BUILD TO LAST

A Protecting the North initiative

CYCLONE TESTING STATION

GREEN CROSS Australia

urbis

One Company Many Brands

SUNCORP GROUP

Executive Summary

CYCLONES ARE A FACT OF LIFE FOR RESIDENTS OF NORTH QUEENSLAND AND SUNCORP HAS BEEN HELPING THE COMMUNITY MANAGE FOR ALMOST A CENTURY.

On average, we know that cyclones will cost $632 million per year, and that this can only increase into the future.

We must do a better job of protecting the community from this hazard. The risk to people's homes, their mental health and the local economy is too high.

We have an opportunity to take the adversity of Cyclones Larry, Yasi and Marcia and turn it into strength. North Queensland can and should become the world leader in cyclone resilience.

This is why Suncorp has partnered with the Cyclone Testing Station (CTS) at James Cook University (JCU) and Urbis to analyse insurance claim data to better understand cyclone vulnerabilities in homes, and what we can do to address them.

The research shows that simple, low-cost mitigation can pay for itself after just one cyclone.

Our *Protecting the North initiative* seeks to address these risks and cut the cost of insurance for those at high risk. We see this research as a first step toward a wider program of activity that will build a safer community and a more sustainable future for the North.

A resilient community is one that enjoys physical safety, mental wellbeing, the freedom to start a business and the confidence to buy a home. Reducing devastation brought by cyclones will support economic growth, create jobs and stimulate a market that rewards innovation in risk management.

A concerted effort to reduce disaster risk will also create a resilience market, drive innovation and reduce costs. This not only reduces the cost of mitigation in North Queensland, but could also position Australia as a world leader in cyclone resilience.

It's time for industry, government and the community to work together to Protect the North.

Pathways

ALREADY COMPLETE:

- Direct strata insurance
- CTS cyclone resilience research

2015:

- Essentials insurance for low income earners
- Protecting the North plan to government
- Suncorp resilience rating lowers premiums for resilient homes

2016:

- Better community preparation to reduce small claims
- Federal Government endorses mitigation
- Suncorp Bank supports privately funded retrofits
- Government retrofit incentives commence
- Home retrofits reduce premiums
- Strata retrofit scheme developed and backed by government
- Cost of retrofits is reduced as demand increases

2017 AND BEYOND

- Ongoing investment in disaster preparation
- Risk and resilience built into planning and approvals process
- Innovative retrofits increase resilience without compromising appearance
- Target of 10,000 resilient home upgrades
- Homeowners see return on resilience investment
- Australia exports world-leading cyclone resilience expertise

Key Research Findings

- As many as 100,000 older North Queensland homes may not meet current wind load codes.
- 1 in 4 Suncorp policyholders claimed for Cyclone Yasi, mostly for minor preventable damage.
- Some roof upgrade options pay for themselves after just one cyclone.
- Roof upgrades can cut cyclone damage bills in half. [1]

CYCLONE MITIGATION FOR HOMES

Queensland introduced modern building codes in 1982 and CTS Cyclone Testing Station analysis indicates that the approximately 100,000 homes built before this date may not be up to current wind load codes.[2]

To address cyclone risk, CTS proposed three mitigation options and Urbis assessed the Benefit-Cost Ratio (BCR) of each option for homes of various ages.

Urbis found that some upgrades pay for themselves after just one cyclone. Using Cyclone Yasi as a case study, low cost strapping upgrades at a cost of around $3,000 achieved a BCR of 1.5 for pre-1960 homes and a BCR of 1.4 for 1960-1980 homes.[3]

Roof upgrades can include full replacements, additional strapping or over-battens. These options range in cost from $3000 to $30,000 and all focus on tying the roof to the ground to handle high wind speeds.

There is also a strong opportunity for a community awareness program targeting minor claims such as fencing damage, loose shade cloths, unfixed objects in gardens and water ingress.

These minor claims, for less than 10% of the sum insured, can often be easily prevented. Targeting minor claims through a community awareness program achieves an average return of $10 for every dollar invested. [4]

Instant Payoff

Analysis by CTS and Urbis shows that a new approach to preparedness could pay for itself after just one cyclone.

9 out of 10 (86%) claims for Yasi were for minor claims, many of which are easily preventable.

Simple actions like securing garden sheds, removing shade sails, and bringing outdoor furniture inside can prevent claims and reduce insurance costs.

1 Analysis based on Suncorp claims data
2 Urbis, *Protecting the North: The benefits of cyclone mitigation*, 2015, p13
3 Urbis, *Protecting the North: The benefits of cyclone mitigation*, 2015 p15
4 Urbis, *Protecting the North: The benefits of cyclone mitigation*, 2015 piii

BENEFIT COST RATIOS FOR MITIGATION

MITIGATION OPTION	COST PER HOUSEHOLD	TOTAL BENEFIT PER HOUSEHOLD**	BCR	PAYBACK PERIOD***
Community awareness campaign*	$55 - $136	$440-$820	3.2 – 14.8	<1- 6 years
Opening protection – self installed (Low cost scenario)	$1,660	$1,990-$6,400	1.2 – 3.9	4 – 21 years
Roofing option – strapping only (Low cost scenario)	$3,000	$12,900-$38,800	4.3 – 12.9	2 - 4 years
Roofing option – over-batten system (Medium cost scenario)	$12,000	$13,500-$39,400	1.1 – 3.3	5 – 37 years

*NB: Values taken as an average over House Type A and House Type B(pre-1960, 1960-1980), except for community awareness campaign, which is an average over all house types. Total Benefit does not discount the cost of mitigation. The lower range of values are based on conservative wind speeds and are modelled over only 39 postcodes. *Government funded campaign, applied per household. **NPV over 50 years. ***Payback period refers to the number of years required for the value of benefit to outweigh cost of mitigation option – applied across all parties, not just the consumer.*

Source: Urbis modelling, CTS, Suncorp Group

The CTS and Urbis analysis is backed up by Suncorp's own claims experience. Customers in Innisfail faced the full brunt of Cyclone Larry in 2006 with wind gusts of 240 kilometres an hour. The rebuild brought many damaged houses in the town up to modern, cyclone-resilient standards.

When Cyclone Yasi crossed the coast with similar wind speeds just five years later, claims from Innisfail were half the cost of those nearby towns that did not benefit from the post-Larry rebuild. [5]

OTHER RESILIENCE OPTIONS - DOORS AND WINDOWS

The analysis also highlights doors and windows as a common weak point driving damage.

Once breached, these openings allow wind into the building which significantly increases internal pressures on the structure. This in turn significantly increases the likelihood of major structural roof failures that can also cause further damage downwind.

CTS found that addressing weaknesses in modern homes could reduce cyclone damage bills by 8%.[6]

Roller doors are a prime candidate. Around 90 percent of modern homes have roller doors, and their failure contributes to almost one in three large claims.[7] After-market bracing costs just $300, and could save between $1500 and $10,000 in the event of a cyclone.[8] DIY window protection can be installed for around $1360, and can reduce claims costs by up to $15,000.[9]

Supporting Innovation

The upfront costs of disaster mitigation can be significantly reduced by creating a market for resilience through regulation and insurance incentives.

Promoting mitigation measures will drive innovation in the local industry and unlock economies of scale. By way of comparison, installation and service costs of rooftop solar panels in Australia are predicted to fall over 40% by 2020. [10]

5 Suncorp claims data
6 Analysis based on Suncorp claims data
7 Cyclone Testing Station, James Cook University, *Cyclone Resilience Research* – Phase II, 2015, p 19
8 Cyclone testing Station, James Cook University, *Cyclone Resilience Research* – Phase II, 2015, p20
9 Cyclone Testing Station, James Cook University, *Cyclone Resilience Research* – Phase II, 2015, p21
10 Melbourne Energy Institute, *Renewable Energy Technology Cost Review,* 2011

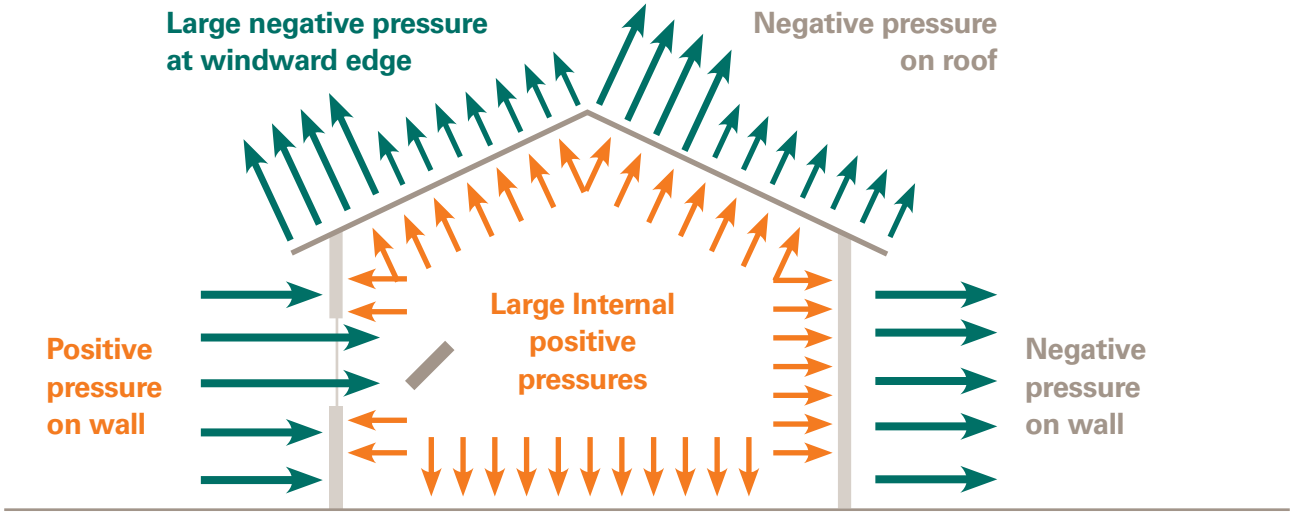


FIGURE 1. EFFECT OF BREACHES ON INTERNAL WIND PRESSURES (SOURCE: CTS)

The Building Code

The National Construction Code only covers structural elements of a home.

The code specifies wind speed design levels in cyclone-prone regions which are intended to reduce the risk of structural failure. The design requirements, however, only target structural elements, meaning that not all materials used in the building are required to meet the same wind resilience standards.

The Australian Standard for windows and doors, AS 2047, does not require resilience to the same wind speeds as the main structure of the building. This means that these openings, particularly garage doors, are often the weakest point in a new building and the first to fail during a cyclone.

Capturing non-structural building elements in standards could significantly improve resilience.

AGE MATTERS

Claims data confirms that older homes in North Queensland are less resilient than their newer counterparts. There is a significantly higher likelihood of a claim being filed for housing constructed before the introduction of modern building codes in 1982.

Older homes are also significantly more likely to suffer severe structural damage during a cyclone – ranging from the loss of roofing to collapsing walls.[11]

Newer homes built to the current code are more resilient than their older counterparts, though not to the degree we often assume.

A significant proportion of newer homes experienced severe damage, which suggests that homes did not perform as expected under the National Construction Code. [12]

11 Cyclone Testing Station, James Cook University, *Insurance Claims Data Analysis for Cyclones Yasi and Larry*, 2015, p21
12 Cyclone Testing Station, James Cook University, *Insurance Claims Data Analysis for Cyclones Yasi and Larry*, 2015, p27

BUILT DURING: **< 1920s**

Hip roof, reduced rafter spans, central core, exposed studs, on stumps (low and high)

BUILT DURING: **1925 – 1959**

Hip and gable, VJ lining, reduced rafter spans, on stumps (low and high)

BUILT DURING: **1960s – 1981**

Gable low pitch, vermin proof flooring (studs not mortice and tennon into bearers), panel cladding, on stumps

BUILT DURING: **1981 - present**

Reinforced masonry block, hip and gable, large truss spans, medium roof pitch, slab on ground

(SOURCE: CTS)

SOCIAL COSTS

Housing damage isn't the only impact of cyclones. In fact Risk Frontiers estimates social costs to be between 20-200% of insured property damage. This could include:

- Death and injuries
- Loss of leisure time
- Loss of personal property
- Higher crime rates
- Dislocation of families
- Community upheaval and disruption to local infrastructure
- Business interruption

The World Health Organisation also estimates that severe mental health disorders across the population can increase by around one percentage point following a large natural disaster.

Insuring Cyclone Risk

- Cyclone damage in Australia costs an average of $632 million annually.
- The risk, per policyholder, in North Queensland is higher than anywhere else.
- The only way to reduce premiums sustainably is to reduce the level of risk.

In North Queensland, the high risk of severe tropical cyclones means that average insurance premiums are higher than elsewhere in the country. Cyclones behave differently to floods, bushfires and storms, causing widespread damage affecting a much larger proportion of homes.

1 in 4 (26%) Suncorp policyholders in impacted areas made a home building claim in relation to Cyclone Yasi, with claims lodged from Bowen to Port Douglas, a distance of over 600 kilometres.[13] Analysis shows that there would have been significantly more damage if the most severe winds had hit a more densely populated area such as Townsville.[14]

These figures highlight the unique and widespread nature of cyclone risk. In comparison, the Brisbane and Ipswich floods in 2011 resulted in only 1 in 50 (2%) policyholders lodging a claim.[15]

This highlights the difference between the two natural hazards. Flood is highly localised, resulting in large premiums for a small number of policyholders. Cyclone is widespread resulting in comparatively smaller premium increases for a much larger number of policyholders.

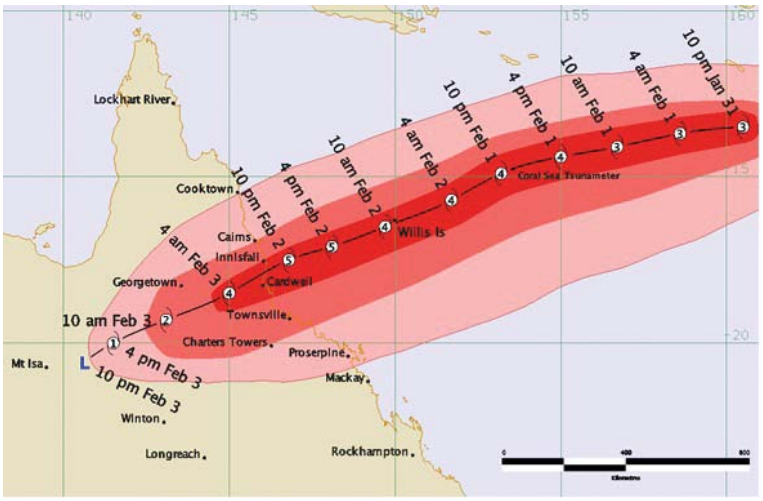
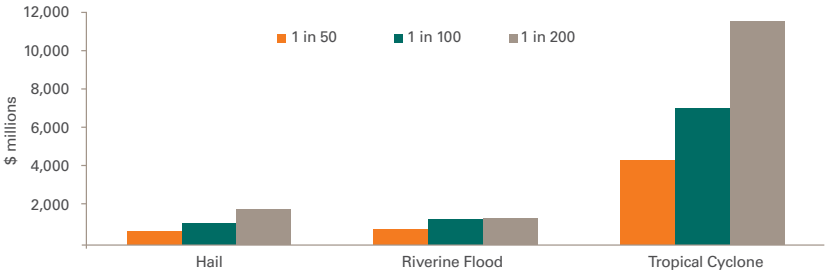


FIGURE 2. CYCLONE YASI TRACK MAP BEFORE AND AFTER LANDFALL (SOURCE: BUREAU OF METEOROLOGY)

Catastrophe modelling shows cyclones are likely to cause average losses of $632 million each year in Australia, but the exact cost in any one year is highly unpredictable.[16] Modelling undertaken by Risk Frontiers, shown below, estimates the insured losses to residential property for all of Queensland from 1 in 50 year, 1 in 100 year and 1 in 250 year natural hazards.

FIGURE 3. ESTIMATED LOSSES FOR INSURED RESIDENTIAL PROPERTY FROM NATURAL HAZARDS, QUEENSLAND (SOURCE: Urbis)



13 Suncorp claims data
14 Cyclone Testing Station, James Cook University, *Insurance Claims Data Analysis for Cyclones Yasi and Larry,* 2015, p16
15 Suncorp claims data
16 Internal modelling

INSURANCE SUBSIDIES

The large and highly variable costs of cyclones could be further transferred to the taxpayer, as has been recently proposed through subsidy mechanisms like a reinsurance pool or mutual. This would add private losses to the already large infrastructure damage bills received by the Australian Government. Suncorp believes subsidising risk, rather than addressing it at the source, would be a critical mistake.

Government backed pools and mutuals in place overseas demonstrate this mistake with schemes spiralling into debt, allowing risks to grow, slowing down claims and creating legal disputes.

The US National Flood Insurance Pool is currently $23 billion in debt and is attracting ongoing lawsuits for claims as far back as Cyclone Sandy in 2012. [17]

Similarly, the New Zealand Government was left with a $16 billion bill after the Christchurch earthquakes and residents suffered lengthy delays to claims due to overlap and confusion between private cover and government cover. [18]

International schemes have been assessed by the Productivity Commission as "overwhelmingly ineffective" [19] and the Financial Systems Inquiry agreed market intervention should be avoided.[20]

Three reviews by the Australian Government Actuary have also demonstrated that home and strata insurance pricing in Australia reflects the risks, and there is no evidence of market failure.[21]

The only way to reduce North Queensland's premiums in a permanent and sustainable way is to reduce the risk of damage from cyclones through increased Government and private investment in protecting the community, not just rebuilding it.

The US National Flood Insurance Pool

Government reinsurance pools push the cost of disasters onto the taxpayer and in doing so blunt a price signal that would otherwise encourage risk management in the commnity.

This allows risks to grow unchecked. The US National Flood Insurance Pool was established in 1978 and initially covered 1.4 million homes. In 2013 the pool had grown to cover over 5.5 million homes. [22]

That's more than 4 million new families exposed to flood risk.

The experience of the Biggert-Waters Act also highlights the political realities of government intervention. The Act attempted to increase premiums in line with flood risk, but voter backlash meant the Act was almost immediately repealed.

Politicising insurance premiums is a recipe for increased subsidies and increased debt.

17 US Government Accountability Office, *High-Risk Series: An Update*, 2015, p77
18 New Zealand Government, *Budget Policy Statement*, 2014, p10
19 Productivity Commission, *Natural Disaster Funding Arrangements: Inquiry Report,* 2014, p222
20 *Financial System Inquiry: Final Report*, 2014, p231
21 See: Australian Government Actuary, *Report on Home and Contents Insurance Prices in North Queensland*, 2014
22 Insurance Information Agency, *Flood Insurance Issues*, 2015

Protecting the North

Suncorp is taking action through our Protecting the North program, which provides a pathway to lower premiums by addressing the underlying risk. The plan includes:

- Proposing a comprehensive retrofit program to strengthen older homes in North Queensland – delivering immediate premium reductions of up to 20%;
- Building a process to recognise mitigation work already undertaken by homeowners, and reducing premiums accordingly;
- A new direct strata insurance product, delivering up to 20% savings for small strata schemes; and,
- A new insurance product, called Essentials, specifically tailored to low income earners, with policies starting from just $4 per week.

Together, these initiatives deliver sustainably lower insurance premiums for North Queensland residents.

More importantly, placing the focus on disaster mitigation ensures that risk will continue to be reduced in new and innovative ways into the future. As these new approaches take effect and risk reduces in North Queensland, insurance premiums will also reduce, and the community will enjoy the multitude of social and economic benefits associated with resilience.

My Safe Florida Home

In Florida, the State Government has been actively building a mitigation culture.

In 2007 the *My Safe Florida Home* commenced resilience inspections on 400,000 single family, residential properties with grants provided to 35,000 applicants.

The program was immensely popular with an average of over 5000 sign-ups a day.

Participating home owners received a free wind inspection report, which provided advice on how homeowners can protect their homes from storms and how much they could save on insurance premiums.

North Australia would benefit from a program similar to *My Safe Florida Home*.

About Suncorp

Suncorp is one of the largest general insurance groups in Australia offering a range of personal and commercial insurance products, protecting the financial wellbeing of millions of Australians. As a Group, Suncorp has nearly 15,000 employees and more than nine million customers across the country. The General Insurance business alone paid out $5.2 billion in insurance claims in 2013-14, averaging more than $14 million each day.

Suncorp offers a range of personal insurance products including car, home and contents, travel, boat, motorcycle and caravan insurance. The key to Suncorp's success in personal insurance is its portfolio of well-known brands. These include Suncorp Insurance, Apia, AAMI, GIO, Vero, Shannons, Just Car Insurance, Insure My Ride, Bingle, Terri Scheer, CIL Insurance and Resilium. These brands have built reputations for insurance innovation, outstanding customer service and trustworthy products.

Suncorp also offers commercial insurance products that serve the needs of a wide range of business customers, from small business operators to global companies. The commercial insurance portfolio of brands includes GIO, AAMI, Suncorp Insurance, Vero and Resilium. Suncorp is also Australia's largest personal injury insurer offering workers compensation and CTP insurance, which serve the needs of governments, employers and the community.

About Green Cross

Green Cross Australia is a Queensland based national not-for-profit dedicated to empowering a resilient Australia. Green Cross Australia is partnering with Suncorp Insurance and a range of other corporate, research and community partners to advance property resilience as a strategic priority.

Suncorp Insurance is a proud partner of Green Cross Australia's Build to Last collaborative initiative, which involves multiple stakeholders who together are working to encourage property resilience to all hazards across Australia. See more here: www.greencrossaustralia.org

Protecting the North is a practical, research-based example of how building to last can deliver lasting financial and social benefits to residents of North Queensland.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