



# Gladstone Australia's 21<sup>st</sup> Century Industrial City



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*Growth. Prosperity. Community.*

# A DECADE OF GROWTH, PROSPERITY, COMMUNITY

## The Powerhouse of the Eastern Seaboard

2005 - 2015

**\$40 billion of direct investment**

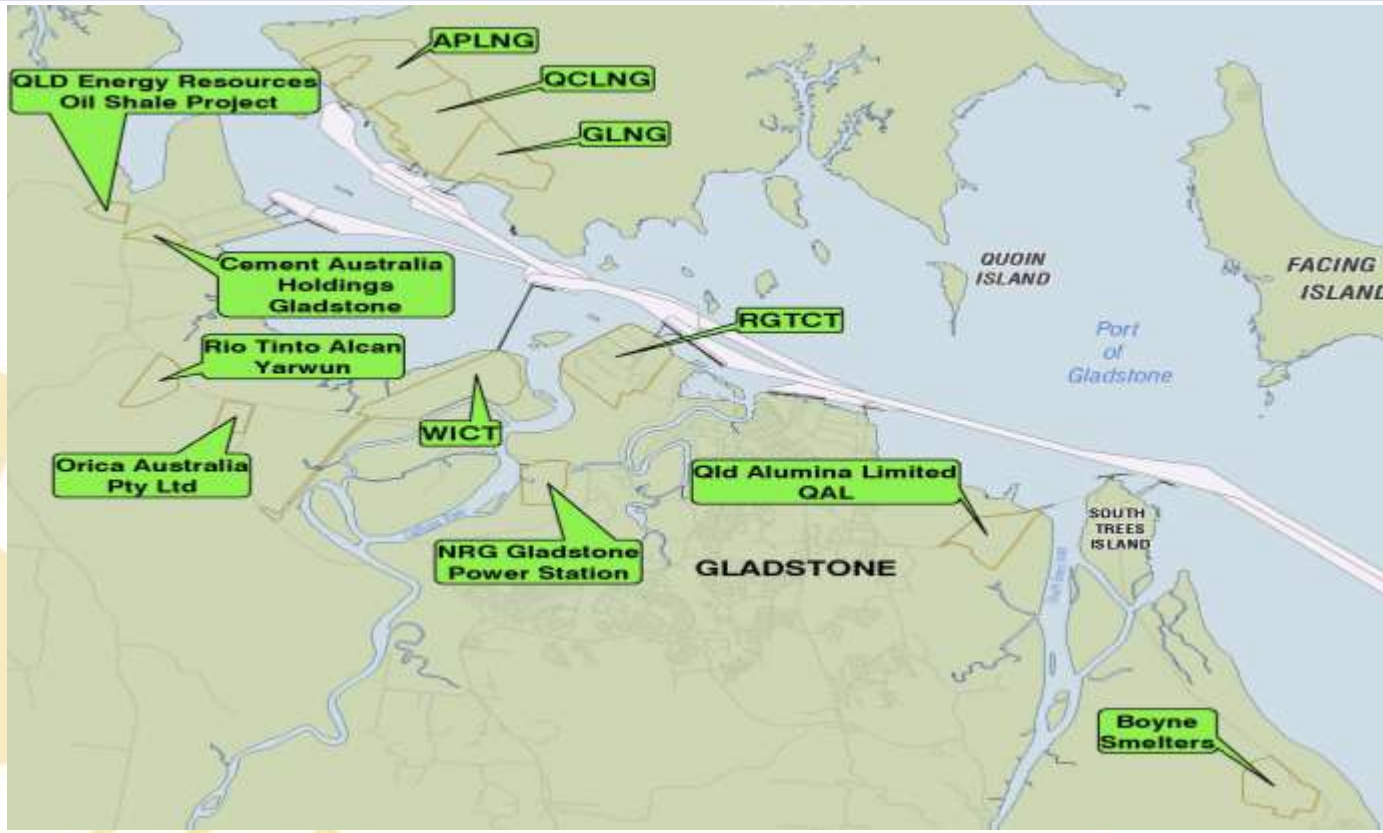
**Sustainable development**

**Over 15,000 jobs created**



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# GLADSTONE INDUSTRY



# PORT OF GLADSTONE

## Value of Trade

**2012-13**  
**\$14 billion**



**2020-21**  
**\$25 billion**

**20% of Australian coal, LNG, alumina and aluminium exports by value**



# THE FOUNDATION OF OUR SUSTAINABLE FUTURE

The Port of Gladstone

The 28,500ha Gladstone State Development Area

Major economic infrastructure

- Rail and Road network
- Water Supply
- 4000MW of Coal Fired Power

Over 25 years of economic and environmental planning and research [\$225M]

Continuous airshed and harbour environs monitoring

Major Community infrastructure

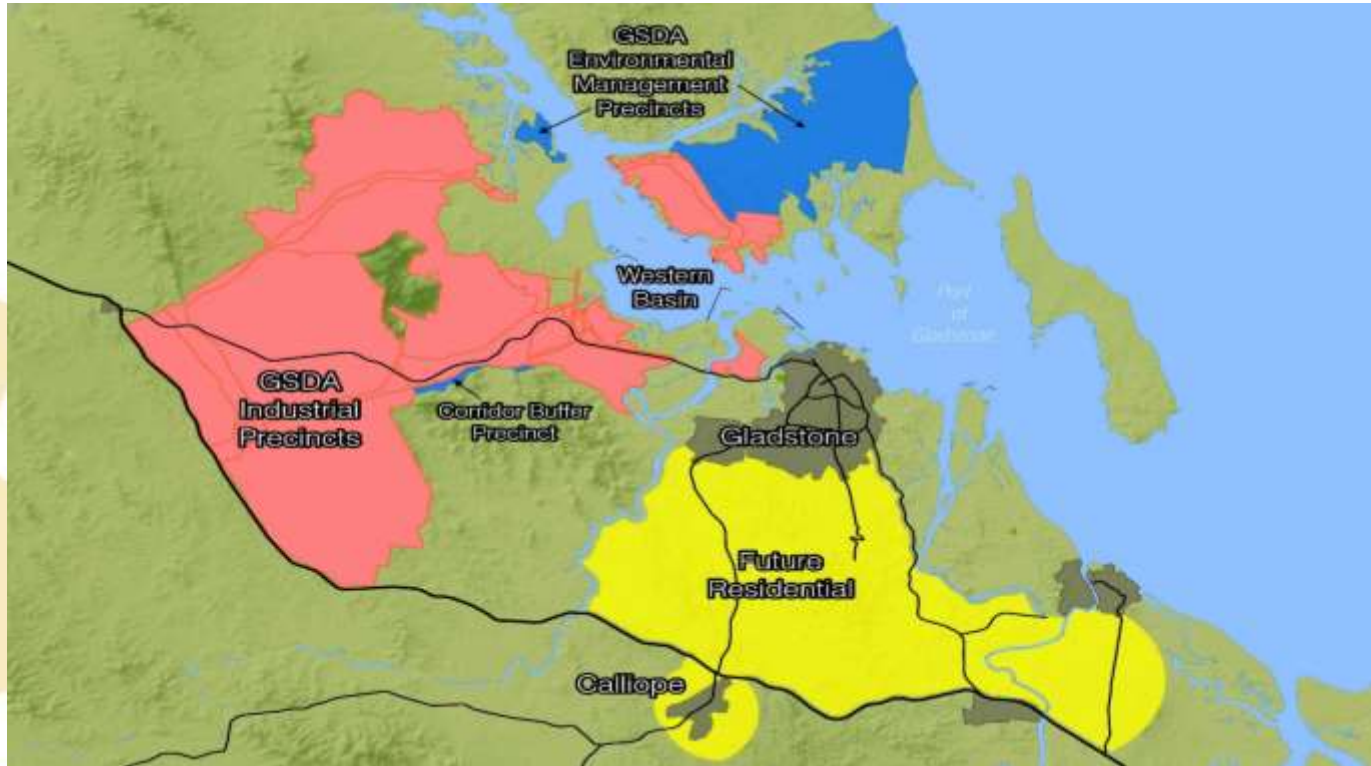


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# Building a Sustainable Future

## Gladstone – a Sustainable Industrial City and Port



# Port of Gladstone - 50 Year Strategic Plan

## JUNE 2013 NATIONAL INFRASTRUCTURE PLAN



Australian Government  
Infrastructure Australia

**“Only the Port of Gladstone has  
a long-term plan in place”**



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# Port of Gladstone - 50 Year Strategic Plan

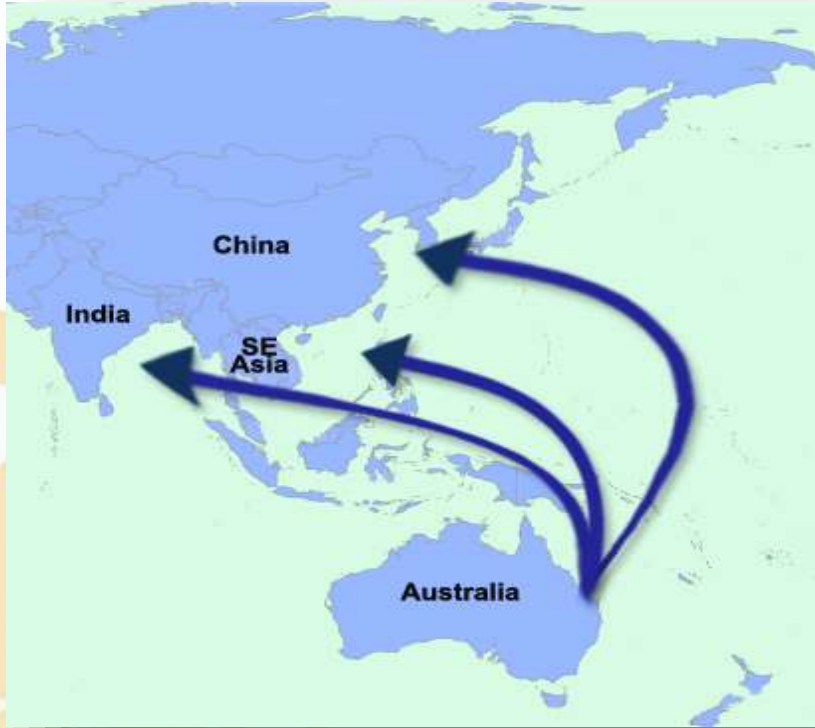


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# Building a Sustainable Economic Future



## Demand Variables

Population size and growth

Economic growth

The commodity intensity of economic growth

Climate change policies

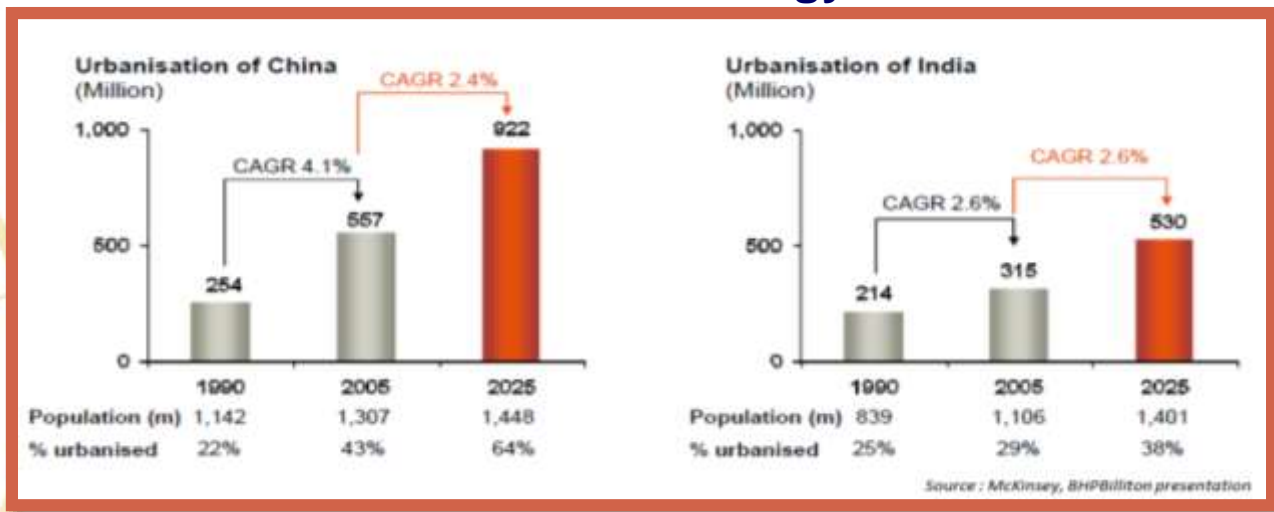


# Building a Sustainable Economic Future

## Projected Urbanisation

580 Million People

### Urbanisation and Industrialisation Driving Chinese and Indian Energy Demand



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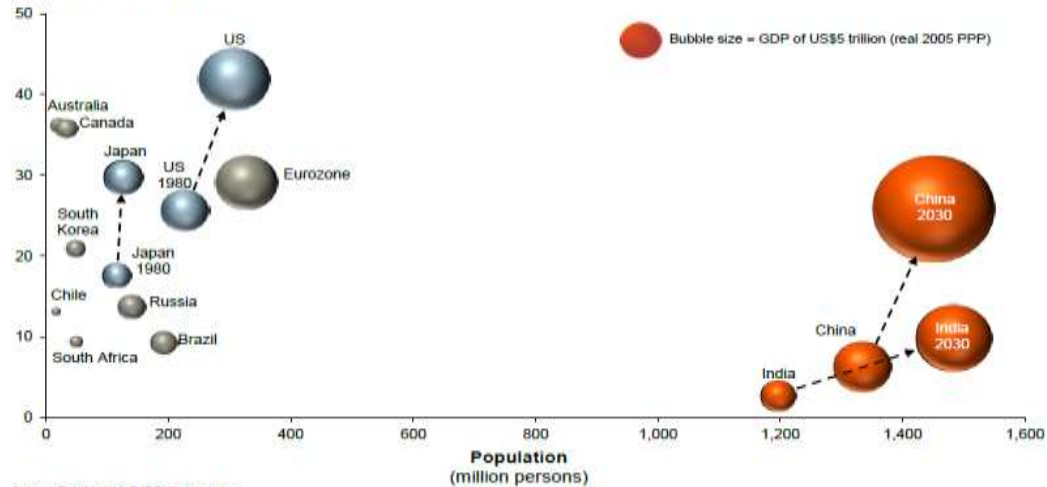
# Building a Sustainable Economic Future

## Strong Demand for Energy Resources

### Long term supply demand fundamentals remain intact



World GDP per capita<sup>1</sup>  
(US\$'000, real 2005 PPP)



Source: Global Insight; BHP Billiton analysis.  
1. All figures for 2009 unless mentioned otherwise.

Andrew Mackenzie, Group Executive and Chief Executive Non-Ferrous

Slide 5



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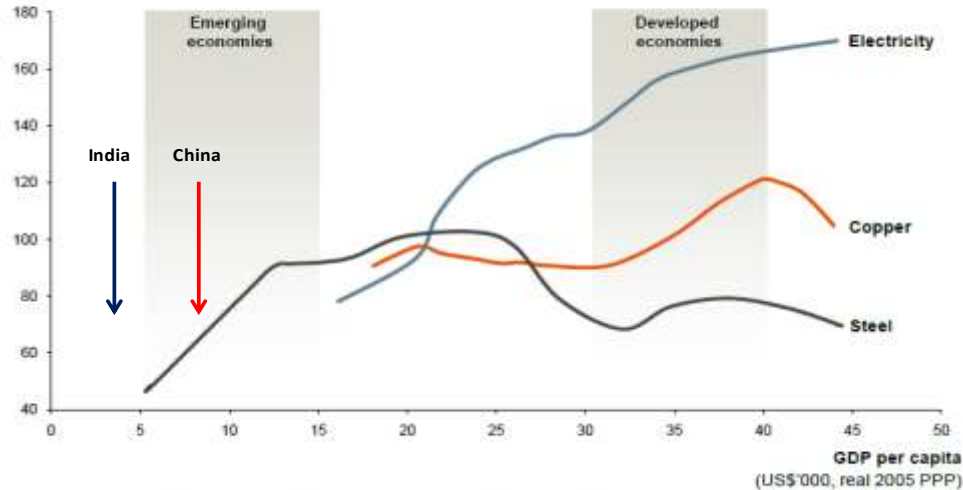
# Building a Sustainable Economic Future

## Strong Demand for Energy Resources

### Commodity intensity trends evolve with economic development



USA  
(Intensity index)



Source: World Bank; Brook Hunt; CRU; IIS; Global Insight; CISA; waldsteel; JBS; ICA; BHP Billiton analysis.

Mike Henry, President BHP Billiton Marketing

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# GPC Drivers – Coal and LNG

Port of Gladstone – Coal & LNG Exports – 2015-2020



2015  
**70Mt**

48Mtpa Increase

2020  
**118Mt**

# GPC Drivers – Coal and LNG

## Understanding the Coal Market

Global Coal Production (billion tonnes)	
2035	8.500
2015	7.709
1975	3.520

World Energy  
Consumption Forecast to  
increase by 34%  
2015-2035

Top Hard Coal Producers (2015)	
PR China	3527 Mt
USA	812 Mt
India	691 Mt
Australia	508 Mt
Indonesia	469 Mt

World Coal Export Market (2015)	
Thermal Coal	1002 Mt
Metallurgical Coal	299 Mt
<b>Total</b>	<b>1301 Mt</b>

Source: IEA / BP

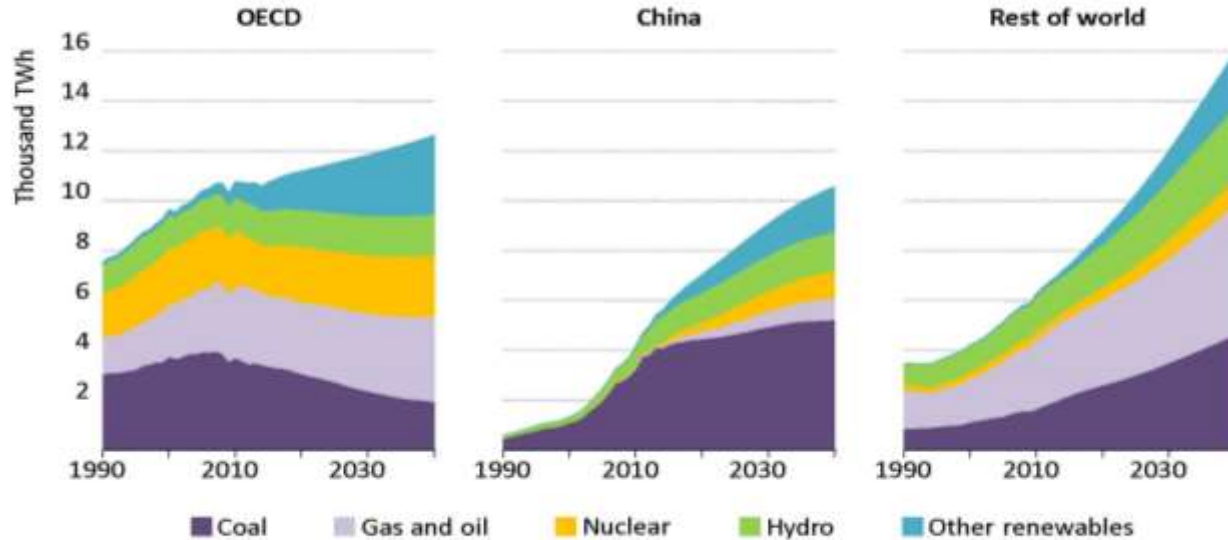


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# Building a Sustainable Economic Future

## Understanding the Energy Market

Electricity generation by source in the New Policies Scenario



***But coal still important***

Source: World Energy Outlook 2015



# GPC Drivers – Coal and LNG

## Metallurgical Coal Market

Top Met Coal Producers (2015)

PR China	611 Mt
Australia	191 Mt
Russia	78 Mt
USA	57 Mt
India	54 Mt

World Met Coal Exports

Source	2015 (Mt)
Australia	188
USA	41
Canada	28
Russia	18
Other	24
<b>World</b>	<b>299 Mt</b>

Source: World Coal Association / IEA



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Queensland controls  
**OVER 60%**  
of the  
World Traded Market  
of  
300Mt pa (approx.)



# GPC Drivers – Coal and LNG

Asian Gas Demand (bcm)		
	2000	2021 (Forecast)
China	25	320
India	28	72
Rest of Asia	218	409
	271	801

World Gas demand is forecast to increase by  
1.8% pa (2015 – 2035)

Source: IEA 2016; BP



# GPC Drivers – Coal and LNG

Port of Gladstone Trade Forecast		
	2015	2020
Coal	68.6 MT	92 MT
LNG	1.6	26.7
Aluminium Industry	24.0	26.7
Cement	1.7	1.4
Petroleum	1.4	1.5
Other	2.7	1.8
<b>TOTAL</b>	<b>100 MT</b>	<b>150 MT</b>





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# Building a Sustainable Environmental Future

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# Building on Two Decades of Harbour Health Monitoring

\$125 Million

1991 – 1994 Curtis Coast Resource Plan (Environmental Scan)

1995 → Water Quality Monitoring

- Benthic testing – CQ University

1998 – 2005

Contaminate pathways in Port Curtis

- a CRC Study in metals and dissolved metals in Gladstone harbour by CSIRO, University of Queensland and CQ University

2002 → Port Curtis Integrated Monitoring Program (\$750,000pa) (Ecosystem Health Report Card)

- Water Monitoring
- Seagrass Monitoring
- No Sewerage effluent into Gladstone Harbour

2002 – 2005

Annual Seagrass Monitoring

2007 – 2010

Detailed testing of harbour environ for Western Basin Dredging Project and LNG projects marine studies

2011 – 2014

\$72M of monitoring, marine restoration, marine enhancement and research primarily in the Western Basin

2014 – 2018

\$17.5M Harbour Enhancement Project

2014

Gladstone Healthy Harbour Partnership



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# Port of Gladstone Harbour Enhancement Program



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# Building a Sustainable Environmental Future

Port of Gladstone Harbour Enhancement Program  
Ecosystem Research and Monitoring Program (ERMP)

**10 year  
program**

**\$5M  
Marine  
Megafauna**

**\$2M  
Seagrasses  
– monthly  
monitoring**

*Overseen by the ERMP advisory panel appointed by the  
Commonwealth Environment Minister*



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# Building a Sustainable Environmental Future

Port of Gladstone Harbour Enhancement Program  
Ecosystem Research and Monitoring Program (ERMP)

## Marine Fish Habitat Enhancement

5 year program,  
\$5 million, protection of  
5330 hectares of land at Port  
Alma. Projects include  
reinstating hydrology,  
mangrove and salt marsh  
rehabilitation

## Harbour Fish Habitat Enhancement

10 year program,  
\$5 million, projects include  
migration projects,  
marketing and marine debris  
tracking and surveying





# Building a Sustainable Environmental Future

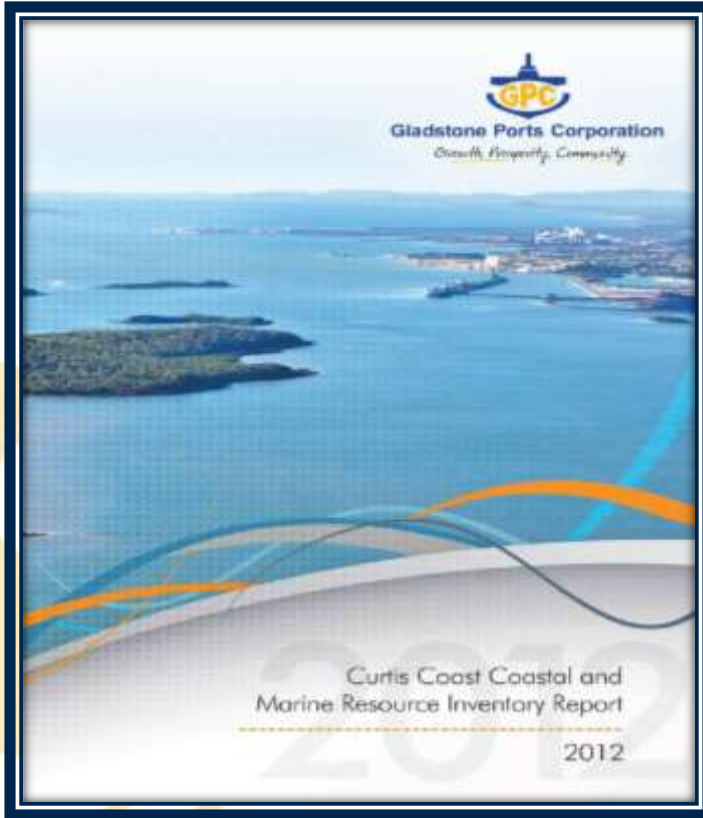
Port of Gladstone Harbour Enhancement Program  
Ecosystem Research and Monitoring Program (ERMP)

## Marine and Coastal Biodiversity Offset Program

- ▶ Threatened species protection
- ▶ Habitat enhancement and restoration
  - ▶ Wetland rehabilitation
- ▶ Strategic vessel management plan
- ▶ Support QPWS turtle recovery activities
- ▶ Funding to Council to improve stormwater management



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## REPORT SUMMARY

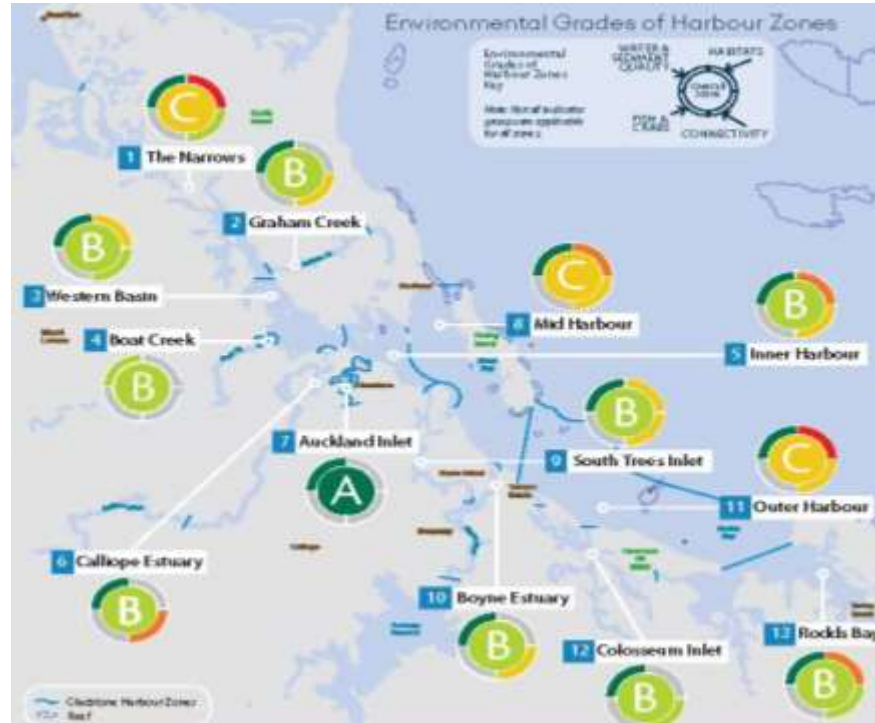
**The cumulative impact of port development on the environs of the Port of Gladstone over the past 2 decades has been minor**

# Building a Sustainable Environmental Future

## The Great Barrier Reef Issue

### Impact of Port Development on GBRMP

GBRMPA to conduct monitoring along Port boundary with Great Barrier Reef Marine Park

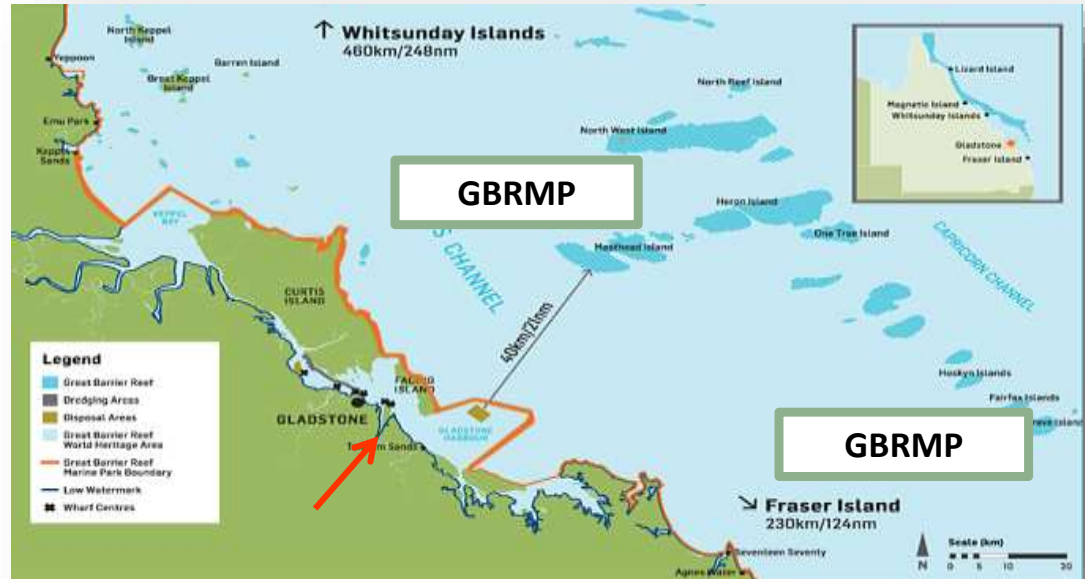


# Building a Sustainable Environmental Future

## The Great Barrier Reef Issue

### Impact of Increased Shipping

Reef VTS –  
Risk Mitigation







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## Building a Sustainable Social Future

A Licence to Operate

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# Building a Sustainable Social Future

## Historical Context



**Marina**



**Matthew Flinders  
Bridge**



**Library Square**



**Marina Boat Ramp**



**Spinnaker Park**



**CQ University Site**



# Building a Sustainable Social Future

## Build New Social Infrastructure

**2012 - 2016**

**COAL  
INDUSTRY**

```
graph LR; A[COAL INDUSTRY] --> B["$70M Community Infrastructure"]; C[LNG INDUSTRY] --> B;
```

The diagram features a central blue rounded rectangle containing the text "\$70M Community Infrastructure". To the left of this central box is a grey arrow-shaped box containing the text "COAL INDUSTRY", with a yellow arrow pointing from it towards the central box. To the right of the central box is another grey arrow-shaped box containing the text "LNG INDUSTRY", with a yellow arrow pointing from it towards the central box. The background includes a faint compass rose and a globe.

**\$70M  
Community  
Infrastructure**

**LNG  
INDUSTRY**





# Building Future Social Infrastructure

**\$45million**



**Auckland East Shore  
Stage 1**



**Auckland East Shore  
Stages 2 and 3**



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# Building a Sustainable Social Future

## Historical Context



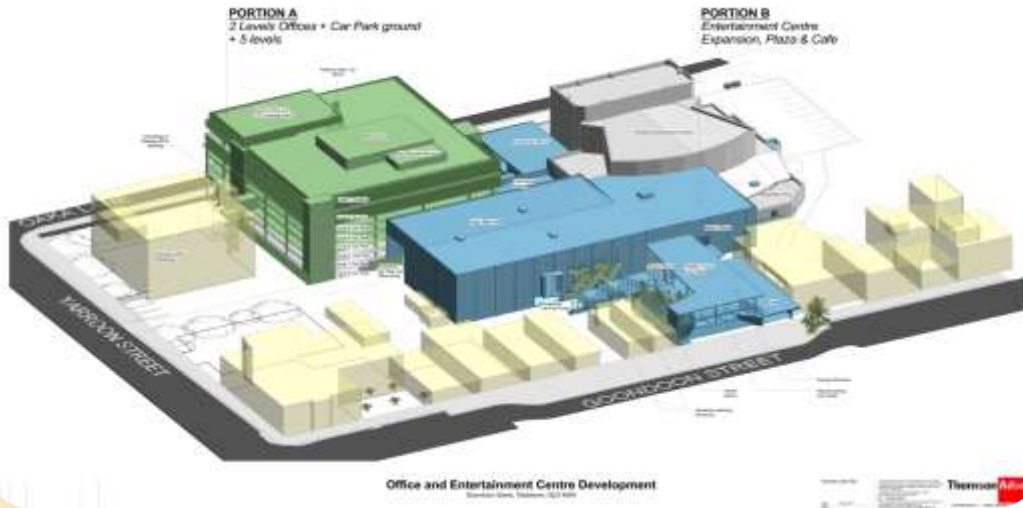
**Marley Brown Oval**



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# Building Future Social Infrastructure

## New Social Infrastructure



## Gladstone Entertainment Centre

**\$35million**



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# Building a Sustainable Social Future

## Reconciliation Action Plan



Strengthening  
relationships

Foster respect

Increase opportunity

Ensure accountability

# Building a Sustainable Social Future

## Native Title Land Use Agreement – 35 Year Agreement





# Underpinning the Sustainable Development of Central Queensland