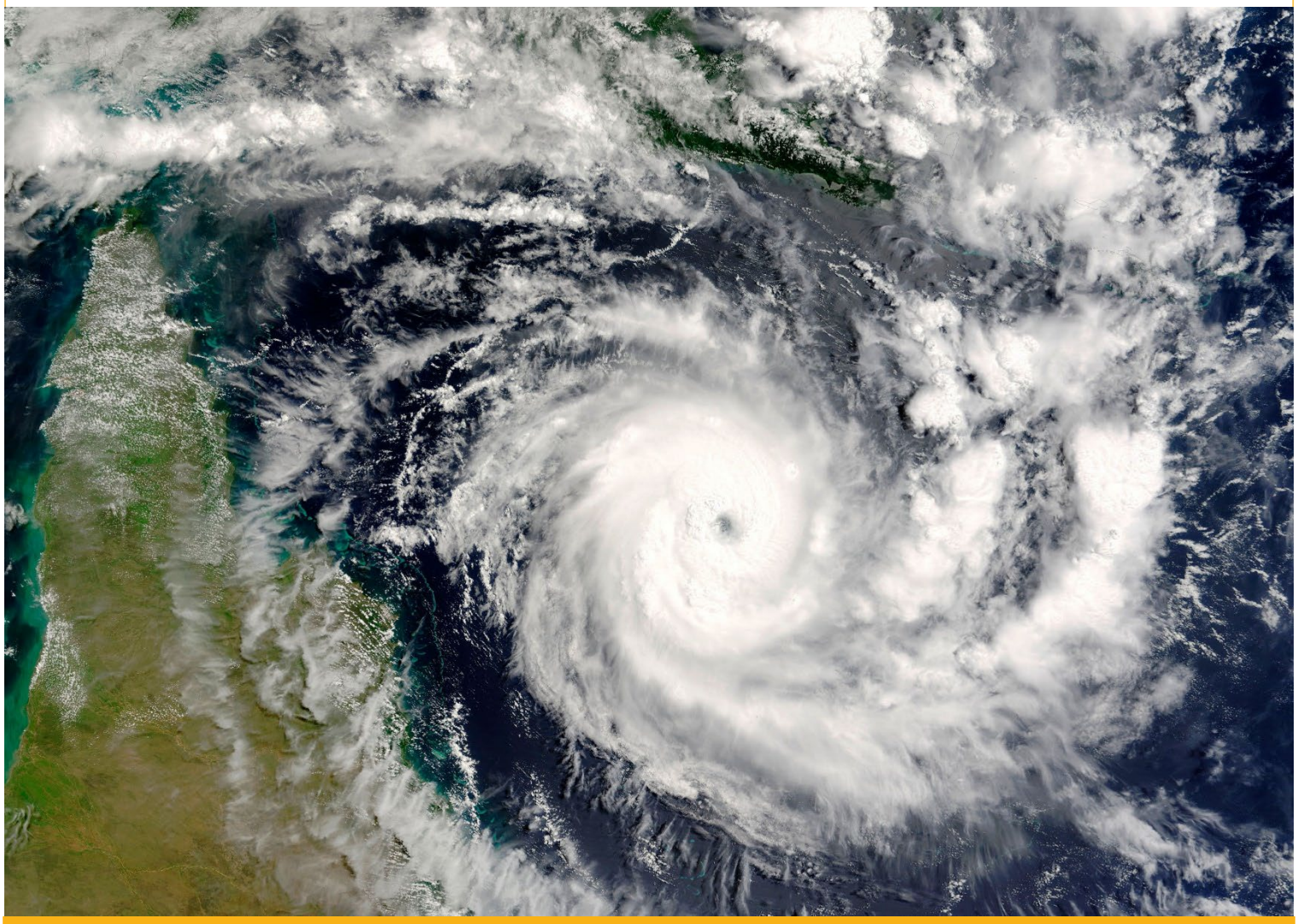
Cyclone Pool – Premium determination applying from 1 April 2025

Australian Reinsurance Pool Corporation



September 2024

finity

26 September 2024

Dr Christopher Wallace
Chief Executive Officer
Australian Reinsurance Pool Corporation
PO Box Q1432
QUEEN VICTORIA BUILDING NSW 1230

Dear Chris

Cyclone Pool – Premium determination applying from 1 April 2025

We are pleased to present our Summary Report covering the actuarial analysis in respect of the premium determination for premium rates applying from 1 April 2025 for the Cyclone Pool.

This Report summarises the processes and considerations in the premium rates recommended by Finity to the Australian Reinsurance Pool Corporation for the operation of the Cyclone Pool.

Yours sincerely

Stephen Lee
Fellow of the Institute of Actuaries of Australia

Gokul Chandrasekaran
Fellow of the Institute of Actuaries of Australia

1 Executive Summary

1.1 Background

The Treasury Laws Amendment (Cyclone and Flood Damage Reinsurance Pool) Act 2022 amended the (renamed) Terrorism and Cyclone Insurance Act 2003. This legislation, which will be referred to as 'the Act' in this Report, established a Cyclone and Cyclone Related Flooding Reinsurance Pool (referred to as the Cyclone Pool in this document) to be administered by the ARPC. The Cyclone Pool commenced on 1 July 2022, with transitional timeframes for insurers to be in the scheme. All eligible insurers are required to fully participate in the Cyclone Pool by 31 December 2024.

Note that references in this Report to cyclone related losses will include cyclone related flooding and surge losses, unless otherwise specified.

ARPC engaged Finity Consulting Pty Ltd (Finity) to review the Cyclone Pool premium rates and propose updated rates to apply from 1 April 2025, which is documented in this Report. The premium rates in this report are the result of joint ARPC and Finity analysis and stakeholder consultations. This version of the premium rating algorithm will be referred to as Version 3. The revised final rate tables can be found in Appendices C, D and E of this Report.

This updates premium rates previously determined and applicable from 1 October 2022, which is documented in our reported titled "Cyclone Reinsurance Pool – premium determination applying from 1 October 2022", dated 28 September 2022 (the "1 October 2022 Premium Report" or the "previous review").

1.2 Scope of this Review of premium rates

This Review of the Cyclone Pool premium rates is targeted specifically on the following:

- Review of the exposure information provided by insurers on policies that are now reinsured by the Cyclone Pool for material differences to information used in the previous review that may indicate that the Cyclone Pool premiums are not meeting legislative objectives. This is discussed in Section 1.4 below and in more detail in Section 4.
- Allow for strata risk mitigation in the premium rating algorithm. This is discussed in Section 1.5 and in more detail in Section 5.
- The following maintenance adjustments to the pricing algorithm that are discussed in the body of this Report:
  - Maintenance of the formula for new addresses added since the last review (Section 6.1).
  - Address specific areas of feedback from insurers where the pricing algorithm may be anomalous or to make more suitable for market practice (Section 6.2).

The strata risk mitigation changes and other adjustments to the premium rating formula were subject to an industry consultation process. The feedback from the consultation has been considered as part of this review with changes reflected as appropriate. A summary of this public consultation will be published on the ARPC website.

1.3 Statement of our conclusions

The data provided by insurers show fewer policies to be ultimately reinsured by the Cyclone Pool than included in previous modelling (which was largely assumption based), and differences in take up by region and type of

coverage. Our analysis, detailed in this Report, indicates that the Cyclone Pool premiums remain adequate overall.

We have reviewed the operation of cross-subsidies implicit in the premium algorithm. The application of the current cross-subsidies still achieves overall adequacy while also delivering the most benefit to medium and high risk policyholders, as intended by the legislation.

The changes to the premium algorithm to Strata buildings introduced at this review are expected to incentivise mitigation.

We conclude from this review that the legislative objectives of the Cyclone Pool continue to be met and, in the case of the strata mitigation discounts, further meet those objectives.

1.4 Experience to date and implications for the Cyclone Pool

The relevant experience to date for the Cyclone Pool is from the information on risks that are reinsured by the Cyclone Pool provided by insurers that have joined. While there have been some cyclone events resulting in claims to the pool, these have been smaller events and the claims experience for these events is yet to fully develop. The volatility of year-on-year cyclone events means that there is likely limited insight to be derived from one year's claims experience, and a longer period of experience is needed for meaningful analysis.

Large insurers of home buildings were required to join the Cyclone Pool by 31 December 2023, meaning that the majority of eligible home insurance policies were reinsured by the Cyclone Pool from 1 January 2024. We estimate that a remaining third of SME insurance policies and 10% of Strata insurance policies will join the Cyclone Pool during 2024.

Table 1.1 shows the total annual premium that would be collected by the Cyclone Pool when all eligible insurers join by the end-2024, which is estimated to be around $626m. This compares to the estimated $776m from the previous review (or $873m after applying indexation for inflation).

Table 1.1 – Estimated annual premium pool once all insurers have joined and attribution of differences

	$m	% impact
Estimated premium pool as at 1 October 2022	**776**	
Estimated premium pool as at 1 October 2022 (inflated to today)	873	13%
Overall lower number of Cyclone Pool eligible policies	(191)	-22%
Lower coverage in Pilbara and Northern Australia than expected	(37)	-4%
Lower sum insured than expected	(7)	-2%
Greater High-risk flood exposure	10	1%
Lower surge coverage than expected	(17)	-2%
Other impacts	(7)	0%
Current estimate of premium pool	**626**	

The current estimate of premium pool is lower than the previous estimate. The main reason for this difference is the lower number of policies reinsured by the Cyclone Pool than previously assumed – due to the previous analysis overstating the size of the total pool eligible insurable market and lower take up of insurance policies eligible for Cyclone Pool. In previous modelling there was a modest allowance for non-insurance.

Using the latest data collected by ARPC we estimate that around 13% of residential buildings across cyclone exposed regions are not reinsured by the Cyclone Pool. We observe that there are materially fewer exposed policies advised by home insurers for Far North Queensland and the Pilbara regions. This may be explained by these buildings being insured through another mechanism (e.g. by policies not required to join the pool) and/or prevalence of non-insurance in these regions.

An 'across the board' lower number of policies than considered in the original estimates does not affect the adequacy of the premiums, as this is offset by an equal reduction in estimated claims costs. Adequacy can be affected, however, if the balance between subsidised properties and properties paying for those cross-subsidies differs from that implied by the pricing basis. The main differences we observed are as follows:

- The lower Cyclone Pool coverage in the Pilbara and the broader Northern Australia region (high wind risk regions that attract cross-subsidies to reduce cyclone risk premiums) improves overall adequacy.
- A greater number of high flood risk properties in the Cyclone Pool, which reduces the overall adequacy.

Analysis of the updated exposure information has highlighted a number of differences that broadly offset, and show that ARPC's premium rates remain adequate.

1.5 Strata mitigation discounts

At this pricing review we determined mitigation risk factors to the premium rating formula for strata buildings. Previously, no risk mitigation discounts were available/applied to strata buildings.

ARPC engaged James Cook University's Cyclone Testing Station (JCU) to report on key drivers of loss from cyclones affecting Strata and SME buildings. JCU research into cyclone related damage identifies two main causes of building damage affecting strata buildings, namely:

- Wind driven rain causing water damage within the premises.
- Wind load, particularly when the building envelope is breached leading to pressure changes that cause structural damage

Table 1.2 shows the discounts for the risk mitigation activities in strata buildings proposed for the premium rates. These discounts are determined using JCU research supplemented with expert judgement and consideration of the relative risk of old vs new buildings. Through this process we have had regard to the mitigation discounts for Home buildings. Discounts will be reviewed over time when claims data becomes available.

Table 1.2 – Strata mitigation discounts

Mitigation activity	Maximum discount available
Roof Mitigation	Full retrofit – 10%
Window protection	Permanent protection - 3%
External doors	Cyclone resilient doors – 3%
Vehicle access doors	Compliant with current standards, on low rise buildings – 3%
Gutter overflows	Installed for boxed eves and gutters – 3%

The introduction of risk mitigation factors for Strata buildings will incentivise risk mitigation. This is an objective of the legislation.

1.6 Estimated policyholder outcomes and appropriateness of cross-subsidies

As a reinsurer, the Cyclone Pool does not directly determine policyholder premiums – it is up to individual insurers to determine policyholder premiums. In estimating potential policyholder outcomes, we assume insurers pass on modelled cyclone losses and Cyclone Pool premiums directly to its customers.

We categorise cyclone risk into nil, low, medium, and high-risk segments[1], which is discussed in Section 7. We make the following observations on estimated policyholder outcomes:

- Medium and high risk segments represent 7% of home buildings (representing around 170,000 insured homes) in all cyclone exposed regions and 26% of properties in Northern Australia. ARPC's reinsurance cost for these policies is lower than the expected cost of cyclone losses.
- Around 25,000 home buildings fall into the most acute high-risk category. For this cohort, the Cyclone Pool premiums are around half of the estimated risk cost.

Around 93% of home buildings in cyclone exposed regions have nil/minimal or low levels of cyclone risk. These policyholders pay above the technical risk cost. We estimate that the premium charged to these policyholders is comparable to the amount this cohort would pay for cyclone protection if the Cyclone Pool was not in place, once loadings/margins that an insurer would typically add are included. If benefits are intended to reach a greater number of home building policyholders, then the level of discount able to be provided to the most acute risks would be reduced.

Our review has shown that the cross-subsidy structure in the rating algorithm continues to provide the greatest benefit to medium/high risk policyholders and that no change is required at this point in time.

1.7 Continuing to meet the requirements of the Act

The Act sets out the following objectives of the Cyclone Pool relevant to the premium setting:

1 Premiums paid to the Cyclone Pool are sufficient (over the longer term) to cover or offset the Cyclone Pool's costs (Section 8D (a))

2 Premiums for medium to high cyclone risk policyholders as low as possible, while maintaining incentives to reduce and mitigate cyclone risk (Section 8D (b))

3 Premiums for low cyclone risk policyholders kept to comparable levels of what would be charged by other reinsurers (Section 8D (c))

The 1 October 2022 premium formula was designed to satisfy the objectives of the Act. Table 1.3 below summarises how the recommended 1 April 2025 Cyclone Pool premium formula proposed in this Report continues to meet the requirements of the Act.

[1] Legislative objectives require that benefits are directed to medium and high cyclone risk properties, while premiums for lower cyclone risk properties are comparable to market levels (assuming the Cyclone Pool did not exist).
The threshold for the high-risk segment represents the most acute insurance cost pressures. The classification of the high-risk segment has been revised to align with ARPC operational objective to ensure that appropriate cost reductions are delivered to this group, which it considers to be the highest 5% of cyclone risk in Northern Australia.

Table 1.3 – Comparison of Cyclone Pool outcomes against legislative requirements

Legislative requirement	How the proposed Cyclone Pool premiums meet the requirements
Premiums are sufficient (over the longer term) to cover or offset Cyclone Pool costs	ARPC targets a premium pool that is expected to be sufficient to cover eligible cyclone losses over the long term and operating expenses. The estimated premium adequacy at this review supports this conclusion.
Keep premiums for medium to high cyclone risk policyholders as low as possible	All available margins generated from lower risk policyholders are used to reduce the premiums for medium to high cyclone risk policyholders Our analysis indicates that medium and high cyclone risk policyholders are receiving discounts relative to their risk cost (estimated through catastrophe risk modelling).
Maintain incentives to reduce and mitigate cyclone risk	The pricing formula offers a lower premium where there is risk mitigation for homes, providing a financial incentive for risk mitigation. These discounts have been maintained at this review. In addition, risk mitigation discounts have been extended to Strata at this review.
Keep premiums to lower risk level policyholders at levels comparable to what would be charged by other reinsurers	Cyclone Pool premiums were initially set so that they were comparable to estimates of premiums charged by insurers for cyclone risk. Our analysis at this review indicates that the Cyclone Pool's premiums for low-risk policyholders remains comparable to what other reinsurers would be charging once margins that would be typically charged by (re)insurers are considered.

The ARPC premium rating formula and the recommended parameters set out in this Report remain consistent with the requirements of the Act.

1.8 Reliances and limitations

The reliances and limitations are an important part of this Report and can be found in Section 8.

There is a high degree of volatility in insurance claims arising from natural perils events. It is possible for there to be multiple years of significant losses, which can lead to deficits and calls on the Commonwealth Guarantee.

We have relied on exposure data furnished to ARPC by insurers.

We have relied on catastrophe models (from a number of providers) licensed by ARPC, and in many cases run by Aon for ARPC, for the purpose of informing this work. There is significant uncertainty in modelled estimates of cyclone claims.

2 Background and context for this Report

2.1 About the Cyclone Pool

The Cyclone Pool established by the Act provides reinsurance to insurers of eligible insurance policies. The Cyclone Pool provides ground up reinsurance for insured losses resulting from damage caused by cyclone. This includes losses arising from strong winds, storm surge, pluvial (flash) flooding, and fluvial (riverine) flood – if fluvial flood is covered by the insurance policy – from the time that a cyclone is declared by the Bureau of Meteorology to 48 hours following the downgrade of a cyclone. The Act sets out the following four objectives of the Cyclone Pool relevant to the premium setting:

1 Premiums paid to the Cyclone Pool are sufficient (over the longer term) to meet the Cyclone Pool's costs (Section 8D (a))

2 Premiums for medium to high cyclone risk policyholders as low as possible (Section 8D (b))

3 Maintain incentives to reduce and mitigate cyclone risk (Section 8D (b))

4 Premiums for low cyclone risk policyholders kept to comparable levels of what would be charged by other reinsurers (Section 8D (c)).

2.2 Coverage for the Cyclone Pool

Key details of the Cyclone Pool, as set out in the legislation and supporting regulations, are summarised in Table 2.1.

Table 2.1 – Summary of Cyclone Pool operation

Cyclone Pool Coverage	Summary
Eligible properties covered	Homes (buildings and contents) Buildings used for business purposes, including the contents and business interruption losses of the businesses within these buildings, up to a combined per policy limit of $5m (in this Report we refer to this sector as SME) Strata buildings and common property contents with either less than 50% commercial usage or are less than $5m commercial sum insured.
Insurers required to be part of the Cyclone Pool	Australian registered insurers writing more than $10m GWP of properties that are covered by the Cyclone Pool are required to be in the Cyclone Pool. Insurers with more than $300m of home insurance GWP are required to be fully in the Cyclone Pool by 31 December 2023. Other insurers are required to be fully in by 31 December 2024. Cyclone Pool membership is optional for other Australian registered insurers and Lloyd's syndicates. Once an insurer is fully part of the Cyclone Pool, all of its Cyclone Pool covered properties must be in the Cyclone Pool.
Declared cyclone event	The start and end of a cyclone event is notified by the Bureau of Meteorology to ARPC, and subsequently announced by the ARPC.

Cyclone Pool Coverage	Summary
Insured losses covered	The Cyclone Pool will reinsure the cyclone related losses incurred by the insurer for eligible properties under the insurer's policy. That is, where coverage is excluded in the original policy, the Cyclone Pool will not respond. The Cyclone Pool will reinsure claims where cyclone damage occurred during the cyclone and for a period of 48 hours after the cyclone has been declared to have ended. The Cyclone Pool will pay for damage caused by wind and rain, storm surge and flood from a cyclone event.
Funding losses	The Cyclone Pool will be backed by an annually reinstated $10b Commonwealth guarantee. If the ARPC considers it likely that the guarantee will be insufficient, the Responsible Minister must determine additional funds to be paid to ARPC.

2.3 History of the Cyclone Pool premium rates

ARPC is the Cyclone Pool operator under the Act. Among many other things, ARPC determines the premiums that the Cyclone Pool will charge to insurers for the reinsurance it provides. ARPC has engaged Finity to recommend premium rates for the Cyclone Pool. The Australian Government Actuary (AGA) reviews relevant results and decisions in an independent quality assurance role. The review is required in the legislation. The AGA acts in a professional advisor capacity to ARPC.

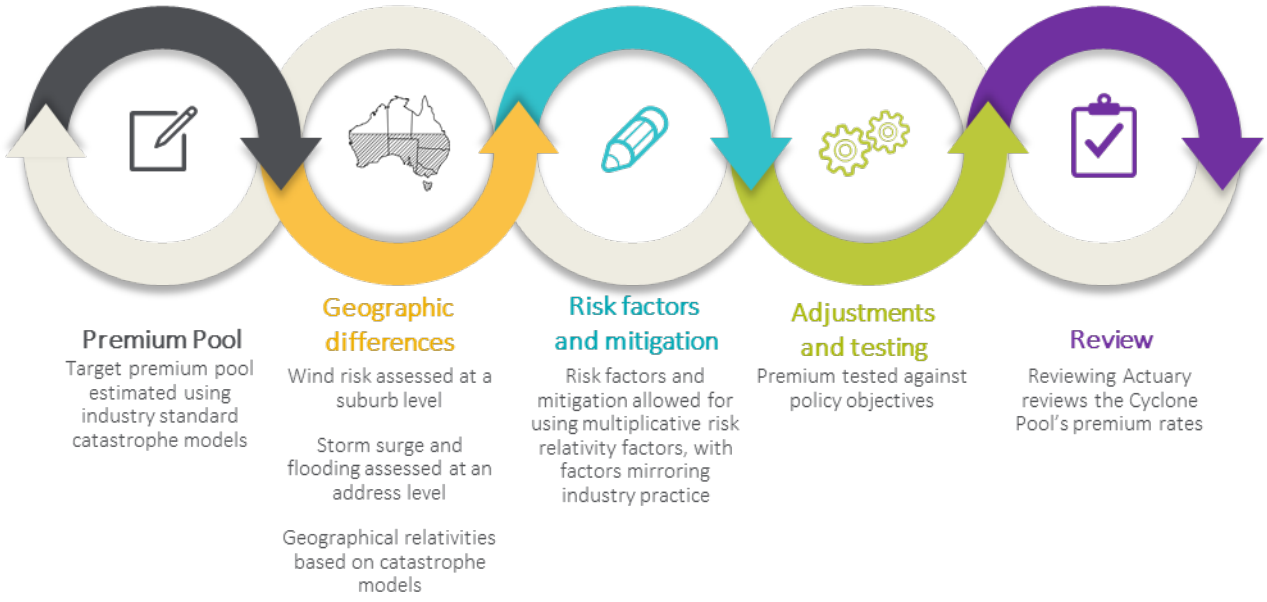
A brief history of actions completed prior to this Report is as follows:

- 28 June 2022: Premium Determination Report applicable from 1 July 2022 was released (Version 1)
- 1 July 2022: Scheme went live.
- 1 October 2022: Revised Cyclone Pool premium rates to reflect further industry consultation and feedback (Version 2).

2.4 Recap on how Cyclone Pool premium rates are determined

Figure 2.1 recaps the steps followed to determine the Cyclone Pool's initial premium rates. This has been included in this Report for completeness. The scope of this review, as detailed in Section 1.2, was to review specific aspects of the premium rates for appropriateness, and not to revisit the whole end-to-end process. Therefore, the reliance on catastrophe models and general approach for setting the initial premium rates continue to apply to the 1 April 2025 premium rates.

Figure 2.1 – Overview of process followed to determine Cyclone Pool premium rates



The following catastrophe models were used in parameterising the Cyclone Pool premium rating formula:

- Wind risk: RMS, Risk Frontiers, COMBUS
- Fluvial flooding: Aon CHIP, COMBUS, Finperils/JBA
- Storm surge: Aon CHIP, COMBUS, Finperils, RMS

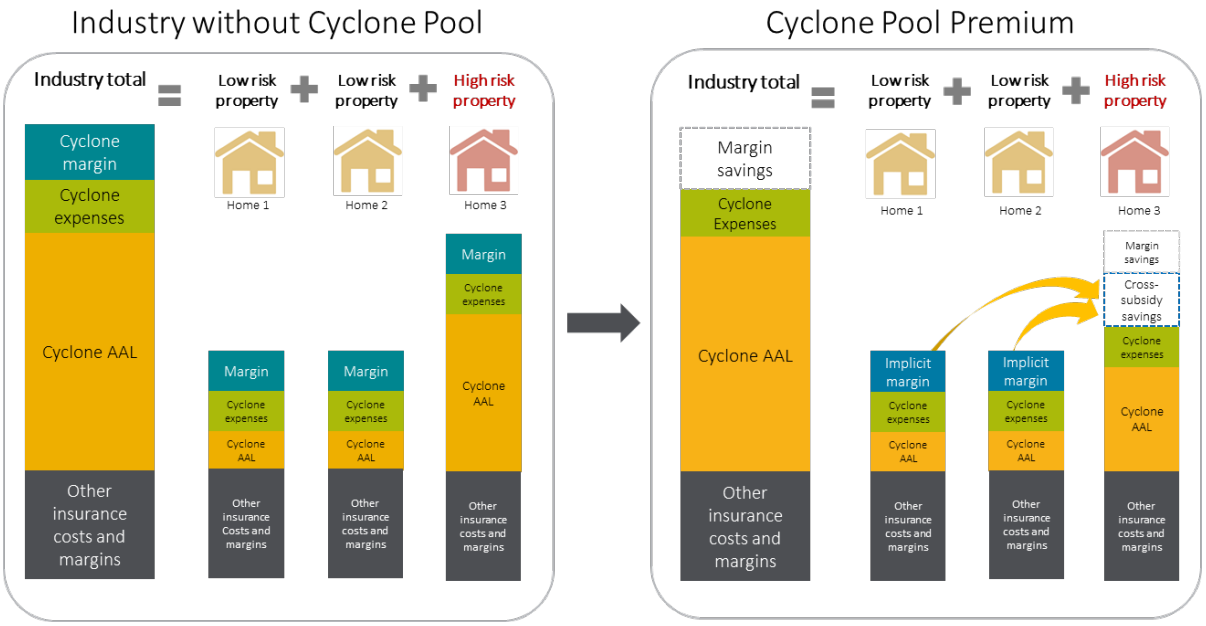
Catastrophe models were used to estimate the target premium pool and to inform geographical differences in risk.

Risk mitigation factors were based on risk factors typically allowed for in the underwriting of cyclone risks, and parameterised by reference to catastrophe models and market practice.

The way the Cyclone Pool determines its premium rates is designed to meet its legislative objectives (see Section 2.1) as follows:

- The Cyclone Pool premium rating algorithm is designed to collect a total premium pool needed to pay the expected costs of claims and the expenses related to operating of the pool.
- The Cyclone Pool does not charge a margin for the risk it takes on (whereas a profit motivated insurer/reinsurer is required to), and therefore this leads to a reduction in the total cost of cyclone insurance costs.
- The Cyclone Pool can continue to charge an implicit margin for lower risk properties, such that the premium paid by these properties is comparable to what might have been charged by insurers in the absence of the Cyclone Pool, and direct these margins to provide benefits to the highest risk properties through its reinsurance premium setting. This is how benefits to medium/high risk policyholders are maximised. Figure 2.2 illustrates this concept.
- The Cyclone Pool provides discounts for risk mitigation actions that can be taken by policyholders. In the longer run, a centralised Cyclone Pool can consistently provide incentives for mitigation initiatives to lower the overall cost of cyclone to Australia.

Figure 2.2 – How the Cyclone Pool premiums delivers benefits



As a reinsurer, ARPC does not determine how policyholder premiums are determined. The lower reinsurance premiums for medium/high risk policyholders enables the insurer to pass on these benefits. The ACCC is responsible for monitoring how insurers pass on the Cyclone Pool costs and policyholder outcomes.

3 Cyclone Pool rate structure

3.1 Cyclone Pool premium rate formula

The Cyclone Pool premium rating formula is applied to an insurer's property exposures to determine the Cyclone Pool premium payable by the insurer. This rating formula can be described as follows (summarised for brevity):

- Each property has a "base rate" depending on the location of the property. The premium for wind risk[2] is based on the suburb in which the property is located, while fluvial (riverine) flood and storm surge risks is allocated to risk category based on the property address. The base rate is expressed as a rate per $100 sum insured.
- A series of "modifiers" is applied to base premium to determine the Cyclone Pool premium. The modifiers reflect differences in relative risk – for example, a single storey building is relatively more exposed to flooding risk than a multi storey building. The modifiers also reflect improvements made to the property to reduce damage when a cyclone occurs.
- The base rate and modifiers is multiplied with the sum insured for the insurance cover to determine the base premium.

The premium calculated by the rating formula is exclusive of GST, duties and levies.

The above premium approach is used for each category of insurance which the Cyclone Pool will apply to – i.e. a separate formula will apply to home buildings, home contents (including valuables included within home contents), SME buildings, SME contents, SME business interruption, and strata buildings. Each of wind, storm surge, and flood coverage is calculated separately consistent with the underlying policy coverage for each risk (i.e. the insurer will not calculate the flood premium where the policy does not provide flood cover).

A more detailed description of the formula can be found in Appendix A.

3.2 Geographical risk relativities

The natural geography of the land and the local weather patterns dictate a property's location risk to cyclones. The Cyclone Pool will cover buildings (and contents contained therein) for the following 3 risks caused by cyclone:

- ***Extreme winds*** and rain caused by the cyclone weather cell. Cyclones predominantly affect coastal regions in Northern Australia. ***Pluvial flooding*** (incorporating surface flooding and flash flooding) can occur anywhere high rainfall occurs, such as the path of a cyclone. Natural geographical protections such as natural terrain shielding or being further inland reduces cyclone risks.
- ***Storm surge*** is caused by intense winds and reduced atmospheric pressure from the tropical cyclone causing the sea to rise well above the highest astronomical tide levels. Cyclone related storm surge therefore affects low lying coastal properties in cyclone regions.
- ***Fluvial (riverine) flooding*** occurs when water in a river, lake or other water body overflows onto the surrounding banks and land. Fluvial flooding can occur some distance away and after some time from the original cyclone event, as water can take time to move downstream. The Cyclone Pool covers fluvial flooding occurring within 48 hours after a cyclone has ceased. In respect of the Cyclone Pool coverage, properties on the banks of water basins, particularly river systems subject to cyclonic rainfall, are most at risk. Elevated geography reduces the risk.

[2] Pluvial flood, also referred to as surface and flash flooding, has been included with wind risk.

The location risk depends on a large range of factors, including proximity to cyclone weather conditions, distance to coast, elevation and geographical shielding. A range of catastrophe models were sourced by ARPC to build up a complete picture of location risk (see Section 2.4). The location risks are used to allocate suburbs (wind risk) and addresses (flood and storm surge risk) into risk bands.

Table 3.1 shows the base rates applying for wind risk by insurance segment. Each suburb in Australia is classified into risk bands.

Table 3.1 – Base rates for wind risk ($ per $100 sum insured)

	Home		SME businesses			Strata
Wind risk bands	Buildings	Contents	Buildings	Contents	Business Interruption	Building and contents
A	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
B	0.0040	0.0028	0.0028	0.0010	0.0018	0.0038
C	0.0080	0.0056	0.0056	0.0020	0.0036	0.0076
D	0.0120	0.0084	0.0084	0.0032	0.0055	0.0114
E	0.0160	0.0112	0.0112	0.0045	0.0073	0.0144
F	0.0200	0.0140	0.0140	0.0056	0.0091	0.0180
G	0.0240	0.0168	0.0168	0.0071	0.0109	0.0216
H	0.0280	0.0196	0.0196	0.0082	0.0127	0.0252
I	0.0320	0.0230	0.0240	0.0108	0.0156	0.0288
J	0.0360	0.0259	0.0288	0.0130	0.0187	0.0324
K	0.0400	0.0288	0.0380	0.0182	0.0247	0.0360
L	0.0500	0.0450	0.0475	0.0228	0.0309	0.0450
M	0.0600	0.0540	0.0570	0.0274	0.0371	0.0552
N	0.0800	0.0720	0.0760	0.0365	0.0494	0.0736
O	0.1000	0.0900	0.0950	0.0456	0.0618	0.0920
P	0.1200	0.1080	0.1176	0.0564	0.0764	0.1104
Q	0.1400	0.1260	0.1372	0.0659	0.0892	0.1288
R	0.1600	0.1440	0.1568	0.0753	0.1019	0.1472
S	0.1800	0.1620	0.1764	0.0882	0.1058	0.1656
T	0.2000	0.1800	0.2000	0.1080	0.1100	0.1840
U	0.2000	0.2000	0.2000	0.1200	0.1200	0.2000
V	0.2500	0.2500	0.2125	0.1275	0.1594	0.2500
W	0.3500	0.3500	0.3500	0.3500	0.1750	0.3500
X						
Y						
Z						

New suburbs are allocated to wind bands based on the underlying risks for addresses (represented by G-NAFs) in that suburb. The risk classification for existing suburbs remains unchanged.

While the premium rating formula allows for up to 26 risk bands, only 23 risk bands have been utilised in the initial parameterisation.

Figure 3.1 shows the Cyclone Pool wind risk bands applied to Australian suburbs.

Figure 3.1 – Suburb wind risk bands

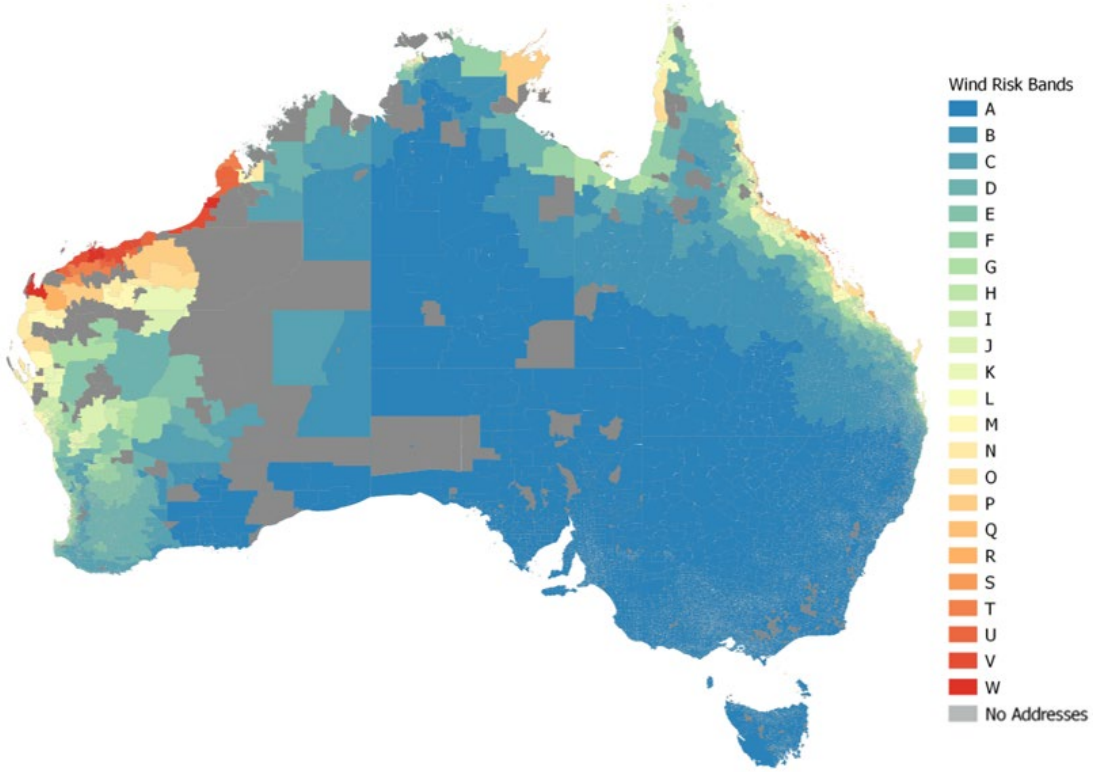
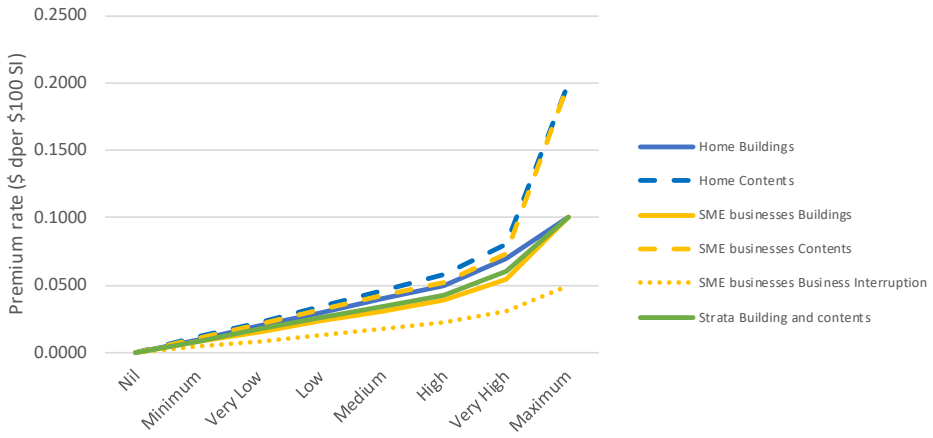


Table 3.2 and Figure 3.2 shows the base rates applying for cyclone related fluvial flooding risk by insurance segment. Each address in Australia is classified into one of the 8 risk groups.

Table 3.2 – Base rates for cyclone related fluvial flooding risk ($ per $100 sum insured)

	Home		SME businesses			Strata
Flood risk bands	Buildings	Contents	Buildings	Contents	Business Interruption	Building and contents
Nil	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Minimum	0.0100	0.0115	0.0077	0.0105	0.0044	0.0086
Very Low	0.0200	0.0230	0.0154	0.0210	0.0088	0.0172
Low	0.0300	0.0345	0.0231	0.0315	0.0132	0.0258
Medium	0.0400	0.0460	0.0308	0.0420	0.0176	0.0344
High	0.0500	0.0575	0.0385	0.0525	0.0220	0.0430
Very High	0.0700	0.0805	0.0539	0.0735	0.0308	0.0602
Maximum	0.1000	0.2000	0.1000	0.2000	0.0500	0.1000

Figure 3.2 – Base rates for cyclone related fluvial flooding risk ($ per $100 sum insured)



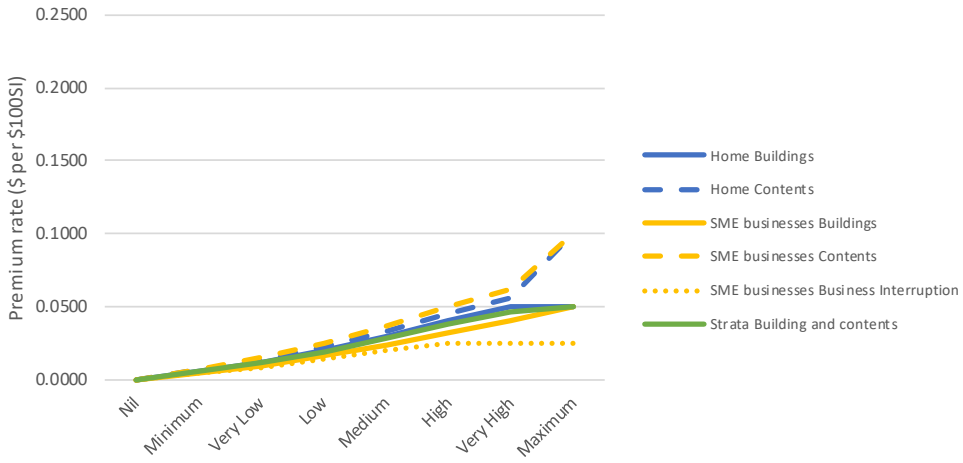
The SME business building base rates are lower than for home and strata within the same risk band for flood risk. This reflects different damage ratios inferred from the catastrophe models.

Table 3.3 and Figure 3.3 show the base rates applying for storm surge risk by insurance segment. Each address in Australia is classified into one of the 8 risk groups.

Table 3.3 – Base rates for storm surge risk ($ per $100 sum insured)

	Home		SME businesses			Strata
Surge risk bands	Buildings	Contents	Buildings	Contents	Business Interruption	Building and contents
Nil	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Minimum	0.0060	0.0067	0.0049	0.0075	0.0041	0.0056
Very Low	0.0120	0.0134	0.0097	0.0150	0.0083	0.0113
Low	0.0200	0.0224	0.0162	0.0250	0.0138	0.0188
Medium	0.0300	0.0336	0.0243	0.0375	0.0207	0.0282
High	0.0400	0.0448	0.0324	0.0500	0.0250	0.0376
Very High	0.0500	0.0560	0.0405	0.0625	0.0250	0.0470
Maximum	0.0500	0.1000	0.0500	0.1000	0.0250	0.0500

Figure 3.3 – Base rates for storm surge risk ($ per $100 sum insured)

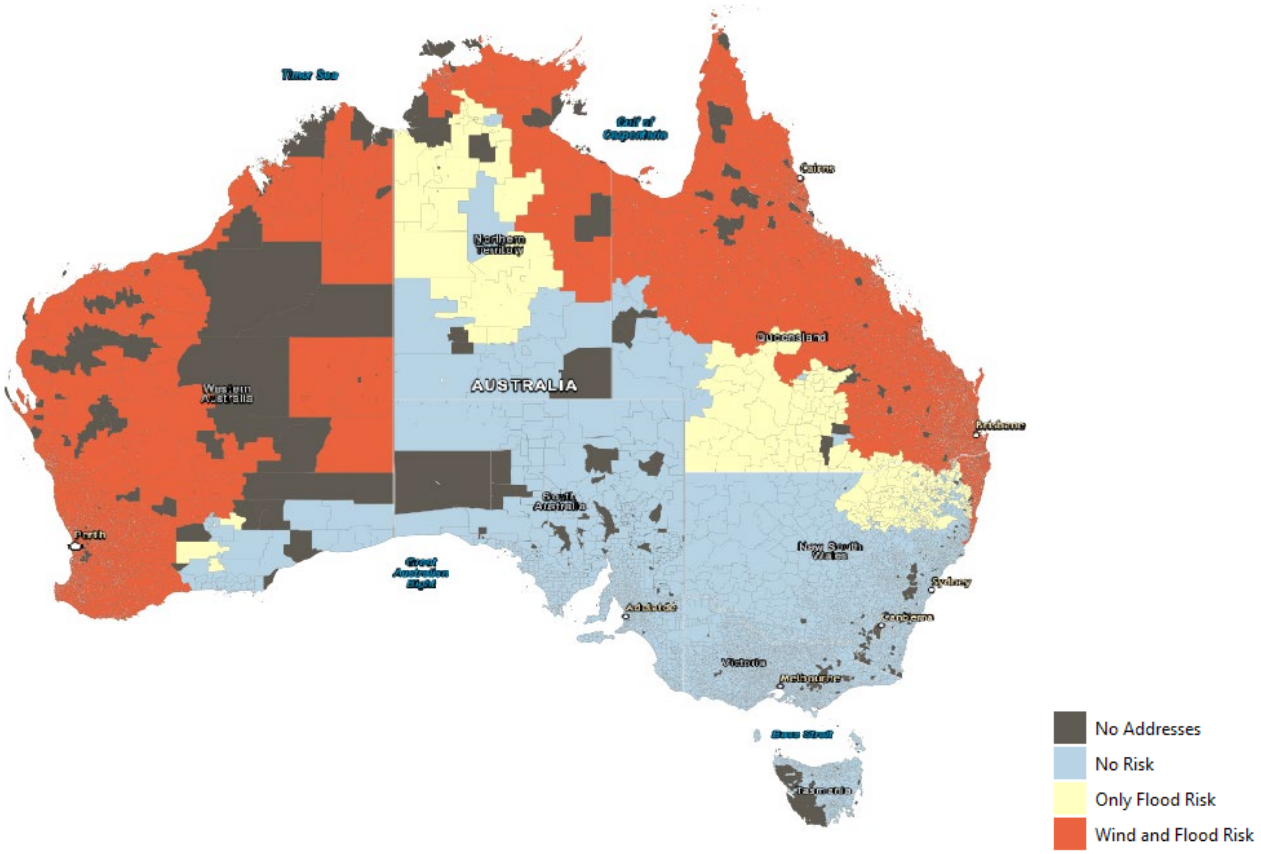


3.3 Suburbs that will be covered by the Cyclone Pool

Cyclone claims are paid out by the Cyclone Pool for damage across any of Australia's 15,371 suburbs for insurers that are in the scheme, even for suburbs where the Cyclone Pool does not charge a premium.

The Cyclone Pool premium formula will apply where non-trivial exposure to claims (as covered by the Cyclone Pool) is expected. The Cyclone Pool formula will apply a non-nil premium to 5,918 of suburbs, out of 15,371 Australia wide, as shown in Figure 3.4.

Figure 3.4 – Suburbs with exposures to cyclone risk as covered by the Cyclone Pool



3.4 Risk factor and mitigation relativities

The characteristics of a building affect its susceptibility or resilience to natural perils. For example, a building constructed after 1980 to building codes designed to withstand cyclonic winds will be less likely to be damaged if a cyclone occurs than one built before 1980. Similarly, houses built on stilts will have less damage to flooding than ones which are not elevated.

The insurance policy itself can affect the loss payable by the Cyclone Pool. The most notable example of this is the excess or deductible on the policy. Higher deductibles mean that more risk is retained by the policyholder.

Finally, the property owner's actions in mitigating risk can also affect cyclone losses. Property owners can take actions such as strengthening roof structures, egress points, garage doors, etc. from being breached in high winds. At the extreme, older buildings completely retrofitted to current building standards will have similar risk to a newer building.

Table 3.4 below summarises the risk rating factors adopted in the Cyclone Pool premium algorithm. Risk factors that have been added are shown in italics.

Table 3.4 – Building risk rating factors in Cyclone Pool algorithm

Home and contents	Business insurance (building, contents, and business interruption)	Strata
◦ Sum insured / building value ◦ Excess ◦ Coverage level ◦ Building type ◦ Construction type ◦ Roof type ◦ Construction year ◦ Landlords coverage (Y/N) ◦ Number of storeys ◦ Mitigation – Roller Door ◦ Mitigation – Window Protection ◦ Mitigation – Roof Replacement	◦ Sum insured / building value ◦ Excess ◦ Coverage level ◦ Construction type ◦ Roof type ◦ Construction year ◦ Number of storeys ◦ Duration of cover ◦ Additional Increased Cost of Working (AICOW) coverage ◦ Industry Group ◦ *Flood policy sublimit* ◦ *Surge policy sublimit*	◦ Sum insured / building value ◦ Excess ◦ Sub-limits for flood and storm surge coverage ◦ Coverage level ◦ Construction type ◦ Roof type ◦ Construction year ◦ Number of storeys ◦ Number of basements ◦ *Roof mitigation* ◦ *Window protection mitigation* ◦ *External door mitigation* ◦ *Vehicle access door mitigation* ◦ *Gutter overflow mitigation*

The risk relativities have been separately set to apply to wind, storm surge and fluvial flooding. The relativities are shown in Appendices C, D and E for home/contents, business insurance, and strata respectively.

4 Review of the Cyclone Pool's risks underwritten

This section details our review of the insurer exposure information and the implications for the premium rating.

4.1 Insurers that have joined the Cyclone Pool

The Cyclone Pool commenced operations on 1 July 2022.

Large home insurance insurers were required to join the Cyclone Pool by 31 December 2023. This means all risks for these insurers are reinsured for cyclone risk by the Cyclone Pool from this date. We expect that the majority of home insurance policies that will be covered by the Cyclone Pool were reinsured from 1 January 2024, and the policyholder information for these policies has been provided to ARPC.

Remaining insurers that are required to join the Cyclone Pool will join by 31 December 2024. These insurers generally write SME and Strata insurance policies – we estimate that a third of SME insurance policies and 10% of Strata insurance policies will join the Cyclone Pool during 2024.

4.2 Estimated premium pool

The Cyclone Pool premium rates include several key assumptions in respect of the geographic spread of insured properties (including assumptions around properties that will not be covered by the Cyclone Pool, such as where they aren't insured), coverage for flood and surge risk and building characteristics for insured properties. An industry exposure dataset was created at the previous review using a sample of insurer data as well as publicly available data (G-NAF dataset and ABS data). This exposure dataset is a material input because it provides the basis for estimating the cyclone risk exposure and how the Cyclone Pool premiums can allocate implicit margins and cross-subsidies between low and medium/high cyclone risk properties.

The exposure information provided by insurers that have joined the Cyclone Pool means that we are now able to review the key assumptions made in the previous review for appropriateness, including whether cross-subsidies implied in the premium rates are working as intended and if the overall funding of the pool remains appropriate.

Table 4.1 shows the current estimated premium pool compared to the previous estimate, with the key differences identified.

Table 4.1 – Explaining differences in the premium pool

	$m	% impact
Estimated premium pool as at 1 October 2022	**776**	
Estimated premium pool as at 1 October 2022 (inflated to today)	873	13%
Overall lower number of Cyclone Pool eligible policies	(191)	-22%
Lower coverage in Pilbara and Northern Australia than expected	(37)	-4%
Lower sum insured than expected	(7)	-2%
Greater High-risk flood exposure	10	1%
Lower surge coverage than expected	(17)	-2%
Other impacts	(7)	0%
Current estimate of premium pool	**626**	

The most material driver of the lower premium pool compared to the 1 October 2022 pricing review was an overall lower number of insured properties than previously assumed. There are two main reasons for this – having reviewed the exposure information received to date has allowed us to improve our estimates of the insurable market (i.e. the number of properties that can be insured) and we have a better understanding of the Cyclone Pool's coverage of that insurable market (i.e. the number of properties that are insured through

Cyclone Pool eligible policies). The premium pool is estimated to be $191m lower, reflecting these two differences.

Due to limitations in available data on non-insurance prior to the Cyclone Pool collecting data, the previous review allowed for only a modest level of non-insurance. A key finding from this review is that there are fewer policies covered by the Cyclone Pool than in our original estimate, either due to non-insurance or because the properties are protected through other mechanisms.

The previous review allowed for greater levels of non-insurance for higher risk areas where premiums would be higher. The relative level of non-insurance in the Pilbara, NT and Far North Queensland areas, which are all high-risk regions, exceeded our assumptions which translates to $37m less premiums.

Other differences leading to Premium Pool differences include:

- Regional variances in sums insured relative to the assumptions in the previous pricing review contributed to a $7m lower premium pool.
- Overall, Flood risk within the Pool is higher, mainly driven by a higher proportion of high-risk flood properties entering the pool than had been assumed previously. This increases the premium pool by $10m.
- Fewer insurers than anticipated offer storm surge coverage and this reduces the premium pool by $17m.

These other differences are normal and to be expected as actual exposure information collected by the Cyclone Pool improves upon our original assumptions.

4.3 Cyclone Pool adequacy

As discussed in Section 2.4, within the Cyclone Pool's premium rating structure, high risk properties benefit from cross-subsidy benefits. An 'across the board' lower number of policies than considered in the original estimates does not affect adequacy of the premium, as this is offset by an equal reduction in estimated claims costs. Adequacy can be affected if the balance between subsidised properties and properties paying for those cross-subsidies differs from that implied by the pricing basis. Specifically, we have observed the following main differences affecting overall adequacy:

- The lower Cyclone Pool coverage in the Pilbara and the broader Northern Australia region (high wind risk regions that attract cross-subsidies to reduce cyclone risk premiums) improves overall adequacy.
- A greater number of high flood risk properties in the Cyclone Pool, which reduces the overall adequacy.

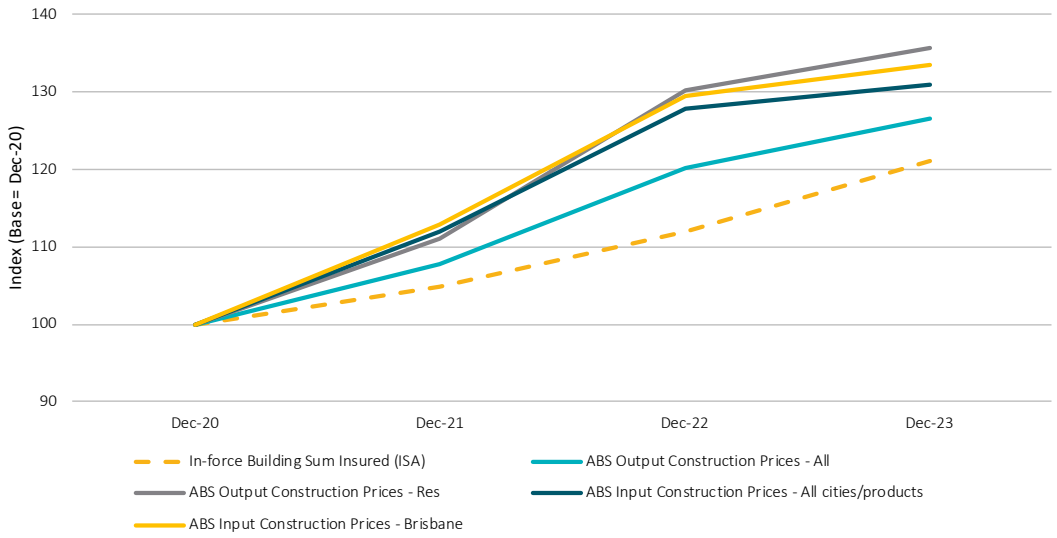
Analysis of the updated exposure information has highlighted a number of offsetting differences that ultimately mean that ARPC's premium rates remain adequate. Premium adequacy is broadly in line with the previous review and cross-subsidies between classes/perils appear to be working as intended and no immediate revision to the premium rates is needed at this point.

4.4 High inflationary environment

Building cost inflation levels have been high for a number of years. Inflationary pressures have been particularly acute in the past two to three years, with the impacts of COVID and conflicts leading to sustained supply chain pressures (for both materials and labour inputs) and a contributor to rapidly rising inflation. Labour shortages have also meant that rebuilding takes longer, leading to increased insured costs such as temporary accommodation. These pressures have started to ease over the past 9 months or so.

Figure 4.1 compares a range of of construction cost indices from the Australian Bureau of Statistics (ABS) with insured buildings sum insured information from the Insurance Statistics Australia (ISA).

Figure 4.1 – Construction cost indices



Sources: Australian Bureau of Statistics; Insurance Statistics Australia

The construction cost indices suggest that building costs have increased 20-35% compared to December 2020 (roughly the start of the high inflation period). Recent data from the ABS suggests that cost inflation has moderated significantly; e.g. construction input prices plateaued for the last 3 quarters through to the end of 2023.

Industry data from Insurance Statistics Australia (ISA) shows in-force sum insureds increased 20% over the same period. As indexation of sum insured will typically only occur annually at the renewal of an insurance policy, it is not unusual for insurance sum insureds to lag current price trends. Practically, it can also take time for inflation trends to be recognised and incorporated into insurer pricing, causing further lags.

The data suggests there is a gap between sum insured (what Cyclone Pool premiums are based on) and construction cost (what Cyclone Pool claims are likely to follow) at this current point in time. However, given the slowing inflationary environment and allowing for insurance processes to reflect current costs, this theoretical mismatch is expected to correct as sum insured indexation earns through insurer renewal processes.

As noted earlier, some of the inflationary pressures being experienced in claims costs are temporal (e.g. supply chain issues are not expected to persist), and to the extent that the pool does not have a large event during the period when higher costs have not been reflected in sum insureds, there is no effect on the pool's long term financial position.

4.5 ARPC operating expenses

The ARPC budgeted expenses in respect of the Cyclone Pool for FY25 is $18m. We have included this amount along with the estimated claims cost and claims handling expenses when measuring premium adequacy.

4.6 Observations on quality of data provided by insurers

ARPC requests that insurers provide exposure data for QLD, NT, WA and NSW. We understand that information provided by individual insurers was generally consistent, however the quality of data varied across the different insurers. Data quality and completeness is an important consideration for the Cyclone Pool as it informs several

aspects of the pricing process, including developing a better understanding of the exposures and risk characteristics of properties covered by the Cyclone Pool.

Where a risk factor is unknown or the address is not captured by the insurer, no risk loading or discount is generally applied to risk relativities for 'unknown' data or for postcode fallback premium rating tables at this stage, so as to not disadvantage insurers that do not currently collect information on each rating factor. The exceptions are buildings with unknown construction year, which attract the highest risk loading, and where the address and postcode is unknown. Over time, we expect unknown addresses that use the postcode fallback tables and unknown risk factors will attract a loading to provide an incentive for the data to be collected.

5 Strata mitigation discounts

At this pricing review we determined mitigation risk factors to the premium rating formula for strata buildings, which make up 9% of the Cyclone Pool's premium pool. This is the next largest component of the Cyclone Pool's exposure that would benefit from mitigation discounts after Home (86% of the premium pool), which already have a mitigation discount structure in place. Previously, no risk mitigation discounts were available/applied to strata buildings. Discounts for the risk mitigation activities in strata buildings are summarised in Table 5.1.

Table 5.1 – Strata building risk mitigation discount areas

Risk mitigation	Details
Roof Mitigation	Roofs that have been retrofitted to comply with applicable standards Tile roofs which have been upgraded with sarking Metal roofs which have been upgraded with fastened flashings
Window protection	Glass windows which have shutters or screens installed as permanent protection
External doors	All external doors are either metal, timber with solid cores or glass doors with debris-rated impact screens or wind rated shutters
Vehicle access doors	Vehicle access doors that are under the same roof as a low-rise strata buildings
Gutter Overflows	Gutter overflows for all perimeter gutters on boxed eaves and/or all boxed gutters, OR all eaves have no eave lining

Detailed descriptions of applicable building standards to qualify for strata mitigation discounts are contained in Appendix G of this report.

ARPC engaged James Cook University's Cyclone Testing Station (JCU) to report on key drivers of loss from cyclones affecting Strata and SME buildings. The discount structure reflects the risk mitigations that can be practically applied based on JCU's analysis.

5.1 JCU research

JCU research into cyclone related damage identifies two main causes of building damage affecting strata buildings, namely:

- Wind driven rain causing water damage within the premises.
- Wind load, particularly when the building envelope is breached leading to pressure changes that cause structural damage

5.1.1 Wind driven rain

Wind driven rain leading to water ingress is a key cause of strata insurance claims. Approximately 70% of strata claims reviewed in a study by JCU had some form of damage from water ingress[3]. Wind driven rain entered buildings through:

[3] "North Queensland Study into Water Damage from Cyclones", Cyclone Testing Station, James Cook University, October 2018

- Windows
- Doors
- Gutters
- Eaves, gable or roof vents

The mitigation discount structure for roof flashings, window protection, external doors, vehicle access doors and gutter overflows aims to reduce the impact of water ingress by targeting these vulnerable building features.

5.1.2 Wind loads

Contemporary building standards are designed to be resilient against severe wind loads. Strata buildings in cyclonic regions (wind zones C and D) built before 1982 were not required to meet the same cyclone resilience building standards and therefore are more susceptible to damage during an event.

The main wind load stresses relate to building entry points, like doors and garage doors, and the strength of roof fastenings. JCU's research shows that retrofitting the roofs and access doors for older buildings to current standards and the use of solid core doors will increase resilience against cyclonic damages.

5.1.3 Mitigation activities that are not eligible for discounts

Our discussions with JCU identified that properly maintaining a building can reduce cyclone risk – for example, repairing damage, keeping up necessary capital works, good building management such as clearing gutters, etc. However, due to the practical implementation issues – such as defining minimum levels of maintenance and verifying that ongoing maintenance is being completed – maintenance related mitigations have not been included in the proposed discount structure at this stage.

5.2 Proposed discount structure

The discount structure was designed with the following considerations in mind:

- The building characteristics that would be improved from the risk mitigation activity. For example, buildings which were already required to comply with a building standard would not qualify for a discount for having that mitigation feature. Newer buildings have a lower risk relativity to reflect this.
- Roof related risk mitigations only apply to certain types of roof constructions.
- The magnitude of the mitigation discount for each factor was considered based on the following considerations:
    - > Discounts provided to home buildings for a comparable mitigation. The discount provided to strata buildings is of lower magnitude because it was judged that any one mitigation factor will have a reduced benefit relative to the whole building risk for larger strata buildings compared to standalone homes. For example, mitigation on doors will have a comparably lesser impact on a 3 storey strata building compared with a 1-2 storey home.
    - > Consultation with JCU to reflect level of benefit each respective risk factor would have in isolation and relative to each other.
- The level of effort required for each mitigation and the benefit provided.
- The aggregate premium reduction possible if all relevant mitigation activities are undertaken should be comparable to a corresponding new building which meets the same standard (though typically the newer building should still be cheaper to insurer because of reduced wear and tear).

5.2.1 Roof Mitigation

During a cyclone event, large uplift pressures from severe wind can result in roof failures. Water can then percolate down through the building. JCU studies have shown that this can affect up to four storeys under the source of water entry, resulting in significant repair costs.

Modelling conducted by JCU found that roofing upgrades on older houses (pre-1980s) resulted in an estimated 47% reduction in residential building claims[4]. This has been scaled down for strata, which can encompass a range of building styles including larger, multi-storey buildings, and for consistency with discounts provided to home buildings (up to a 30% discount is provided to home buildings).

Table 5.2 below shows the proposed strata building roof mitigation discounts.

Table 5.2 – Strata building roof mitigation

Level	Mitigation - Roof	Wind
Strata_G01	No qualifying mitigation	1.0000
Strata_G02	Full roof structure retrofit for pre-1982/unknown construction year	0.9000
Strata_G03	Tile roof type with sarking under tiles	0.9500
Strata_G04	Tile roof type with pre-1982/unknown construction year and full roof structure retrofit, without sarking under the tiles	0.9500
Strata_G05	Metal roof type with compliant fastened flashings	0.9700
Strata_G06	Full metal roof structure retrofit for pre-1982/unknown construction year, however fastened flashings are not compliant	0.9300
Strata_G07	Unknown	1.0000

The following roof mitigation relativities have been proposed:

- Strata_G02: A 10% discount is given to retrofitted roofs with sarking (for tile roofs) or fastened flashings (for metal roofs) also fitted, which would provide the greatest protection against both wind and water ingress.
- Strata_G03, Strata_G04: A 5% discount is given to tile roofs, which either have sarking or were retrofitted. This is a moderate discount reflecting the reduction in the risk of water ingress (sarking) and dislodged tiles (retrofit).
- Strata_G05: Metal roofs with fastened flashings receive a 3% discount, consistent with other sources of water ingress mitigation.
- Strata_G06: Retrofitted metal roofs receive a 7% discount, reflecting the increased resilience of correctly retrofitted roof cladding.

Note that discounts provided to metal and tile roofing remain below the discount to concrete roofs (10%, which is applied through the roof type relativity), as the relative risk remains higher despite the mitigation works.

Certain building characteristics, namely year of construction for retrofit discounts, and tile/ metal roof types for sarking/flashing upgrades respectively, are required for the strata policy to qualify for these discounts, which are outlined in Appendix F.

5.2.2 Window Protection

Table 5.3 shows the window protection mitigation relativities that have been adopted.

[4] "Resilience, durability and the National Construction Code", The Centre for International Economics, Prepared for Insurance Council of Australia, October 2023

Table 5.3 – Strata building window protection

Level	Mitigation - Window Protection (Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)	Wind
Strata_H01	No qualifying mitigation	1.0000
Strata_H02	Permanent protection (cyclone wind-rated shutters or cyclone debris-rated screens), installed externally on all glass windows	0.9700
Strata_H03	Unknown	1.0000

For modern houses, window protection and door upgrades reduce the average annual loss in the order of 40 – 80%[5], by way of protecting against large debris (this level of reduction assumes all points of weakness are mitigated, while the discount discussed here applies only to windows).

A 3% discount is provided for window protection mitigation reflecting that it is expected to protect the building envelop, protecting the building from severe winds and debris. A lower level of discount is offered for strata buildings (3%) compared to home buildings (10%) because the relative impact of flying debris is diluted over a larger structure in the case of strata buildings. Permanent protection on windows also reduces the impact of water ingress.

To qualify for this discount, all windows are required to be fitted with permanent protection to the standards described in guidance provided by ARPC.

5.2.3 External doors

Fitting the building with robust, cyclone resilient doors is a relatively simple mitigation activity to undertake. Doors that are designed to withstand severe winds and impact from flying debris would reduce potential damage from severe wind and water ingress.

Table 5.5 shows the proposed mitigation relativities for external doors which are considered cyclone resilient.

Table 5.4 – Strata building external doors mitigation

Level	Mitigation - External doors (Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)	#REF!
Strata_I01	No qualifying mitigation	1.0000
Strata_I02	All external doors are either: - Metal OR - Timber with solid cores OR - Glass doors (including balcony doors) with debris-rated impact screens or wind-rated shutters	0.9700
Strata_I03	Unknown	1.0000

A 3% discount is provided to reflect a reduction in risk. To qualify for this discount, all external doors of the building must be either metal, timber with solid cores, or glass with debris and wind rated protections described in guidance provided by ARPC .

5.2.4 Vehicle Access Door

Cyclone damages arise when a breach in the building envelope results in high internal pressure and wind driven rain. The current building standard AS4505:2012 specifies wind rated garage doors, which are designed to

[5] "Resilience, durability and the National Construction Code", The Centre for International Economics, Prepared for Insurance Council of Australia, October 2023

withstand significant wind loads during a severe weather event to keep the building sealed and reduce structural damage.

Table 5.5 shows the proposed mitigation relativities for vehicle access doors.

Table 5.5 – Strata building vehicle access door mitigations

Level	Mitigation - Vehicle access door (Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)	Wind
Strata_J01	No qualifying mitigation	1.0000
Strata_J02	Vehicle access door located in the main structure, and main structure has three storeys or less (for pre-2012/unknown construction year)	0.9700
Strata_J03	Unknown	1.0000

A 3% discount is applicable to buildings with three or fewer storeys, which have vehicle access doors in the main building compliant with current standards.

As the primary risk is associated with a breach in building envelope of the strata residential building, this discount should only be applied where the vehicle access door is attached to the main building. To qualify for this discount, garages access must be in the main building of the strata complex.

The impact is most significant for residential-like strata buildings, where the garage door is a relatively large point of external access. The benefit of having a wind-rated garage door is less for multi-storey buildings. This discount applies only to buildings which are three storeys or fewer. For comparison, a discount of up to 8% is provided for home buildings for garage door mitigation.

Buildings with construction year after 2012 are compliant with this standard, and this is captured in the construction year relativity. Buildings built after 2012 do not qualify for this discount because the reduction in risk is already captured in the construction year relativity.

5.2.5 Gutter overflows

As mentioned previously, water ingress is a common cause of loss on strata policies. During heavy rainfall events, blocked gutters can cause water to leak behind the gutter and seep into the wall, damaging the structure of the building. Effective roof drainage systems can mitigate damage by ensuring water does not flow back into the building.

Table 5.6 shows the mitigation relativities for gutter overflows.

Table 5.6 – Strata building gutter overflow mitigation

Level	Mitigation - Gutter overflows (Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)	Wind
Strata_K01	No qualifying mitigation	1.0000
Strata_K02	All gutters are compliant with the following conditions: - Gutter overflows for all perimeter gutters on boxed eaves and/or all box gutters (at each end) OR - All eaves have no eave lining	0.9700
Strata_K03	Unknown	1.0000

A discount of 3% is appropriate to incentivise strata body corporates to minimise water ingress from gutters, which is a relatively simple but effective mitigation measure.

5.3 Comparison between new and older mitigated building premiums

The table below compares the premium payable for a low-rise (3 storey) brick veneer construction and terracotta roof strata building built in different years, and the maximum premium reduction from implementing the proposed mitigation discounts. We have assumed the building is located in a moderate wind zone like Brisbane (wind zone B).

	Construction year		
	2022	2005	1980
Base premium	$100.0	$100.0	$100.0
Brick Veneer relativity	1.00	1.00	1.00
Terracotta tile roof relativity	1.00	1.00	1.00
3 storey relativity	1.00	1.00	1.00
Construction year relativity	0.90	1.00	1.35
Unmitigated building premium	$90.0	$100.0	$135.0
Maximum eligible mitigation discounts			
Full retrofit with sarking	N/A	N/A	0.90
Tile roof with sarking under tiles	0.95	0.95	N/A
Permanent window protection	0.97	0.97	0.97
External doors	0.97	0.97	0.97
Garage door mitigation	N/A	0.97	0.97
Gutter overflow mitigation	0.97	0.97	0.97
Total	0.87	0.84	0.80
Lowest mitigated premium	$78.0	$84.1	$107.6

Strata buildings of all ages are eligible for mitigation discounts, reflecting that there are steps that can be taken even in newer buildings to reduce cyclone risk.

The discount structure maintains lower premiums for newer buildings compared to a fully mitigated older building. This is a deliberate design feature to reflect that newer buildings are expected to still be lower risk because there is less wear and tear and more general improvement in construction standards.

6 Other changes to the premium pricing formula

With the exception of Strata mitigation (as discussed in Section 5), the other changes at this pricing review include regular maintenance of the rating tables for new addresses and some minor changes to the rating formula to incorporate industry feedback.

6.1 Rating table updates for new addresses

Geoscape Australia updates its G-NAF dataset for new addresses, and geocoding changes for existing G-NAFs, on a quarterly basis. The previous pricing algorithm applied to addresses from G-NAF version from February 2022 ('2022.02'). At this review, the premium rates are provided for addresses from G-NAF version from February 2024 ('2024.02'). Our approach to determining premium rates for each address in G-NAF version 2024.02 is as follows:

- Where the version 2024.02 G-NAF is unchanged from version 2022.02 (i.e. it has not had a change in geocoding and it is not a new address), the premium rate applying to that G-NAF is unchanged.
- New premium rates have been produced for new G-NAFs or G-NAFs with a change in geocoding.
- Postcode fallback tables have been produced corresponding to the changes above.

The approach for determining the premium rate for each G-NAF where a new premium rate is needed is discussed below. The postcode fallback tables were also updated to reflect the latest G-NAF information.

6.1.1 Wind suburb rating

Cyclone wind is rated at suburb level. For new G-NAFs that are in an existing suburb-postcode combination, the existing premium rate for that suburb-postcode combination is applied. 58 new suburb-postcode combinations have been assigned to Wind risk bands using the same methodology as the previous review which were informed by catastrophe models.

6.1.2 Flood and surge address rating

For the new and geocoding changed G-NAFs, premium rates have been calculated based on the same methodology and logic as in the previous pricing review. For calculating flood and surge rates, we have updated the Finperils and Aon CHIP model rates for the new and geocoding changed G-NAFs.

6.1.3 Transition of premium rates

Where a G-NAF has a change in geocoding and there is a large change in the associated band (higher risk or lower risk), we have limited the extent of the movement in rate. This is to limit the volatility in rating at an address-level. For this pricing review, we have limited the movement for any address to movements of at most 2 bands (up or down).

6.2 Other Pricing Algorithm Changes

Table 6.1 below summarises adjustments to the premium rating algorithm implemented at this review. These changes arose from insurer feedback, to better fulfil policy objectives or address implementation issues which were encountered since the previous review.

Table 6.1 – Pricing algorithm changes

Insurer feedback	Change made to premium rating algorithm
Construction year information for Contents only policies is not collected by some insurers.	A "contents only" level was added to the construction year relativity tables for the Home and SME premium rating algorithms to bypass this requirement to collect this information and neutralises the penalty rate previously applied for 'unknown' construction year.
Building mitigation features not collected by some insurers.	An "unknown" level was added to each of the roof mitigation, window protection mitigation, and roller door mitigation relativity tables in the home premium rating algorithm to improve data quality.
Insurers enquired about how contents only policies in upper levels of multi-storey buildings should be treated. The impact of flood and surge losses is lower for policies which are not on the ground floor. This was not previously allowed for in the premium rates.	Four new levels were added to the number of storeys relativity tables in the Home and SME premium rating algorithms, to differentiate the floor and surge risk relativities for contents only policies on ground, 1st, 2nd and 3rd floor & above.
SME insurers expressed that flood and surge sublimits were common policy features and requested that the rating algorithm be extended to provide commensurate discount to policies with lower sub-limits.	A flood and surge sublimit relativity table was added to the SME pricing algorithm, which provides premium discounts to policies with lower flood and surge sublimits.
Clarifying wording in the home rating algorithm as to when mitigation discounts should apply.	Wording in the relativity tables have been clarified by adding a level specifying "No qualifying mitigation" in each of the roof mitigation, window protection mitigation, and roller door mitigation relativity tables in the home premium rating algorithm.
Providing discounts for strata mitigation fulfils Section 8D(b) of the Act.	Details in Section 5 of this report.

7 Estimated policyholder outcomes

7.1 Note about estimated policyholder outcomes

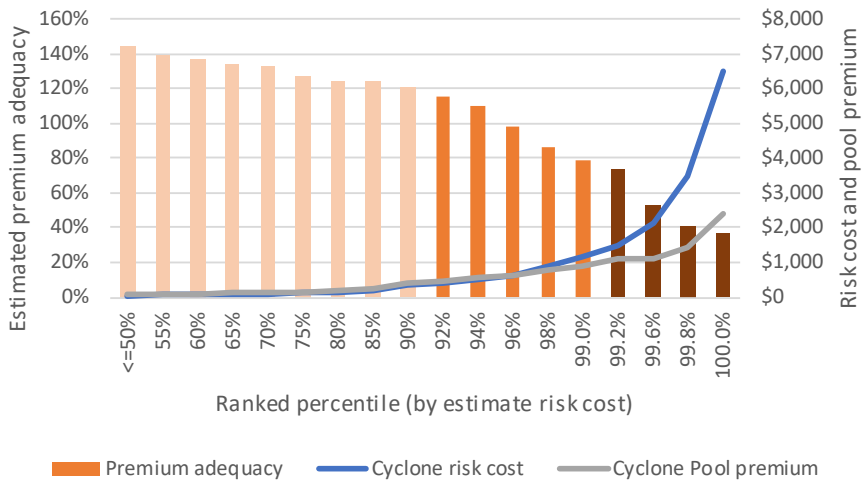
As a reinsurer, the Cyclone Pool does not directly determine policyholder premiums. It is up to individual insurers to determine how the amounts paid to the Cyclone Pool are recovered from its policyholder base – this is how insurers would recover other reinsurance costs. The insurer can, if it decides it is an appropriate pricing strategy for its business, pass the 'per risk' premium using the Cyclone Pool formula directly to its policyholders. In estimating potential policyholder outcomes, we assume that insurers do this. The ACCC is responsible for monitoring how insurers pass on the Cyclone Pool costs.

In the original calibration of the Cyclone Pool premiums, ARPC received information voluntarily provided by a few insurers which indicated the premium charged for cyclone risk[6]. Since insurers have joined the Cyclone Pool and have made changes to policyholder premiums to pass on the Cyclone Pool costs (and reductions in costs for high cyclone risk policyholders), there is no longer a comparable market for cyclone insurance in Australia that can be observed.

7.2 Estimated policyholder premiums for cyclone risk

To estimate policyholder outcomes, we compare the Cyclone Pool premium rates to the estimated risk from catastrophe risk models used by ARPC (discussed in Section 2.4). Figure 7.1 below shows the modelled cyclone risk costs, the Cyclone Pool premium, and the estimated premium adequacy for a standardised $500,000 home building (i.e. the Cyclone Pool premium divided by the risk cost) in cyclone exposed regions (CRESTAs 1-24, 47-49) by risk percentile. Note that the percentile bands differ in size for illustration purposes, which we've highlighted by different shading of the columns.

Figure 7.1 – Estimated premium adequacy by percentile



[6] In the original calibration of the Cyclone Pool premiums (i.e. the 1 July 2022 and 1 October 2022 premium determinations), the Cyclone Pool had just been introduced, no insurers were protected by the pool, and insurance prices were a function of market forces applying at that stage. ARPC received information voluntarily provided by a few insurers which indicated the premium charged for cyclone risk. Finity used this data to estimate policyholder outcomes when replacing the then existing cyclone risk premium with the Cyclone Pool premium, and made adjustments where market data suggested differing estimates of cyclone risk – which could arise from a number of reasons such as the insurer relying on different models/views of risk to those adopted by ARPC, other risk adjustments that the insurer applies, or reflective of the level of pricing sophistication in the market. The calibration to insurance market data meant that the premiums were reflective of market, consistent with the legislative obligations.

For 4% of home buildings (around 100,000 homes), the Cyclone Pool premium is estimated to cost less than the true risk cost i.e this is where the premium adequacy is less than 100%. Note that a premium adequacy ratio over 100% does not necessarily mean that the Cyclone Pool does not provide benefits to those buildings; privately underwritten insurance would require a margin above the risk cost for taking on risk.

To align with the legislative objectives, we categorise cyclone risk into nil, low, medium, and high-risk segments. The legislative objectives require that benefits are directed to medium and high cyclone risk properties, while premiums for lower cyclone risk properties are comparable to market levels (assuming the Cyclone Pool did not exist). Table 7.1 shows the thresholds for each of these segments.

Table 7.1 – Risk segments

	Premium rate thresholds (per $100 SI)		Premium ($500k sum insured)	
Basis for risk segments	Cyclone technical risk rate[1]	Estimated customer cyclone premium rate[2]	Cyclone technical risk cost[1]	Estimated customer cyclone premium[2]
Nil/minimal risk	<$0.025	<$0.05	<$125	<$250
Low Risk	$0.025 - $0.10	$0.05 - $0.20	$125 - $500	$250 - $1,000
Medium Risk	$0.10 - $0.25	$0.20 - $0.50	$500 - $1,250	$1,000 - $2,500
High Risk[3]	>$0.25	>$0.50	>$1,250	>$2,500

[1] Excluding taxes, levies, and all margins (including expenses and profit).

[2] Inclusive of taxes and levies paid by the policyholder.

[3] High risk threshold defined based on top 5% of Northern Australia policies by technical cyclone risk cost

The threshold for medium risks is particularly important as this determines the point where the premium algorithm should start to deliver insurance premium benefits to policyholders. The threshold for the medium risk segment is consistent with our previous report and unchanged.

The threshold for the high-risk segment represents the most acute insurance cost pressures. ARPC has advised that an operational objective is to ensure that appropriate benefits are delivered to this group, which they consider to be the highest 5% of cyclone risk in Northern Australia. To align with this operational objective, the high-risk threshold has been adjusted accordingly.

Table 7.2 shows the number of home buildings policies by risk segment and region, and the estimated premium adequacy in each segment.

Table 7.2 – Estimated home buildings policyholder outcomes risk segment

	Number of Home Building policies		% Home Building policies		
Basis for risk segments	Cyclone affected regions[1]	Northern Australia[2]	Cyclone affected regions[1]	Northern Australia[2]	Estimated premium adequacy
Nil/minimal risk	1,868,000	183,000	75.0%	39.0%	136%
Low Risk	448,000	166,000	18.0%	35.5%	118%
Medium Risk	149,000	96,000	6.0%	20.5%	90%
High Risk	25,000	23,000	1.0%	5.0%	46%

[1] Cresta Zones 1 - 24, 47 - 49

[2] Cresta Zones 5 - 20

7% of home buildings (representing around 170,000 insured homes) in cyclone exposed regions would be considered to be medium to high risk. For this segment, the Cyclone Pool premium is below the estimated risk cost, and therefore below what these policies may be required to pay in the private market.

Around 25,000 home buildings fall into the most acute high-risk category. For this cohort, the Cyclone Pool premiums are around half of the estimated true risk cost.

Around 93% of home buildings in cyclone exposed regions have nil/minimal or low levels of cyclone risk. These policyholders pay above the technical risk cost (i.e., the premium adequacy ratio for this cohort is greater than 100%), however in absolute amount this difference is small (up to tens of dollars difference, which is even smaller when compared to the total policyholder premium for all risks) and that this difference is narrower after allowing for loadings/margins that an insurer requires as compensation for taking on the risk.

The illustrated outcomes result from design constraints of the Cyclone Pool, where a small implicit margin is continued to be charged to a large number of policies to provide cross-subsidies to a small number of medium/high risk policyholders. If benefits are intended to reach a greater number of home building policyholders, then the level of discount able to be provided to the most acute risks would be reduced.

8 Reliances and limitations

This report and the analysis contained therein summarises work completed solely for ARPC for the purposes of determining the Cyclone Pool premium. This summary report has been provided to insurers to assist with their own implementation of the Cyclone Pool. We understand that ARPC may publish this report on its website.

Insurers, or any other third party, should recognise that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or the data contained herein which would result in the creation of any duty or liability by Finity to the third party.

We have relied on exposure data furnished to ARPC by insurers.

We have relied on catastrophe models (from a number of providers) commissioned by ARPC, and in many cases run by Aon for ARPC, for the purpose of informing this work. We have not independently verified nor have we independently validated the data or outcomes. We have reviewed the findings for reasonableness and suitability for the purpose of this report.

We have formed our views based on the current environment and what we know today. If future circumstances change, it is possible that our findings may not prove to be correct.

This report concentrates on changes proposed to the premium rates. The underlying exhibits and attachments contained in our report are an integral part of this report and should be considered in order to place our report in its appropriate context. We have prepared this report in conformity with its intended use by persons technically competent in insurance matters. Judgements as to the conclusions drawn in this report should be made only after considering the report in its entirety.

Appendices

A Premium calculation

A.1 The Cyclone Pool premium formula

At a high level, the Cyclone Pool premium formula has the following structure when calculated in respect each eligible policy.

$$CRP\ premium_{product\ type,peril} = Policy\ sum\ insured \times CRP\ base\ rate_{product\ type,location,peril}$$

$$\times \left[risk\ rating\ factor_{1,product\ type,peril} \times risk\ rating\ factor_{2,product\ type,peril} \times \ldots\right] / 100$$

There are different risk rating factors for each peril and insurance product.

The following insurance products are covered by the Cyclone Pool:

- Home:
  - Building
  - Contents
- SME
  - Building
  - Contents
  - Business Interruption
- Strata
  - Buildings and common contents combined

A separate Cyclone Pool premium formula applies for each insurance segments and for each of the risks posed by cyclone (wind, flood, and storm surge). Flood and storm surge premiums need only be calculated where the policy conditions include coverage for these perils.

For example, where a SME business purchases insurance coverage for contents and business interruption, and the Business Packages policy excludes coverage for flood risk, then the Cyclone Pool premium applicable for that insurance policy will be the aggregate of the following calculations:

- SME contents for wind risks
- SME contents for storm surge risks
- SME business interruption for wind risks
- SME business interruption for storm surge risks

If the above example SME policy includes flood coverage, then the Cyclone Pool flood premium will also need to be calculated for each of the content and business interruption policy sections.

The base rate is expressed per $100 Sum Insured (SI). The base rate is dependent on the location of the risk, and varies by peril:

- Wind: Each suburb in Australia has been allocated to one of 26 Wind Bands, designated by the letters A to Z. Each Wind Band has a base rate to be applied per $100 SI.

- Flood and storm surge: Each GNAF in Australia has been allocated to one of 8 flood / storm surge bands (Nil, Minimum, Very Low, Low, Medium, High, Very High and Maximum). Each flood / storm surge band has a base rate to be applied per $100 SI.

The relativities are dependent on the individual characteristics of the risk and associated policy and can be found in Appendices C, D and E.

A.2 Calculation of sum insured risk relativity

The sum insured risk relativity is determined such that there is no 'saw-tooth' pattern to calculated Cyclone Pool premiums as the sum insured increases.

The sum insured risk relativity is calculated using the formula below.

$$\frac{\text{Start of SI band} \times \text{Relativity}_{start\ of\ SI\ band} + (\text{SI} - \text{Start of SI band}) \times \text{Relativity}_{marginal\ for\ the\ SI\ band}}{\text{SI}}$$

SI refers to sum insured in the above formula.

For example, for a home building with sum insured of $790,000, the start of the sum insured band would be $700,000, which has a relativity of 0.97. The marginal additional $90,000 sum insured has a relativity of 0.90. The sum insured relativity applying to this policy is the weighted average of these amounts, which is 0.96.

Instead of applying the above formula, insurers may instead calculate the implied relativity for each sum insured value resulting in a large look up table.

A.3 Worked example

Below is a worked example of the Cyclone Pool premium calculation for a one storey, freestanding timber and terracotta roof home insured for $450,000 located in Cairns City (4870, which is risk band Q), built in 1975. The owner has retrofitted shutters to the windows. Looking up the address of this property in the Cyclone Pool's G-NAF dataset shows Medium flood risk and Maximum storm surge risk.

The insurance policy includes coverage for flood and storm surge. There is a $250 excess on the policy. This insurance product offers coverage consistent with ARPC's A category.

The Cyclone Pool premium is calculated as follows.

		Wind	Flood	Storm surge	Total
Sum insured		$450,000	$450,000	$450,000	
Risk band		Band Q	Medium	Maximum	
Base rate		0.1400	0.0400	0.0500	
Risk Relativities					
Sum insured	$450,000	1.016			
Policy excess	$250 excess	1.060	1.060	1.060	
Building type	Freestanding home	1.000			
Construction type	Timber	1.100	1.100	1.100	
Roof type	Terracotta Tile	0.900			
Construction year	1975	1.400	1.000	1.000	
Landlords flag	No	1.000	1.000	1.000	
Number of storeys	1		1.000	1.000	
Policy coverage level	A	1.030	1.030	1.030	
Risk mitigation relativities					
Garage doors	No	1.000			
Window openings	Shutters installed	0.900			
Replaced roof	No	1.000			
Total risk relativity (product of all relativities)		1.383	1.201	1.201	
CRP premium (ex GST, duties, and levies)		$871	$216	$270	$1,358

Note that the sum insured relativity for the wind risk is calculated as follows to give a relativity of 1.016

$$\frac{400{,}000 \times 1.030 + (450{,}000 - 400{,}000) \times 0.900}{450{,}000}$$

The total Cyclone Pool premium for this property is $1,358, excluding GST and levies, summing up the wind, flood, and storm surge components of the premium.

B List of changes for 1 April 2025 premium rates

Line of business	Rating algorithm changes
Home	• Added a contents-only option for construction year • Added a number of storeys option for contents policies situated on the ground, 1st, 2nd and 3rd storey and above • Added "Unknown" option for the following mitigation rating factors: > Roller door > Window protection > Roof replacement
SME	• Added a contents-only option for construction year • Added a number of storeys option for contents policies situated on the ground, 1st, 2nd and 3rd storey and above • Introduced flood/surge sublimit relativities
Strata	• Added the following mitigation rating factors: > Roof mitigation > Window protection > External doors > Vehicle access door > Gutter overflows

C Home building premium rates

Changes from the previous premium rate tables have been highlighted.

C.1 Wind Base Rates per $100 SI

	Wind	
Band	Buildings	Contents
A	0.0000	0.0000
B	0.0040	0.0028
C	0.0080	0.0056
D	0.0120	0.0084
E	0.0160	0.0112
F	0.0200	0.0140
G	0.0240	0.0168
H	0.0280	0.0196
I	0.0320	0.0230
J	0.0360	0.0259
K	0.0400	0.0288
L	0.0500	0.0450
M	0.0600	0.0540
N	0.0800	0.0720
O	0.1000	0.0900
P	0.1200	0.1080
Q	0.1400	0.1260
R	0.1600	0.1440
S	0.1800	0.1620
T	0.2000	0.1800
U	0.2000	0.2000
V	0.2500	0.2500
W	0.3500	0.3500
X	#N/A	#N/A
Y	#N/A	#N/A
Z	#N/A	#N/A

C.2 Flood and Surge Base Rates per $100 SI

	Flood		Surge	
Band	Buildings	Contents	Buildings	Contents
Nil	0.0000	0.0000	0.0000	0.0000
Minimum	0.0100	0.0115	0.0060	0.0067
Very Low	0.0200	0.0230	0.0120	0.0134
Low	0.0300	0.0345	0.0200	0.0224
Medium	0.0400	0.0460	0.0300	0.0336
High	0.0500	0.0575	0.0400	0.0448
Very High	0.0700	0.0805	0.0500	0.0560
Maximum	0.1000	0.2000	0.0500	0.1000

C.3 Sum Insured

Buildings		Wind		Contents		Wind	
Sum Insured Min	Sum Insured Max	Relativity applied to min. of band	Marginal relativity	Sum Insured Min	Sum Insured Max	Relativity applied to min. of band	Marginal relativity
0	99,999		1.2000	0	9,999		1.2500
100,000	199,999	1.2000	1.0500	10,000	19,999	1.2500	1.0800
200,000	299,999	1.1250	0.9500	20,000	29,999	1.1650	1.0200
300,000	399,999	1.0670	0.9200	30,000	39,999	1.1170	0.8500
400,000	499,999	1.0300	0.9000	40,000	49,999	1.0500	0.8200
500,000	599,999	1.0040	0.9000	50,000	59,999	1.0040	0.8200
600,000	699,999	0.9870	0.9000	60,000	69,999	0.9730	0.8200
700,000	799,999	0.9740	0.9000	70,000	79,999	0.9510	0.8200
800,000	899,999	0.9650	0.9000	80,000	89,999	0.9350	0.8200
900,000	999,999	0.9580	0.9000	90,000	99,999	0.9220	0.8200
1,000,000	1,099,999	0.9520	0.9000	100,000	109,999	0.9120	0.8200
1,100,000	1,199,999	0.9470	0.9000	110,000	119,999	0.9040	0.8200
1,200,000	1,299,999	0.9430	0.9000	120,000	129,999	0.8970	0.8200
1,300,000	1,399,999	0.9400	0.9000	130,000	139,999	0.8910	0.8200
1,400,000	1,499,999	0.9370	0.9000	140,000	149,999	0.8860	0.8200
1,500,000	1,599,999	0.9350	0.9000	150,000	159,999	0.8810	0.8200
1,600,000	1,699,999	0.9320	0.9000	160,000	169,999	0.8770	0.8200
1,700,000	1,799,999	0.9310	0.9000	170,000	179,999	0.8740	0.8200
1,800,000	1,899,999	0.9290	0.9000	180,000	189,999	0.8710	0.8200
1,900,000	1,999,999	0.9270	0.9000	190,000	199,999	0.8680	0.8200
2,000,000	100,000,000	0.9260	0.9000	200,000	209,999	0.8660	0.8200
				210,000	219,999	0.8640	0.8200
				220,000	229,999	0.8620	0.8200
				230,000	239,999	0.8600	0.8200
				240,000	249,999	0.8580	0.8200
				250,000	259,999	0.8570	0.8200
				260,000	269,999	0.8550	0.8200
				270,000	279,999	0.8540	0.8200
				280,000	289,999	0.8530	0.8200
				290,000	299,999	0.8520	0.8200
				300,000	100,000,000	0.8510	0.8200

C.4 Excess

Buildings					Contents				
Excess Min	Excess Max	Wind	Flood	Surge	Excess Min	Excess Max	Wind	Flood	Surge
0	99	1.1200	1.1200	1.1200	0	99	1.1200	1.1200	1.1200
100	199	1.1000	1.1000	1.1000	100	199	1.1000	1.1000	1.1000
200	299	1.0600	1.0600	1.0600	200	299	1.0600	1.0600	1.0600
300	399	1.0450	1.0450	1.0450	300	399	1.0450	1.0450	1.0450
400	499	1.0300	1.0300	1.0300	400	499	1.0300	1.0300	1.0300
500	599	1.0000	1.0000	1.0000	500	599	1.0000	1.0000	1.0000
600	699	0.9880	0.9880	0.9880	600	699	0.9880	0.9880	0.9880
700	799	0.9760	0.9760	0.9760	700	799	0.9760	0.9760	0.9760
800	899	0.9640	0.9640	0.9640	800	899	0.9640	0.9640	0.9640
900	999	0.9520	0.9520	0.9520	900	999	0.9520	0.9520	0.9520
1,000	1,249	0.9400	0.9400	0.9400	1,000	1,249	0.9400	0.9400	0.9400
1,250	1,499	0.9350	0.9350	0.9350	1,250	1,499	0.9350	0.9350	0.9350
1,500	1,749	0.9300	0.9300	0.9300	1,500	1,749	0.9300	0.9300	0.9300
1,750	1,999	0.9250	0.9250	0.9250	1,750	1,999	0.9250	0.9250	0.9250
2,000	2,999	0.9200	0.9200	0.9200	2,000	2,999	0.9200	0.9200	0.9200
3,000	3,999	0.9133	0.9133	0.9133	3,000	3,999	0.9133	0.9133	0.9133
4,000	4,999	0.9067	0.9067	0.9067	4,000	4,999	0.9067	0.9067	0.9067
5,000	1,000,000	0.9000	0.9000	0.9000	5,000	1,000,000	0.9000	0.9000	0.9000

C.5 Building Type

	Wind	
Building Type	Buildings	Contents
Freestanding house	1.0000	1.0000
Semi detached, duplex or terrace	1.0000	1.0000
Unit, flat or apartment	1.0000	1.0000
Townhouse or villa	1.0000	1.0000
Caravan, mobile or relocatable home	2.0000	2.0000
Other	1.0000	1.0000
Unknown	1.0000	1.0000

C.6 Construction Type

	Wind								Flood		Surge	
	Buildings				Contents				Buildings	Contents	Buildings	Contents
Construction Type	A	B	C	D	A	B	C	D				
Brick Veneer	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Fibro/Asbestos	1.2500	1.2500	1.2500	1.2500	1.1000	1.1000	1.1000	1.1000	1.1000	1.0000	1.1000	1.0000
Concrete/Cement/Hebel	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	1.0000	0.9000	1.0000
Timber/Weatherboard/Hardiplank	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0000	1.0500	1.0000
Double Brick	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	1.0000
Metal Sheeting	1.1500	1.1500	1.1500	1.1500	1.1000	1.1000	1.1000	1.1000	1.0000	1.0000	1.0000	1.0000
Metal Frame	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	1.0000	0.9000	1.0000
Mudbrick/Rammed Earth	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Stone	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
EPS	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Caravan, mobile or relocatable home	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Unknown	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

C.7 Roof Type

	Wind	
Roof Type	Buildings	Contents
Concrete Tiles	0.9000	0.9000
Terracotta Tile	0.9000	0.9000
Metal/Colorbond	1.0000	1.0000
Concrete	0.9000	0.9000
Fibro/Asbestos Cement	1.1000	1.0000
Shingle	1.0000	1.0000
Slate	1.0000	1.0000
Timber	1.0000	1.0000
Decramastic	1.0000	1.0000
Thatched	1.2000	1.2000
Caravan, mobile or relocatable home	1.0000	1.0000
Other	1.0000	1.0000
Unknown	0.9500	0.9500

C.8 Construction Year

	Wind								Flood		Surge	
	Buildings				Contents				Buildings	Contents	Buildings	Contents
Construction Year	A	B	C	D	A	B	C	D				
Pre 1920	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000
1920 - 1949	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000
1950 - 1959	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000
1960 - 1969	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000
1970 - 1981	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000
1982 - 1989	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1990 - 1999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2000 - 2011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2012 - 2019	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	1.0000
2020+	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	1.0000
Caravan, mobile or relocatable home	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Unknown	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000
Contents only	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

C.9 Landlords Flag

	Wind		Flood		Surge	
Landlords Flag	Buildings	Contents	Buildings	Contents	Buildings	Contents
Non-Landlords	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Landlords	1.1000	1.0000	1.1000	1.0000	1.1000	1.0000

C.10 Number of Storeys

	Flood		Surge	
Number of Storeys	Buildings	Contents	Buildings	Contents
1	1.0000	1.0000	1.0000	1.0000
2	0.8000	0.6000	0.8000	0.6000
3+	0.6000	0.4000	0.6000	0.4000
1 Storey elevated (>1m)	0.5000	0.4000	0.5000	0.4000
2 Storeys elevated (>1m)	0.4500	0.3500	0.4500	0.3500
3 Storeys elevated (>1m)	0.4000	0.3000	0.4000	0.3000
Caravan, mobile or relocatable home	1.0000	1.0000	1.0000	1.0000
Unknown	1.0000	1.0000	1.0000	1.0000
Apartment - Ground floor - contents only		1.0000		1.0000
Apartment - 1st floor - contents only		0.3500		0.3500
Apartment - 2nd floor - contents only		0.2500		0.2500
Apartment - 3rd floor and above - contents only		0.2000		0.2000

C.11 Coverage Level

	Wind		Flood		Surge	
Building Coverage Level	Buildings	Contents	Buildings	Contents	Buildings	Contents
A	1.0300	#N/A	1.0300	#N/A	1.0300	#N/A
B	1.0000	#N/A	1.0000	#N/A	1.0000	#N/A
C	0.9700	#N/A	0.9700	#N/A	0.9700	#N/A
Not Applicable	1.0000	#N/A	1.0000	#N/A	1.0000	#N/A

C.12 Mitigation – Roller Door

	Wind	
Mitigation	Buildings	Contents
No qualifying mitigation	1.0000	1.0000
Roller door bracing upgrade or retrofit replacement of roller door (compliant with AS 4505:2012) – on homes built pre-2012	0.9200	0.9200
Unknown	1.0000	1.0000

C.13 Mitigation – Window Protection

	Wind	
Mitigation	Buildings	Contents
No qualifying mitigation	1.0000	1.0000
Window protection to all windows (e.g. cyclone shutters)	0.9000	0.9000
Unknown	1.0000	1.0000

C.14 Mitigation – Roof Replacement

	Wind	
Mitigation	Buildings	Contents
No qualifying mitigation	1.0000	1.0000
Roof structure tie-down upgrades (e.g. over-batten roof system) - on homes built pre 1982	0.8000	0.8000
Complete roof replacement and structure tie-down upgrades to current standards - on homes built pre 1982	0.7000	0.7000
Unknown	1.0000	1.0000

D SME business insurance premium rates

Changes from the previous premium rate tables have been highlighted.

D.1 Wind Base Rates per $100 SI

	Wind		
Band	Buildings	Contents	BI
A	0.0000	0.0000	0.0000
B	0.0028	0.0010	0.0018
C	0.0056	0.0020	0.0036
D	0.0084	0.0032	0.0055
E	0.0112	0.0045	0.0073
F	0.0140	0.0056	0.0091
G	0.0168	0.0071	0.0109
H	0.0196	0.0082	0.0127
I	0.0240	0.0108	0.0156
J	0.0288	0.0130	0.0187
K	0.0380	0.0182	0.0247
L	0.0475	0.0228	0.0309
M	0.0570	0.0274	0.0371
N	0.0760	0.0365	0.0494
O	0.0950	0.0456	0.0618
P	0.1176	0.0564	0.0764
Q	0.1372	0.0659	0.0892
R	0.1568	0.0753	0.1019
S	0.1764	0.0882	0.1058
T	0.2000	0.1080	0.1100
U	0.2000	0.1200	0.1200
V	0.2125	0.1275	0.1594
W	0.3500	0.3500	0.1750
X	#N/A	#N/A	#N/A
Y	#N/A	#N/A	#N/A
Z	#N/A	#N/A	#N/A

D.2 Flood and Surge Base Rates per $100 SI

	Flood			Surge		
Band	Buildings	Contents	BI	Buildings	Contents	BI
Nil	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Minimum	0.0077	0.0105	0.0044	0.0049	0.0075	0.0041
Very Low	0.0154	0.0210	0.0088	0.0097	0.0150	0.0083
Low	0.0231	0.0315	0.0132	0.0162	0.0250	0.0138
Medium	0.0308	0.0420	0.0176	0.0243	0.0375	0.0207
High	0.0385	0.0525	0.0220	0.0324	0.0500	0.0250
Very High	0.0539	0.0735	0.0308	0.0405	0.0625	0.0250
Maximum	0.1000	0.2000	0.0500	0.0500	0.1000	0.0250

D.3 Sum Insured

Buildings		Wind		Contents		Wind		Business Interruption		Business Interruption	
Sum Insured Min	Sum Insured Max	Relativity applied to min. of band	Marginal relativity	Sum Insured Min	Sum Insured Max	Relativity applied to min. of band	Marginal relativity	Sum Insured Min	Sum Insured Max	Relativity applied to min. of band	Marginal relativity
0	99,999		1.1500	0	99,999		1.0500	0	99,999		1.0500
100,000	199,999	1.1500	1.1500	100,000	199,999	1.0500	0.9500	100,000	199,999	1.0500	0.9800
200,000	299,999	1.1500	1.1500	200,000	299,999	1.0000	0.9500	200,000	299,999	1.0150	0.9500
300,000	399,999	1.1500	0.9500	300,000	399,999	0.9830	0.9000	300,000	399,999	0.9930	0.9500
400,000	499,999	1.1000	0.9500	400,000	499,999	0.9620	0.8500	400,000	499,999	0.9820	0.9500
500,000	599,999	1.0700	0.9500	500,000	599,999	0.9400	0.8500	500,000	599,999	0.9760	0.9500
600,000	699,999	1.0500	0.9500	600,000	699,999	0.9250	0.8000	600,000	699,999	0.9720	0.9500
700,000	799,999	1.0360	0.9500	700,000	799,999	0.9070	0.8000	700,000	799,999	0.9690	0.9000
800,000	899,999	1.0250	0.9500	800,000	899,999	0.8940	0.8000	800,000	899,999	0.9600	0.9000
900,000	999,999	1.0170	0.9500	900,000	999,999	0.8830	0.8000	900,000	999,999	0.9530	0.9000
1,000,000	1,099,999	1.0100	0.9000	1,000,000	1,099,999	0.8750	0.8000	1,000,000	1,099,999	0.9480	0.9000
1,100,000	1,199,999	1.0000	0.9000	1,100,000	1,199,999	0.8680	0.8000	1,100,000	1,199,999	0.9440	0.9000
1,200,000	1,299,999	0.9920	0.9000	1,200,000	1,299,999	0.8620	0.8000	1,200,000	1,299,999	0.9400	0.9000
1,300,000	1,399,999	0.9850	0.9000	1,300,000	1,399,999	0.8580	0.8000	1,300,000	1,399,999	0.9370	0.9000
1,400,000	1,499,999	0.9790	0.9000	1,400,000	1,499,999	0.8540	0.8000	1,400,000	1,499,999	0.9340	0.9000
1,500,000	1,999,999	0.9730	0.9000	1,500,000	1,999,999	0.8500	0.8000	1,500,000	1,999,999	0.9320	0.9000
2,000,000	2,499,999	0.9550	0.9000	2,000,000	2,499,999	0.8370	0.7500	2,000,000	2,499,999	0.9240	0.9000
2,500,000	2,999,999	0.9440	0.8500	2,500,000	2,999,999	0.8200	0.7500	2,500,000	2,999,999	0.9190	0.9000
3,000,000	3,499,999	0.9280	0.8500	3,000,000	3,499,999	0.8080	0.7500	3,000,000	3,499,999	0.9160	0.9000
3,500,000	3,999,999	0.9170	0.8000	3,500,000	3,999,999	0.8000	0.7000	3,500,000	3,999,999	0.9140	0.9000
4,000,000	4,499,999	0.9020	0.8000	4,000,000	4,499,999	0.7870	0.7000	4,000,000	4,499,999	0.9120	0.9000
4,500,000	5,000,000	0.8910	0.8000	4,500,000	5,000,000	0.7780	0.7000	4,500,000	5,000,000	0.9110	0.9000

D.4 Sum Insured Type

	Business Interruption
Industry Group	Gross Profit Relativity
Wholesale Trade	2.0000
Retail Trade	2.0000
Accommodation	1.5000
Food and Beverage Services	2.0000
Professional, Scientific and Technical Services	1.5000
Health Care and Social Assistance	1.5000
Arts and Recreation Services	1.5000
Repair and Maintenance	1.5000
Personal and Other Services	1.5000
Private Households Employing Staff and Undifferentiated Goods	1.0000
Property Owner Only	1.0000
Standard/Default	1.5000

D.5 Excess

		Buildings					Contents		
Excess Min	Excess Max	Wind	Flood	Surge	Excess Min	Excess Max	Wind	Flood	Surge
0	249	1.1000	1.1000	1.1000	0	249	1.1000	1.1000	1.1000
250	499	1.1000	1.1000	1.1000	250	499	1.1000	1.1000	1.1000
500	749	1.0000	1.0000	1.0000	500	749	1.0000	1.0000	1.0000
750	999	0.9750	0.9750	0.9750	750	999	0.9750	0.9750	0.9750
1,000	1,499	0.9500	0.9500	0.9500	1,000	1,499	0.9500	0.9500	0.9500
1,500	1,999	0.9250	0.9250	0.9250	1,500	1,999	0.9250	0.9250	0.9250
2,000	4,999	0.9000	0.9000	0.9000	2,000	4,999	0.9000	0.9000	0.9000
5,000	9,999	0.8500	0.8500	0.8500	5,000	9,999	0.8500	0.8500	0.8500
10,000	24,999	0.8000	0.8000	0.8000	10,000	24,999	0.8000	0.8000	0.8000
25,000	49,999	0.7500	0.7500	0.7500	25,000	49,999	0.7500	0.7500	0.7500
50,000	99,999	0.7000	0.7000	0.7000	50,000	99,999	0.7000	0.7000	0.7000
100,000	1,000,000	0.6500	0.6500	0.6500	100,000	1,000,000	0.6500	0.6500	0.6500

D.6 Flood and Surge Sublimits

Sublimit as % of sum insured	Flood			Surge		
	Buildings	Contents	BI	Buildings	Contents	BI
0-5%	0.4500	0.3000	0.3800	0.4500	0.3000	0.3800
5-10%	0.6200	0.4000	0.5100	0.6200	0.4000	0.5100
10-15%	0.7100	0.4600	0.5900	0.7100	0.4600	0.5900
15-20%	0.7400	0.5100	0.6300	0.7400	0.5100	0.6300
20-25%	0.7700	0.5600	0.6700	0.7700	0.5600	0.6700
25-30%	0.8050	0.6100	0.7100	0.8050	0.6100	0.7100
30-40%	0.8400	0.6700	0.7600	0.8400	0.6700	0.7600
40-50%	0.9300	0.7500	0.8400	0.9300	0.7500	0.8400
50-60%	0.9700	0.8400	0.9100	0.9700	0.8400	0.9100
60-70%	1.0000	0.9000	0.9500	1.0000	0.9000	0.9500
70-80%	1.0000	0.9400	0.9700	1.0000	0.9400	0.9700
80-90%	1.0000	0.9700	0.9900	1.0000	0.9700	0.9900
90-100%	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

D.7 Industry Group

Industry Group	Wind		Business Interruption
	Buildings	Contents	Business Interruption
Wholesale Trade	1.0000	1.0000	0.9500
Retail Trade	1.0000	1.0000	0.9500
Accommodation	1.0000	1.0000	1.2500
Food and Beverage Services	1.0000	1.0000	1.1000
Professional, Scientific and Technical Services	1.0000	1.0000	0.8000
Health Care and Social Assistance	1.0000	1.0000	0.7000
Arts and Recreation Services	1.0000	1.0000	1.0000
Repair and Maintenance	1.0000	1.0000	0.8500
Personal and Other Services	1.0000	1.0000	0.8500
Private Households Employing Staff and Undifferentiated Goods	1.0000	1.0000	0.8500
Property Owner Only	1.0000	1.0000	1.0000
Standard/Default	1.0000	1.0000	1.0000

D.8 Construction Type

Construction Type	Wind												Flood			Surge		
	Buildings				Contents				BI				Buildings	Contents	BI	Buildings	Contents	BI
	A	B	C	D	A	B	C	D	A	B	C	D						
Brick Veneer	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Fibro/Asbestos	1.2500	1.2500	1.2500	1.2500	1.1000	1.1000	1.1000	1.1000	1.2500	1.2500	1.2500	1.2500	1.1000	1.0000	1.1000	1.1000	1.0000	1.1000
Concrete/Cement/Hebel	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	1.0000	0.9000	0.9000	1.0000	0.9000
Timber/Weatherboard/Hardiplank	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0000	1.0500	1.0500	1.0000	1.0500
Double Brick	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500
Metal Sheeting	1.1500	1.1500	1.1500	1.1500	1.1000	1.1000	1.1000	1.1000	1.1500	1.1500	1.1500	1.1500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Metal Frame	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	1.0000	0.9000	0.9000	1.0000	0.9000
Mudbrick/Rammed Earth	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Stone	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
EPS	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Unknown	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500

D.9 Roof Type

	Wind		
Roof Type	Buildings	Contents	BI
Concrete Tiles	0.9000	0.9000	0.9000
Terracotta Tile	0.9000	0.9000	0.9000
Metal/Colorbond	1.0000	1.0000	1.0000
Concrete	0.9000	0.9000	0.9000
Fibro/Asbestos Cement	1.1000	1.1000	1.1000
Shingle	1.1000	1.1000	1.1000
Slate	1.0000	1.0000	1.0000
Timber	1.0000	1.0000	1.0000
Decramastic	1.0000	1.0000	1.0000
Thatched	1.2000	1.2000	1.2000
Other	1.0000	1.0000	1.0000
Unknown	1.0000	1.0000	1.0000

D.10 Construction Year

	Wind												Flood			Surge		
	Buildings				Contents				BI				Buildings	Contents	BI	Buildings	Contents	BI
Construction Year	A	B	C	D	A	B	C	D	A	B	C	D						
Pre 1920	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1920 - 1949	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1950 - 1959	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1960 - 1969	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1970 - 1981	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1982 - 1989	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1990 - 1999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2000 - 2011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2012 - 2019	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2020+	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Unknown	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Contents only	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

D.11 Number of Storeys

	Flood			Surge		
Number of Storeys	Buildings	Contents	BI	Buildings	Contents	BI
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2-3	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
4-6	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
7+	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Unknown	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Ground floor - contents only		1.0000			1.0000	
1st floor - contents only		0.2000			0.2000	
2nd floor - contents only		0.0500			0.0500	
3rd floor and above - contents only		0.0200			0.0200	

D.12 AICOW

	Business Interruption
AICOW	Business Interruption
No	1.00
Yes	1.30

D.13 Coverage Level

	Wind		Flood		Surge		Business Interruption
Coverage Level	Buildings	Contents	Buildings	Contents	Buildings	Contents	Business Interruption
A	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
B	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
C	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Not Applicable	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

D.14 Duration of Cover

	Business Interruption
Duration of Cover	Business Interruption
3 Months	0.6000
6 Months	0.8000
12 Months	1.0000
18 Months	1.1000
24 Months	1.2000
36 Months	1.3000

E Strata building premium rates

Changes from the previous premium rate tables have been highlighted.

E.1 Wind Base Rates per $100 SI

Band	Wind
A	0.0000
B	0.0038
C	0.0076
D	0.0114
E	0.0144
F	0.0180
G	0.0216
H	0.0252
I	0.0288
J	0.0324
K	0.0360
L	0.0450
M	0.0552
N	0.0736
O	0.0920
P	0.1104
Q	0.1288
R	0.1472
S	0.1656
T	0.1840
U	0.2000
V	0.2500
W	0.3500
X	#N/A
Y	#N/A
Z	#N/A

E.2 Flood and Surge Base Rates per $100 SI

Band	Flood	Surge
Nil	0.0000	0.0000
Minimum	0.0086	0.0056
Very Low	0.0172	0.0113
Low	0.0258	0.0188
Medium	0.0344	0.0282
High	0.0430	0.0376
Very High	0.0602	0.0470
Maximum	0.1000	0.0500

E.3 Sum Insured

		Wind	
Sum Insured Min	Sum Insured Max	Relativity applied to min. of band	Marginal relativity
0	499,999		1.0000
500,000	999,999	1.0000	1.0000
1,000,000	1,999,999	1.0000	1.0000
2,000,000	2,999,999	1.0000	1.0000
3,000,000	3,999,999	1.0000	1.0000
4,000,000	4,999,999	1.0000	1.0000
5,000,000	5,999,999	1.0000	1.0000
6,000,000	6,999,999	1.0000	1.0000
7,000,000	7,999,999	1.0000	1.0000
8,000,000	8,999,999	1.0000	1.0000
9,000,000	9,999,999	1.0000	1.0000
10,000,000	14,999,999	1.0000	1.0000
15,000,000	19,999,999	1.0000	1.0000
20,000,000	24,999,999	1.0000	0.7500
25,000,000	29,999,999	0.9500	0.7500
30,000,000	34,999,999	0.9167	0.5000
35,000,000	39,999,999	0.8571	0.5000
40,000,000	44,999,999	0.8125	0.5000
45,000,000	49,999,999	0.7778	0.5000
50,000,000	54,999,999	0.7500	0.5000
55,000,000	59,999,999	0.7273	0.5000
60,000,000	64,999,999	0.7083	0.2500
65,000,000	69,999,999	0.6731	0.2500
70,000,000	74,999,999	0.6429	0.2500
75,000,000	79,999,999	0.6167	0.2500
80,000,000	84,999,999	0.5937	0.2500
85,000,000	89,999,999	0.5735	0.2500
90,000,000	94,999,999	0.5556	0.2500
95,000,000	99,999,999	0.5395	0.2500
100,000,000	119,999,999	0.5250	0.2500
120,000,000	139,999,999	0.4792	0.2500
140,000,000	159,999,999	0.4464	0.2500
160,000,000	179,999,999	0.4219	0.2500
180,000,000	199,999,999	0.4028	0.2500
200,000,000	249,999,999	0.3875	0.2500
250,000,000	299,999,999	0.3600	0.2500
300,000,000	349,999,999	0.3417	0.2500
350,000,000	399,999,999	0.3286	0.2500
400,000,000	449,999,999	0.3187	0.2500
450,000,000	499,999,999	0.3111	0.2500
500,000,000	549,999,999	0.3050	0.2500
550,000,000	599,999,999	0.3000	0.2500
600,000,000	649,999,999	0.2958	0.2500
650,000,000	699,999,999	0.2923	0.2500
700,000,000	749,999,999	0.2893	0.2500
750,000,000	100,000,000,000	0.2867	0.2500

E.4 Excess

Excess Min	Excess Max	Wind	Flood	Surge
0	499	1.0200	1.0200	1.0200
500	999	1.0000	1.0000	1.0000
1,000	1,999	0.9800	0.9800	0.9800
2,000	4,999	0.9600	0.9600	0.9600
5,000	9,999	0.9200	0.9200	0.9200
10,000	24,999	0.9000	0.9000	0.9000
25,000	49,999	0.8800	0.8800	0.8800
50,000	99,999	0.8500	0.8500	0.8500
100,000	249,999	0.8000	0.8000	0.8000
250,000	499,999	0.7500	0.7500	0.7500
500,000	749,999	0.7000	0.7000	0.7000
750,000	999,999	0.7000	0.7000	0.7000
1,000,000	100,000,000	0.7000	0.7000	0.7000

E.5 Flood and Surge Sublimits

	Flood					Surge				
	Sum insured band					Sum insured band				
Sublimit as % of sum insured	0-$10m	$10m-$20m	$20m-$50m	$50m-$100m	$100m+	0-$10m	$10m-$20m	$20m-$50m	$50m-$100m	$100m+
0-5%	0.4500	0.4900	0.5500	0.6200	0.7600	0.4500	0.4900	0.5500	0.6200	0.7600
5%-10%	0.6200	0.6700	0.7200	0.7600	0.8500	0.6200	0.6700	0.7200	0.7600	0.8500
10%-20%	0.7100	0.7700	0.8200	0.8500	0.8900	0.7100	0.7700	0.8200	0.8500	0.8900
20%-30%	0.7700	0.8300	0.8900	0.9200	0.9300	0.7700	0.8300	0.8900	0.9200	0.9300
30%-50%	0.8400	0.9100	0.9600	0.9700	0.9800	0.8400	0.9100	0.9600	0.9700	0.9800
50-100%	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

E.6 Construction Type

	Wind				Flood	Surge
Construction Type	A	B	C	D		
Brick Veneer	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Fibro/Asbestos	1.2500	1.2500	1.2500	1.2500	1.1000	1.1000
Concrete/Cement/Hebel	0.6500	0.6500	0.6500	0.6500	0.9000	0.9000
Timber/Weatherboard/Hardiplank	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
Double Brick	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500
Metal Sheeting	1.1500	1.1500	1.1500	1.1500	1.0000	1.0000
Metal Frame	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000
Stone	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
EPS	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Unknown	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

E.7 Roof Type

Roof Type	Wind
Concrete Tiles	1.0000
Terracotta Tile	1.0000
Metal/Colorbond	1.0000
Concrete	0.9000
Fibro/Asbestos Cement	1.1000
Shingle	1.0000
Slate	1.0000
Timber	1.1000
Decramastic	1.0000
Aluminium	1.0000
Iron	1.0000
Copper	1.0000
Other	1.0000
Unknown	1.0000

E.8 Construction Year

	Wind				Flood	Surge
Construction Year	A	B	C	D		
Pre 1920	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000
1920 - 1949	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000
1950 - 1959	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000
1960 - 1969	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000
1970 - 1981	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000
1982 - 1989	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1990 - 1999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2000 - 2011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2012 - 2019	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000
2020+	0.9000	0.9000	0.9000	0.9000	1.0000	1.0000
Unknown	1.3000	1.3500	1.4000	1.6000	1.0000	1.0000

E.9 Number of Storeys

Number of Storeys	Wind	Flood	Surge
1-3	1.0000	1.0000	1.0000
4-6	0.8000	0.6000	0.6000
7-9	0.7000	0.3000	0.3000
10-19	0.6500	0.2000	0.2000
20+	0.6000	0.1500	0.1500
Unknown	1.0000	1.0000	1.0000

E.10 Number of Basement Levels

Number of Basement Levels	Flood	Surge
0	1.0000	1.0000
1	1.4000	1.4000
2	1.5000	1.5000
3+	1.6000	1.6000
Unknown	1.0000	1.0000

E.11 Coverage Level

Coverage Level	Wind	Flood	Surge
A	1.0000	1.0000	1.0000
B	1.0000	1.0000	1.0000
C	1.0000	1.0000	1.0000
Not Applicable	1.0000	1.0000	1.0000

E.12 Mitigation – Roof

Level	Mitigation - Roof *(Refer to the Implementation and Pricing Structure Guide for full description of conditions for each discount)*	Wind
Strata_G01	No qualifying mitigation	1.0000
Strata_G02	Full roof structure retrofit for pre-1982/unknown construction year	0.9000
Strata_G03	Tile roof type with sarking under tiles	0.9500
Strata_G04	Tile roof type with pre-1982/unknown construction year and full roof structure retrofit, without sarking under the tiles	0.9500
Strata_G05	Metal roof type with compliant fastened flashings	0.9700
Strata_G06	Full metal roof structure retrofit for pre-1982/unknown construction year, however fastened flashings are not compliant	0.9300
Strata_G07	Unknown	1.0000

E.13 Mitigation – Window protection

Level	Mitigation - Window Protection *(Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)*	Wind
Strata_H01	No qualifying mitigation	1.0000
Strata_H02	Permanent protection (cyclone wind-rated shutters or cyclone debris-rated screens), installed externally on all glass windows	0.9700
Strata_H03	Unknown	1.0000

E.14 Mitigation – External Doors

Level	Mitigation - External doors *(Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)*	Wind
Strata_I01	No qualifying mitigation	1.0000
Strata_I02	All external doors are either: - Metal OR - Timber with solid cores OR - Glass doors (including balcony doors) with debris-rated impact screens or wind-rated shutters	0.9700
Strata_I03	Unknown	1.0000

E.15 Mitigation – Vehicle Access Door

Level	Mitigation - Vehicle access door *(Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)*	Wind
Strata_J01	No qualifying mitigation	1.0000
Strata_J02	Vehicle access door located in the main structure, and main structure has three storeys or less (for pre-2012/unknown construction year)	0.9700
Strata_J03	Unknown	1.0000

E.16 Mitigation – Gutter overflows

Level	Mitigation - Gutter overflows *(Refer to the Implementation and Pricing Structure Guide for full description of conditions for discount)*	Wind
Strata_K01	No qualifying mitigation	1.0000
Strata_K02	All gutters are compliant with the following conditions: - Gutter overflows for all perimeter gutters on boxed eaves and/or all box gutters (at each end) OR - All eaves have no eave lining	0.9700
Strata_K03	Unknown	1.0000

F Qualifying features for Strata Mitigation discounts

F.1 Roof Mitigation discount

Roof Mitigation - Roof Type Requirements		Roof Type													
		Concrete Tiles	Terracotta Tile	Metal/Colorbond	Concrete	Fibro/Asbestos Cement	Shingle	Slate	Timber	Decramastic	Aluminium	Iron	Copper	Other	Unknown
Strata_G01	No qualifying mitigation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strata_G02	Full roof structure retrofit for pre-1982/unknown construction year	✓	✓	✓	x	x	✓	✓	x	✓	✓	✓	✓	x	x
Strata_G03	Tile roof type with sarking under tiles	✓	✓	x	x	x	✓	✓	x	x	x	x	x	x	x
Strata_G04	Tile roof type with pre-1982/unknown construction year and full roof structure retrofit, without sarking under the tiles	✓	✓	x	x	x	✓	✓	x	x	x	x	x	x	x
Strata_G05	Metal roof type with compliant fastened flashings	x	x	✓	x	x	x	x	x	✓	✓	✓	✓	x	x
Strata_G06	Full metal roof structure retrofit for pre-1982/unknown construction year, however fastened flashings are not compliant	x	x	✓	x	x	x	x	x	✓	✓	✓	✓	x	x
Strata_G07	Unknown	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Roof Mitigation - Construction Year Requirements		Construction Year										
		Pre 1920	1920 - 1949	1950 - 1959	1960 - 1969	1970 - 1981	1982 - 1989	1990 - 1999	2000 - 2011	2012 - 2019	2020+	Unknown
Strata_G01	No qualifying mitigation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strata_G02	Full roof structure retrofit for pre-1982/unknown construction year	✓	✓	✓	✓	✓	x	x	x	x	x	✓
Strata_G03	Tile roof type with sarking under tiles	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strata_G04	Tile roof type with pre-1982/unknown construction year and full roof structure retrofit, without sarking under the tiles	✓	✓	✓	✓	✓	x	x	x	x	x	✓
Strata_G05	Metal roof type with compliant fastened flashings	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strata_G06	Full metal roof structure retrofit for pre-1982/unknown construction year, however fastened flashings are not compliant	✓	✓	✓	✓	✓	x	x	x	x	x	✓
Strata_G07	Unknown	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Sarking (for tile roofs) and flashings (for metal roofs) mitigation discounts are not limited to pre-2018 constructions as the potential benefits from sarking and flashing are not reflected in the construction year relativities.

F.2 Vehicle access door discount

Vehicle Access Door Mitigation - Construction Year Requirements		Construction Year										
		Pre 1920	1920 - 1949	1950 - 1959	1960 - 1969	1970 - 1981	1982 - 1989	1990 - 1999	2000 - 2011	2012 - 2019	2020+	Unknown
Strata_J01	No qualifying mitigation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strata_J02	Vehicle access door located in the main structure, and main structure has three storeys or less (for pre-2012/unknown construction year)	✓	✓	✓	✓	✓	✓	✓	✓	x	x	✓
Strata_J03	Unknown	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Vehicle Access Door Mitigation - Number of Storeys Requirements		Number of Storeys					
		1-3	4-6	7-9	10-19	20+	Unknown
Strata_J01	No qualifying mitigation	✓	✓	✓	✓	✓	✓
Strata_J02	Vehicle access door located in the main structure, and main structure has three storeys or less (for pre-2012/unknown construction year)	✓	x	x	x	x	x
Strata_J03	Unknown	✓	✓	✓	✓	✓	✓

G Building standards for mitigation discounts

G.1 Mitigation - Roof

Level	Mitigation - Roof	Qualifying criteria
Strata_G02	Full roof structure retrofit for pre-1982/unknown construction year	Metal roof type: Full roof replacement and roof structure tie-down upgrades to AS 1684.3 (version 1999 or later), where the fastened flashings are compliant with AS1562.1 (version 2018 or later). Metal roof types are defined as Metal/Colorbond, Decramastic, Aluminium, Iron and Copper roof types. Tile roof type: Full roof replacement and roof structure tie-down upgrades to AS 1684.3 (version 1999 or later), and sarking under the tiles. Tile roof types are defined as Concrete Tiles, Terracotta Tiles, Shingle or Slate roof types. Buildings must have a construction year before 1982 to receive this discount. Concrete/Fibro/Asbsestos Cement/Unknown/Timber/Other roof types are not eligible to receive this discount.
Strata_G03	Tile roof type with sarking under tiles	Tile roofs that have a sarking layer under the tiles.
Strata_G04	Tile roof type with pre-1982/unknown construction year and full roof structure retrofit, without sarking under the tiles	Full roof replacement and roof structure tie-down upgrades to AS 1684.3 (version 1999 or later), without sarking under the tiles. Buildings must have a construction year before 1982 to receive this discount. The discount is restricted to Concrete Tiles, Terracotta Tiles, Shingle or Slate roof types.
Strata_G05	Metal roof type with compliant fastened flashings	Metal roof type with fastened flashings, where the fastened flashings are compliant with AS1562.1 (version 2018 or later). The discount is restricted to Metal/Colorbond, Decramastic, Aluminium, Iron and Copper roof types.
Strata_G06	Full metal roof structure retrofit for pre-1982/unknown construction year, however fastened flashings are not compliant	Full roof replacement and roof structure tie-down upgrades to AS 1684.3 (version 1999 or later). The roof does not have fastened flashings fully compliant with AS1562.1 (version 2018 or later). Buildings must have a construction year before 1982 to receive this discount. The discount is restricted to Metal/Colorbond, Decramastic, Aluminium, Iron and Copper roof types.

G.2 Mitigation – Window Protection

Level	Mitigation - Window Protection	Qualifying criteria
Strata_H02	Permanent protection (cyclone wind-rated shutters or cyclone debris-rated screens), installed externally on all glass windows	Permanent protection (cyclone wind-rated shutters or cyclone debris-rated screens), installed externally on all glass windows. For house-type buildings that comply with the scope of AS 4055, shutters are certified to resist wind pressures given in AS 4055 (version 2012 or later). For all other buildings, shutters are certified to resist wind pressures given in AS/NZS1170.2 (version 2011 or later). Cyclone debris-rated screens should have a test certificate for resisting the debris load for the wind region in which the building is located (or a higher wind region) as given in AS/NZS 1170.2 (version 2011 or later).

G.3 Mitigation – External Doors

Level	Mitigation - External doors	Qualifying criteria
Strata_I02	All external doors are either: - Metal OR - Timber with solid cores OR - Glass doors (including balcony doors) with debris-rated impact screens or wind-rated shutters	Any timber doors have solid cores. All glass doors, including balcony doors, need to have shutters or debris-rated screens, compliant with the following: For house-type buildings that comply with the scope of AS 4055, shutters are certified to resist wind pressures given in AS 4055 (version 2012 or later). For all other buildings, shutters are certified to resist wind pressures given in AS/NZS1170.2 (version 2011 or later). Cyclone debris-rated screens should have a test certificate for resisting the debris load for the wind region in which the building is located (or a higher wind region) as given in AS/NZS 1170.2 (version 2011 or later).

G.4 Mitigation – Vehicle Access Door

Level	Mitigation - Vehicle access door	Qualifying criteria
Strata_J02	Vehicle access door located in the main structure, and main structure has three storeys or less (for pre-2012/unknown construction year)	Vehicle Access door installed prior to 2012 has been retrofit (or braced) to be compliant with AS4505 (version 2012 or later), is located in the main structure, and main structure has three storeys or less. Buildings must have a construction year before 2012 to receive this discount. The main structure must be three storeys or less.

G.5 Mitigation – Gutter overflows

Level	Mitigation - Gutter overflows	Qualifying criteria
Strata_K02	All gutters are compliant with the following conditions: - Gutter overflows for all perimeter gutters on boxed eaves and/or all box gutters (at each end) OR - All eaves have no eave lining	A non-exhaustive list of options which may be eligible for this discount are provided separately .

G.5.1 Gutter overflow examples

The following gutter designs from the Australian Building Codes Board Housing Provisions Standards 2022 (1 May 2023) would be examples of acceptable overflows.

Figure 7.4.6a: Construction of front face slotted gutter

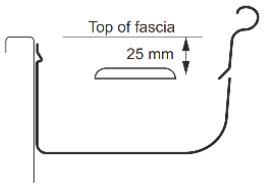


Figure 7.4.6b: Construction of controlled back gap

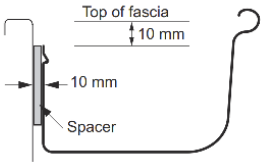


Figure 7.4.6c: Construction of controlled front bead height

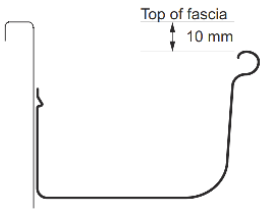


Figure 7.4.7a: Construction of end-stop weir

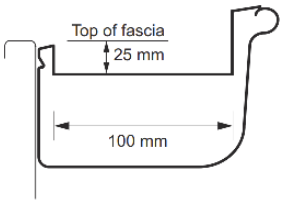
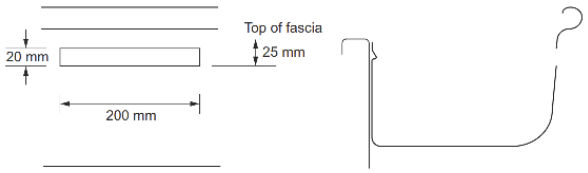
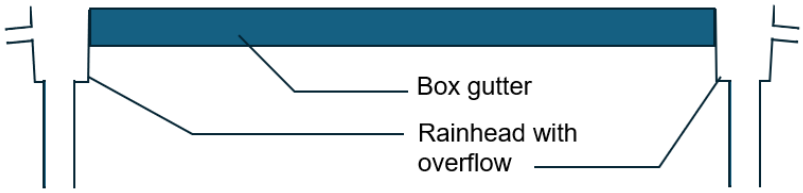


Figure 7.4.7c: Construction of front face weir

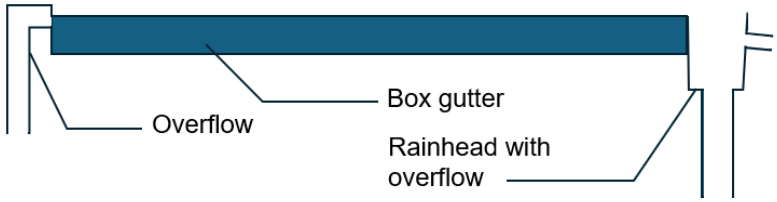


G.5.2 Box gutter overflow examples

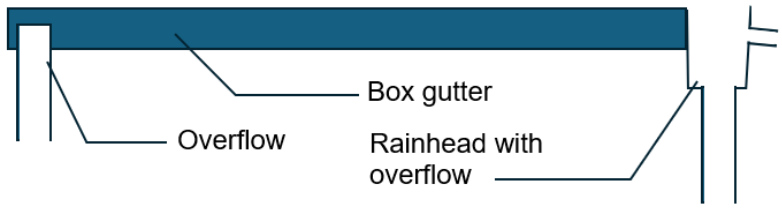
Rainhead with overflow at each end



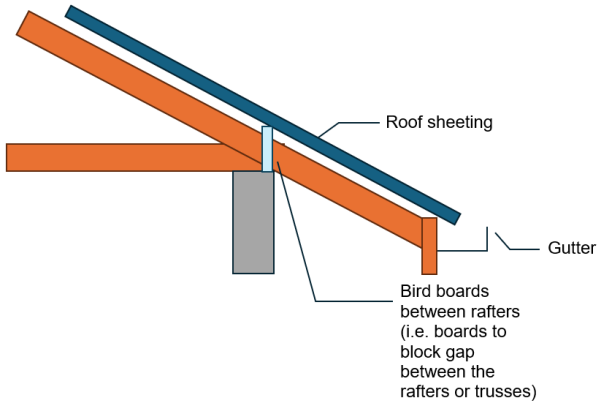
Horizontal pipe set so that the base of the pipe is 25 mm lower than the top of the gutter at the opposite end to the rainhead



Vertical pipe set so that the top of the pipe is 25mm below the top of the gutter



G.5.3 Unlined eave



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