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Queensland Economics & Finance Council Note
Climate Adaptation & Transition Roundtable
13 November 2018

Executive Summary

The QFI Economics and Finance Council held their first breakfast Roundtable on 13th November 2018. The topic was Climate Adaptation and Transition from the perspective of Government, Insurance and Banking, Education and Research and Asset Management, represented by:

Georgine Roodenrys:	Executive Director, Climate Change Policy, Queensland State Government
Sara Parrott:	Head of Corporate Responsibility, Suncorp Group
Prof. Roger Stone:	Director (Centre for Applied Climate Sciences) and President World Meteorological Organisation's Commission for Agricultural Meteorology, University of Southern Queensland
Andrew Saunders:	Responsible Investment Strategist, QIC

The key points arising from the discussions were:

- **State Government.** Focus is on working collaboratively with industry, communities and researchers to better understand the potential extent of climate related risks and explore strategies to mitigate risks and transition the Queensland economy
- **Insurers.** The impacts of climate change are already apparent leading to the potential for red or uninsurable zones to occur if mitigation and transition strategies are not enacted.
- **Research**. Recent studies highlight that information provided to business decision makers needs to be relevant and this includes consideration of the appropriate time frame.
- **Asset Manager**s. Managers are working to identify and mitigate the climate risks which apply, which may involve a combination of resilience actions as well as working to ensure insurance is retained.

The presentations and following discussion highlighted opportunities for the QFI participation. These include:

- **Input into Queensland Government policy making** by reviewing the upcoming Green Paper on policy areas and the role of Government
- **Assisting State and Local Government** in the co-ordination of adaptation and transition activities.

The practical implications and importance of State and Local Government are brought to life in a paper prepared for the Council by Alicia Cutler, Chief Financial Officer, Rockhampton Regional Council. The paper is reproduced in the Appendix to this note. Alicia's paper also provides a starting point for discussion between State and Local government.

Dr Matthew Peter, President

Ms Erin Strang, Vice President

Summary of presentations

The Role of Government

The Queensland Government's perspective is that a dynamic change is needed and conversation and action across all sectors is required. The Office of Climate Change delivered a Climate Change Strategy in June 2017, focussing on a climate **adaptation/mitigation** and **transition** model (see

https://www.qld.gov.au/environment/climate/climate-change) which provides a useful point of reference.

Thus far, the adaptation thematic is being addressed by four work streams:

1. Community – resilience, longpaddock.com.au – climate science/11 global models averaged for Queensland to use to provide projections of climate change;
2. Councils – Queensland Climate Ready Program;
3. Queensland Government – partnership with Griffith Uni to build capacity to understand and manage climate risks across Government (https://www.griffith.edu.au/research/research-excellence/griffith-climate-change-response-program); and
4. Sectoral Work – eight sectoral adaptation plans have been developed: 1.Health, 2.Biodiversity and Ecosystems, 3.Tourism, 4.Small Medium Enterprise businesses, 5.Industry and Resources, 6.Agriculture, 7.Built Environment and Infrastructure and 8.Emergency Services (https://www.qld.gov.au/environment/climate/climate-change/adapting/sectors-systems).

Transition is about taking action to create new jobs and sustainable communities and work has focussed on setting policy to create an authorizing environment. Work has included engaging Ernst & Young on a vision for the future a 2020 policy position, leveraging and supporting the Taskforce on Climate- Related Financial Disclosures (TCFD) (www.fsb-tcfd.org).

Queensland has set a goal of zero net emissions by 2050, but the timeframe makes it hard to imagine. So Ernst & Young scenario analysis looks at the risks and opportunities for different sectors by understanding the impact of a 2.0ºcelsius and a 3.5ºcelsius increase in global temperature above pre industrial levels and considers how to minimise risks and maximise opportunities. Work looking at six regional communities is also under development, looking at the risks/opportunities and how communities can pitch an economic position https://profjohncole.com/2018/06/19/clean-growth-choices-for-communities-in-transition/).

The Role of Banks and Insurers

Changing weather patterns are very evident to the insurance sector, evidenced by the physical impacts. For example, April 2017 was the hottest month on record and fire seasons are extending beyond traditional periods and zones.

Insurance pricing models are based on backward looking weather information, which together with increasing risks means Red zones of uninsurable risk will eventuate. Concentration risk due to urbanisation and planning means risks are increasing further.

There are many stakeholders to climate impacts for banks and insurers to manage, including: activist groups; institutional investors; regulators; credit rating agencies; underwriters; reinsurers; Government; and customers.

Suncorp's approach is outlined in its Board approved, Climate Change Action Plan (Plan). The Plan includes:

- incorporating climate risks into governance frameworks and decision making;
- a commitment to reduce the enterprise's environmental footprint;
- establishing responsible investment, banking and insurance policies;
- working with community to help natural hazard resilience building (e.g., Protecting the North program); and
- improved reporting based on Task Force on Climate-related Disclosures (TCFD).

Role of Education and Research

The University of Southern Queensland, participated in a consortium as part of an international climate initiative looking at applying seasonal climate forecasting and innovative insurance solutions to climate risk management in the agriculture sector in South East Asia. The study involved identifying

suitable seasonal climate forecasting systems that possess both accuracy and reliability and are suitable for agricultural decision making.

It also developed risk management tools such as insurance which consider the climate variability and the ultimate intent was to develop knowledge-based adaptation and risk management strategies and incentive programs to support improved climate risk management. As well as monitoring and reporting to help assess the results.

Work undertaken highlighted that climate information is of no value unless it changes a management decision, seasonal forecasting needed to be relatively short term to be relevant ie next 3-6 months or a year ahead.

Asset Management Perspective

Climate risk represents both physical and transitional considerations for asset managers. Physical considerations include how climate change impacts asset performance, for example, in regional Queensland where QIC holds 80% ownership of the North Australian Pastoral Company, extreme weather conditions can have a material impact on performance.

QIC has entered into academic partnerships to assess the level of resilience within each asset. A pilot project is underway in Toowoomba and once this is complete, the plan is to roll out the assessment approach across all real estate assets then across infrastructure assets such as Port of Brisbane.

Scenario analysis and economic modelling at an industry level is being carried out on the costs and inter-industry impacts on the transition to sustainable emission levels. As part of this, an understanding of the exposure/level of vulnerability/resilience measures required to not increase insurance risks is being sought.

General Comments

- **The role of big data as a tool for assisting adaptation and transition**. QIC's real estate team are tracking consumer spending with CCTV/apps in shopping centres to measure carbon footprint and how are consumers going to react with increased consumer costs.
- **Concern if we can't insure in the regions.** Highlights the need for a policy from Queensland Government on how to work with communities and industry. Queensland Government is insurer of last resort. Where does Local Government responsibility start and stop?
- **Need to change commercial model from conflict to collaborative model to work through adaptation and transition issues.** Concern no connectivity/coordination. State Government need to look at different ways to collaborate with all stakeholders.
- **Language.** Communities in North Queensland don't use the phrase climate change/issue of denial/cost of adaptation?
- **Levy bank/Creek issue**. To affectively protect property, Local Councils require funding to make residential and commercial areas more resilient to flooding, rather than relying reactively on State funding for disaster recovery (to remediate damage to property caused by floods) (see Appendix Case Study: Rockhampton Regional Council Natural Disaster Resilience and Mitigation).

Potential Opportunities for QFI

Review Office of Climate Change Green Paper to be released in June 2019, focusing on policy areas and the role of government.

- Consider existing sectoral analysis, to the extent applicable to members.
- Support natural hazard resilience building.
- Need for a mechanism that assesses economy-wide risks to help develop adaptation and transition plans.

- Risk management and risk transfer: making farmers more aware of the risks, more likely to take management actions and then insurers can step into gaps.

Appendix

Case Study: Rockhampton Regional Council Natural Disaster Resilience and Mitigation

Introduction

Rockhampton Regional Council is the largest centre in Central Queensland area and is situated at the end of the Fitzroy River which is the 2nd largest river catchment in Australia (Murray Darling River is the largest, see the Attachment 1).

As with other North Queensland regions, Rockhampton has been subject to a number of Natural Disaster events. Since 2010, the Rockhampton region has been subject to the following events.

- **2010**, November: Queensland Flooding and Tropical Cyclones Tasha and Anthony.
- **2011**, February: Fitzroy River recorded major flood at 9.2m. Bruce Highway and Railway are cut. Airport closed for 2 weeks.
- **2013**, February 25 – March 5: Central and Southern Queensland Low. Major flood of 8.61m recorded. Airport shut, but highway remained open.
- **2015**, February 19 – 22: Tropical Cyclone Marcia and South East Queensland trough. No flood recorded but devastating impacts in terms of debris and damage. Insurance claim amounted to $9.74 million.
- **2016**, July 15 – 20: Disaster Event. Central Queensland Severe Weather. Minimal damage recorded, however hampered ongoing repair works.
- **2017**, 28 March – 6 April: Severe Tropical Cyclone Debbie and associated rainfall and flooding. Major flood of 8.9m recorded. Airport closed. Highway remained open following major upgrades to the highway access during proceeding years. The highway upgrade was a substantial success as not only was Rockhampton not cut off, but supply for the North was kept open.
- **2018**, 22 November – 6 December: Central Queensland Bushfires. Unprecedented weather and fires. Costs yet to be finalised, but will no doubt have a substantial impact on future insurance premiums.

Costs of weather events to the Rockhampton Regional Council

The above events have resulted in substantial costs to the Rockhampton Regional Council. These costs include both repairs and increased insurance premiums.

- Since 12/13, **$74 million** in Natural Disaster recovery and reconstruction with **$14.6 million** funded by ratepayer, equating to **$67 per rate notice** each year.
- Since 2014/15 Rockhampton Regional Council re-insurance premiums have increased by **76% or $1.05 million**, or **19%** per annum.

Responding to Weather Events

The QRA and the problem of incentive structures

The process of approvals and claims since the introduction of QRA has become increasingly cumbersome and onerous for Councils. The NDRRA guidelines mean that a value-for-money test must be passed for costs of labour and plant and machinery undertaken directly by Council for repair works. Council has previously passed this test but have not yet been approved for the 2017 event.

Due to the uncertainty, Council is incentivised to use contractors for repair works as then the entire expense is claimable. However, the use of contractors incurs costs due to delays in

terms of procurement and a price premium as contractors raise rates in response to increased demand during times of natural disasters.

South Rockhampton Flood Levee

The South Rockhampton Flood Levee was proposed in 1991 following a major flood of 9.3m. At the time, the Levee proposal did not attract sufficient funding support.

It was again proposed in 2011 after a flood height of 9.2m and funding was provided to undertake preliminary design and the project was progressed to that stage. It took another major flood in 2017 (8.9m) for the further financial support to be made available.

At the time of writing, the project is in the vicinity of $80 million and close to reaching full detailed design. However, support from State and Federal Government is only $50 million and Council will have to fund the gap. Land acquisition costs and buyback schemes are not eligible under the current programs (even if the cost/benefit ratio is favourable).

The Levee should protect around 1100 properties with varying benefits. Raising funds through a special rate for the works has been met with objection in the past as there have been other mitigation works that Council has funded without making the specific properties pay. A special rate also dictates that all properties who receive a benefit must be included.

Some of the major infrastructure protected by the levee are:

- South Rockhampton treatment plant;
- Bruce highway;
- Hastings Deering engineering works;
- Railway line and workshops around the railway station site; and
- two State primary schools.

The levee is designed to protect properties in the 100 year average recurrence Interval with 0.9m freeboard. If we had the recent Townsville event in Rockhampton, the levee would have failed.

To build the levee is a substantial cost to all levels of Government and there are many across the region that do not see the ‘value’ in it. For many, it is low valued land which is expected to flood. For Council, much of the physical damage with a flood event comes from the rural roads which are not impacted by the levee.

Other flood mitigation projects are also competing for funds:

- **The Rockhampton Airport Levee.** Will allow the airport to remain open during flood events and will provide opportunities for added development at the airport site for freight type industries. With the current planning works underway for a new ring road around Rockhampton, this is a good time for planning works to be undertaken.
- **North Rockhampton flood mitigation works**. There are been a number of properties already protected by the addition of back-flow prevention valves in drainage as well as temporary levees. Plenty more opportunity exists to protect the low-lying areas.

Modelling flood behaviour

Rockhampton has made significant effort and investment to better understand flood behaviour particularly following the 2010/11 flooding and 2011 Queensland Floods Commission of Inquiry. Over the past ten years the Council has significantly increased its understanding of Fitzroy River flood behaviour as well as local urban creek catchment flood behaviours and consequently opportunities for potential flood mitigation and flood responses.

In addition to increasing the sophistication of flood modelling the Council has also increased the sophistication of flood impact and damages assessment. This has included a comprehensive assessment of building floor levels to better quantify both flood risk and impact assessment.

When assessing stormwater impacts and localised flooding, there are many development parts of the city that are built to a much lesser standard than what would be applied in current developments. Similarly, there remains a number of structures designed in the 1960's for a 1 in 30 year event, which when checked against current methodologies indicated that their immunity is only 1 in 2.

Council research is showing that a raft of projects of many millions of dollars value would need to be completed if current-day immunity standards were to be achieved for these properties. Council is unlikely to make headway into this issue without significant funding assistance from the other levels of government, and it is likely to take a couple of generations to complete.

Conclusion

In times of disaster, Council observes excellent collaboration in terms of managing communications and the initial responses to the community. Post the event, however, the level of support wains. Council has had to lobby for capital funding and fight very hard for the funding around any betterment and mitigation expenditure. There is no doubt that Local Governments should take the lead in this regard, but the pathway to collaboration needs to be easier, with a more coordinated and collaborative approach between the three tiers of government.

Due to the size of the catchment and the location of the city, Rockhampton will always have disaster expenses. With the impact of Climate Change, these events will also become more frequent.

Our goal should be to minimise the damage that results in each event. That is, building rural roads with some resilience to flooding (in those known areas) and ensuring that our urban areas are protected as best as possible (building levees).

These works come under the banner of 'betterment' funding. However, these works that concentrate on resilience and mitigation are only a very small portion of the funding bucket.

The question has been asked as to whether we actually need to make a regular provision in the budget before the natural disaster occurs? The answer is always yes. However, there are always higher priorities for the money, such as funding for economic development to revive the struggling economy. Undoubtedly, such priorities are present at other levels of government, which is why resilience funding is such a small element.

> While 'Resilience' and 'Mitigation' are the buzz words, they are receiving a very small portion of the funding pie.

Attachment 1

Map 130

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