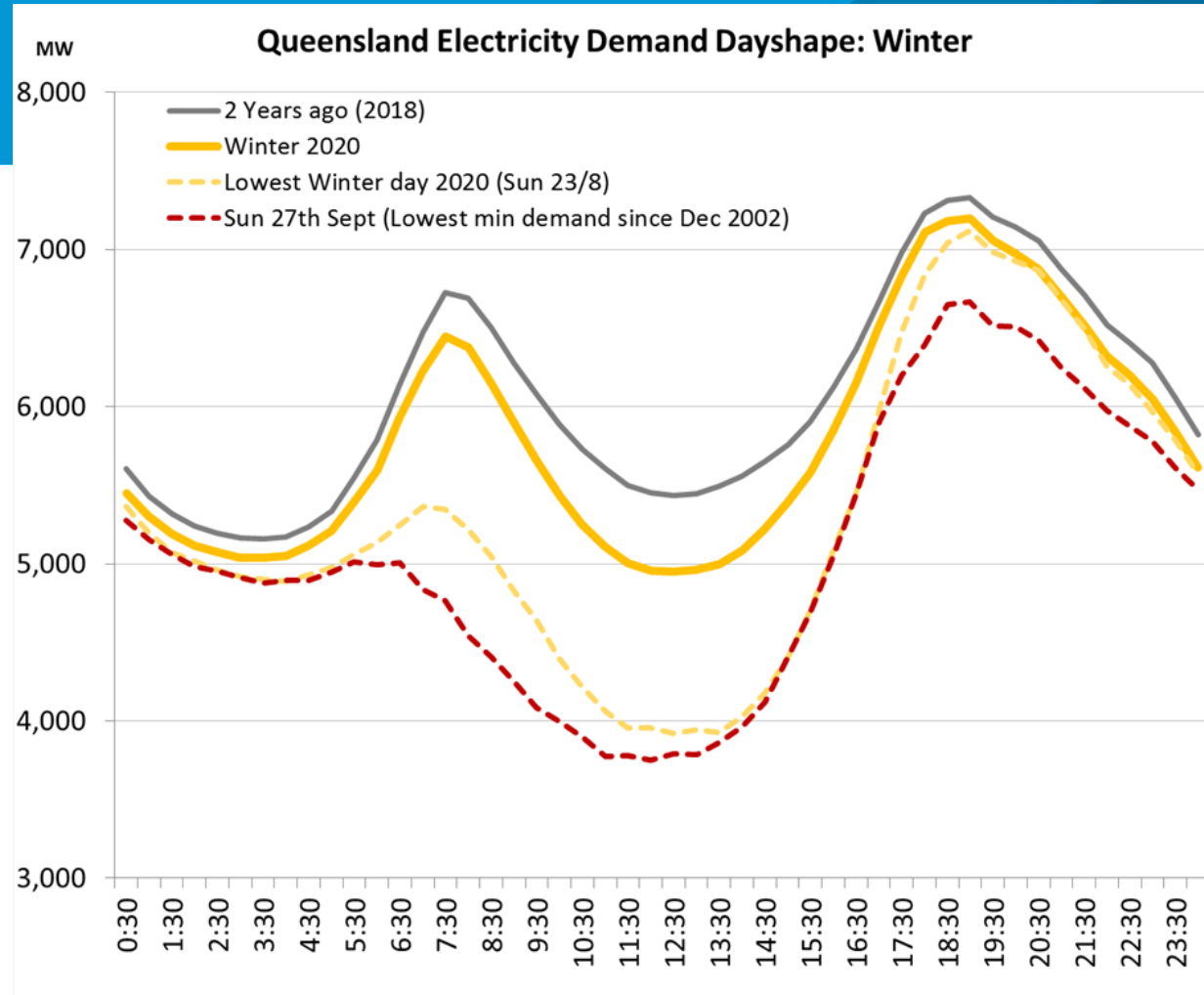
■ 2018 ■ 2025 scenario A – 2020 spot prices NEM

■ 2025 scenario B – Matching up to historical demand avg intervals, removing shut coal, price at extremities is avg of 1000MWh range



Stanwell Daily Demand Pattern

- Daily energy demand patterns continue to shift
- Impact on how coal fired power stations operate.
- As more rooftop and solar energy comes online, demand during the day is dramatically declining.
- Coal-fired generators were not designed to operate ramping up and down.

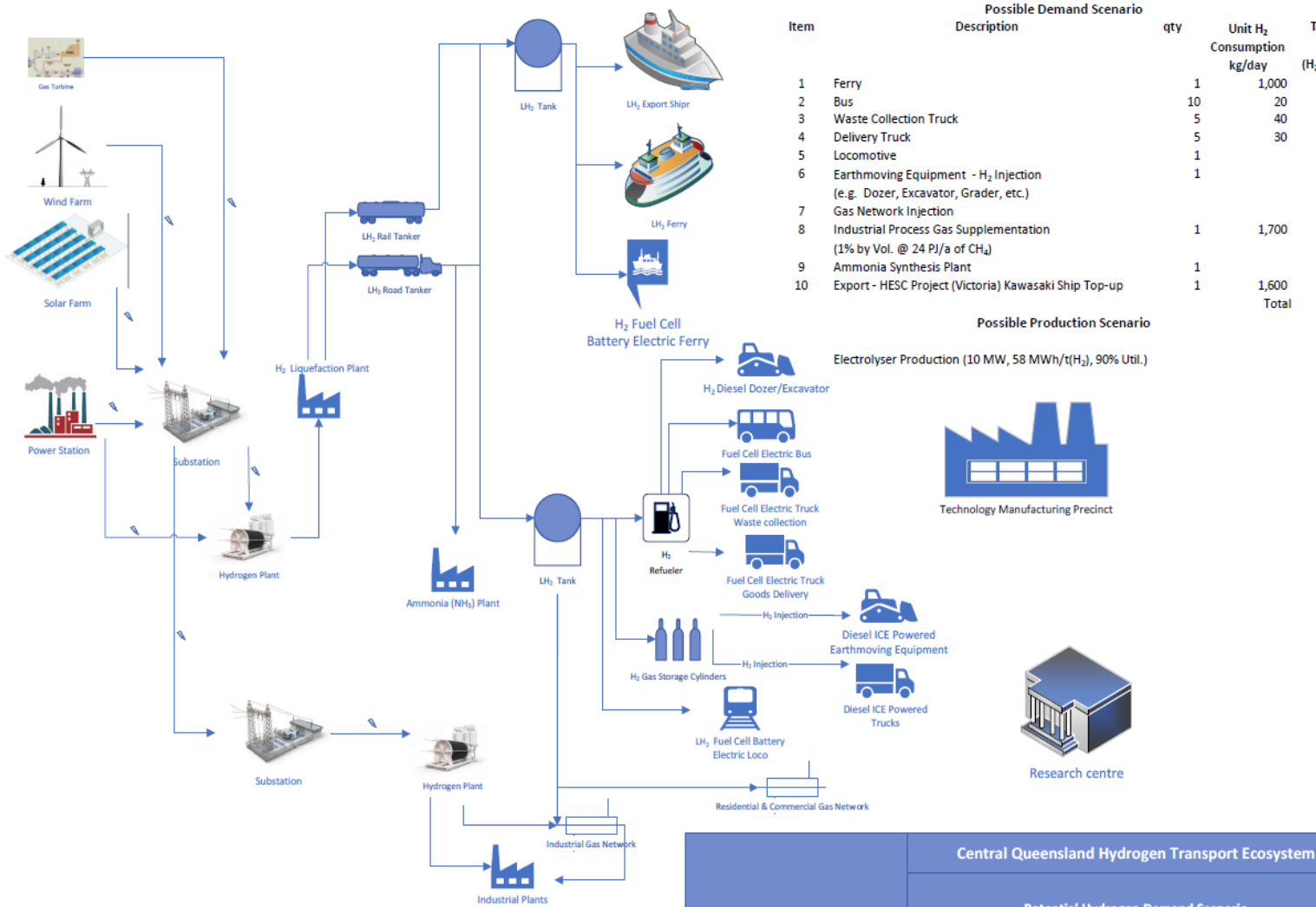


Hydrogen Ecosystem

IEA indicates that Hydrogen will develop in 3 stages – 1. Transport mobility 2 – Industry and Power use 3 – Export Energy.

Hydrogen exports from Australia are projected to range from 265,000 tonnes to 344,000 tonnes in 2025 up to 1M tonnes in 2030 and up to 3M tonnes in 2040

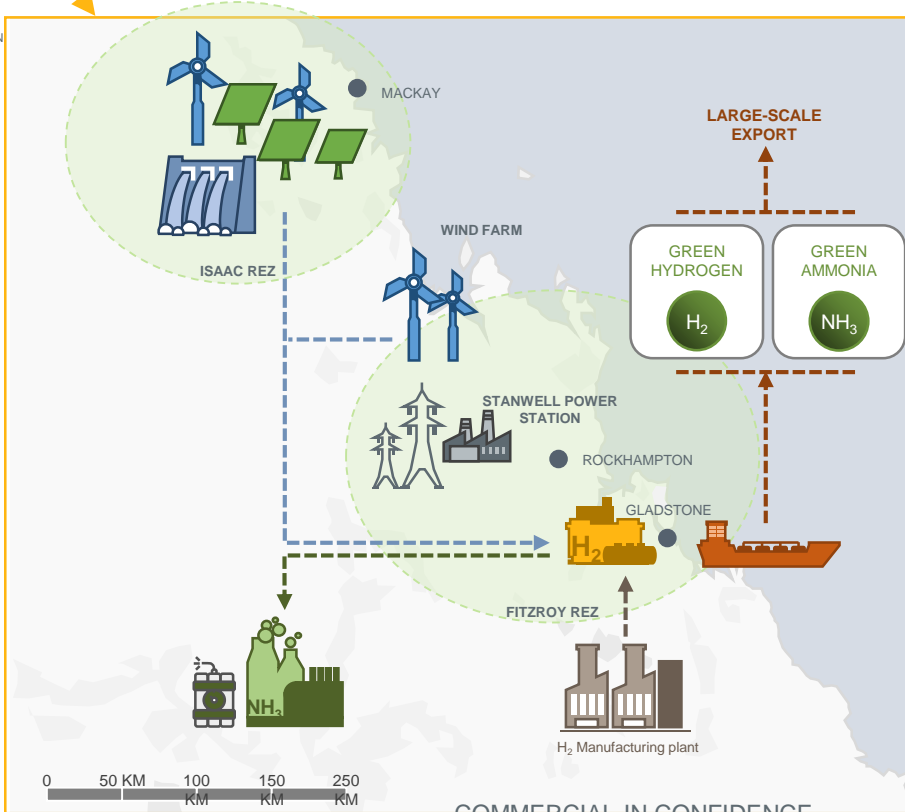
By 2040 North Asian Countries could be importing a low 15M Tonnes to a high 82M tonnes of Hydrogen



Green hydrogen export opportunity



CQ has the renewable energy resources, land, water and infrastructure to support a large-scale green hydrogen industry, with potential for local manufacturing.



Project attributes

- ▶ **Strategic project** to launch a long term Queensland green hydrogen export industry
- ▶ **Demand** from Stanwell's international partners: **~3000 MW by early 2030s**

Strategic benefits

- ▶ Create a **new low carbon industry in regional Queensland**
- ▶ Attract co-located manufacturing to CQ – deliver **high quality jobs and investment**
- ▶ Help **transition** Stanwell's business by leveraging and building on our core strengths as an energy provider
- ▶ **Diversify** revenue streams through exposure to **low carbon energy export market**

Delivering the Vision | Hydrogen Park Gladstone

HyP Gladstone
builds on
HyP SA:

5% to >700
customers
(HyP SA, 2020)



Up to 10% to
entire small
network
(HyP Gladstone, 2022)

- \$4.2m project, \$1.7m support from Queensland Government
- 175kW electrolyser
- **Up to 10% renewable H₂ blend to small network**
- First production in 2022 (aiming for 2021)
- Residential, commercial and industrial customers



Gladstone Regional Transition Planning Project

A comprehensive transition plan includes a range of economic, social and technical strategies to:

- Ensure ongoing energy security.
- Undertake workforce development.
- Support industry adaptation.
- Repurpose assets.
- Diversify and strengthen the regional economy; and
- Ensure that marginalised groups are not further disadvantaged by economic change.





Energy Security

- Secure & affordable supply
- Managing closure
- Transmission & Storage Infrastructure
- Micro grids / off-grid Systems
- Community-owned renewable energy

Workforce Support

- On-the-job retraining
- Redeployment across sites
- Early retirement schemes
- Cross-industry planning
- Redundancy packages
- Future skills development



Staged Transition Planning

Establishing Guiding Principles

- Managing Transition is about **managing economic change** and to **be proactive in managing the impact** on the community and region. This includes planning for future infrastructure, land, water, corridors and energy.
- Diversifying the economy is important for resilience over the long term. **Economic diversity through developing new industries** leads to the region being competitive.
- Transition planning is about **investing in the future of the region** ensuring a reliable, secure, stable, sustainable, and affordable energy supply. The aim is to **sustain Gladstone's industrial heritage** and create a positive legacy.
- **Invest in the current and future workforce**, so the community has the skills to operate new energy and industry assets. Explore new workforce arrangements to open opportunities to more people through innovation in research and development, leading education, and training opportunities.
- Integrated and holistic approach to planning – this needs to involve all levels of government, industry and community working together. **There is still time to manage change**. However, **we need to start now**.
- **Advocate** to State and Federal Government to fund and support locally led transition planning.
- It is important to **get the community engaged**, understanding and supportive of the transition.

Next Steps

Central Queensland Energy Futures Summit REPORT

- **Regional leadership** shown by the GRC in this sector was the catalyst for ongoing and increasing levels of dialogue, triggered a movement to hold a summit to advance and formalise transition discussions.
- Identified the **toxicity that has plagued** the conversation about the need for a 'Just Transition', **stymying coordination** across different industries and levels of government and stifling the flow of new investment to the region.
- TNE brought together over 150 stakeholders from government, industry, unions, environment organisations, social service agencies and Traditional Owners for the highly successful two-day 'CQ Energy Futures Summit' in Gladstone 21-22 April 2021.
- Priority Action areas identified including consensus that **better coordination**, communication and engagement between industry players, the workforce, local communities, government, environment and First Nations groups **is critical** to plan for a **transitioning economy**.
- A regional and place-based coordination body is needed to manage change and drive research and strategic planning to inform advocacy and engagement across stakeholders.



Next Steps - Planning

- GRC are continuing to work with TNE developing a Gladstone Region Transition Economy Strategy
- CQ Region of Councils are considering Regional Transition planning and leadership in their Strategic Planning
- Transition Planning incorporated in GRC Corporate plan 2021-26 and a key 2021-22 Operational Plan Initiative.

2021-26 Corporate Plan

GOALS	OUTCOMES
Connecting Communities We work with you and for you, supporting the success of our communities.	<ul style="list-style-type: none"> • Communities are well understood, with programs and services designed to strengthen our region. • Communities can influence and actively participate in Council decision making.
Delivering Value We work efficiently to deliver value for your rates.	<ul style="list-style-type: none"> • Asset Management is smart, effective and efficient. • Capital and Maintenance programs are consistently delivered. • We are easier to work with. • The way we do business is continuously improving.
Resilient Economy We play our part in supporting the success of our region.	<ul style="list-style-type: none"> • Support for the region's transition and role as a driver of economic growth. • Increased liveability and visitation to the region.
Our People We look after our people, so they look after you.	<ul style="list-style-type: none"> • Our people return home safely. • Our people are proud to work for Council.
Accountable Council We are providing good stewardship built on a foundation of trust.	<ul style="list-style-type: none"> • Council has embedded risk management, transparency and accountability into what we do. • Finances are managed to ensure sustainability. • The environment is front of mind in what we do.

2021-22 Operational Plan Initiatives

Connecting Communities

 **Community Profiling**

 **Residential Water Security**

Delivering Value

 **Website Security**

 **Trade Waste Management Plan**

 **BackflowID App and Tag System**

 **Lessee Service Model**

 **Works Delivery**

 **Waste Management and Resource Recovery Business Case**

Resilient Economy

 **Hydrogen Ecosystem**

 **Transition Economy**

 **Transport Strategy**

Our People

 **Injury Risk Mitigation and Controls**

 **Performance Plans**

 **Leadership Capability Framework**

Accountable Council

No initiatives have been assigned to this goal in 2021-22.

If not now – when?

“We can debate what is already happening, how fast it will happen, and whether it should happen.”

“But the most important question for the economy and jobs in the Hunter is how we plan to respond.”

Hunter Jobs Alliance - *NO REGRETS - Planning for Economic Change in the Hunter*