Bushfire-Resilient Homes Toolkit: industry overview.

BUSHFIRE-RESILIENT HOMES TOOLKIT

Project partners

This project is proudly funded by the New South Wales Government, with assistance from Local Government NSW, Insurance Council of Australia, Minderoo Foundation and Edge Environment.

The purpose of this Toolkit is to provide guidance and advice to homeowners wishing to take action to improve the bushfire resilience of their homes.

The context, data, methodology and findings are based on a demonstration pilot, specifically for bushfire resilience of existing housing stock. The recommendations of the Toolkit focus on options for upgrading external building materials with more fire-resistant alternatives, and have been informed through analysis of housing archetype using the multi-hazard Building Resilience Rating Tool (BRRT). Consequently, this Toolkit primarily considers actions related to the materials and structure of the home. The built environment is an important aspect of resilience. Users are encouraged to consider the recommendations as part of a holistic approach, including improved property upkeep and behavioural changes, in order to realise meaningful improvements to bushfire preparedness and housing resilience.

This Toolkit is provided to residents, council and industry in good faith, applying best practice principles from a range of disciplines to develop recommendations. The knowledge and understanding of resilience continues to grow and evolve, providing stakeholders with a depth and breadth of information to explore and apply in a way that is fit for their individual purpose. As such, this Toolkit is intended to be used in combination with a range of other resources and the latest bushfire resilience guidance should always be checked. A list of further resources to assist stakeholders in their own research is provided in the Toolkit.

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The problem

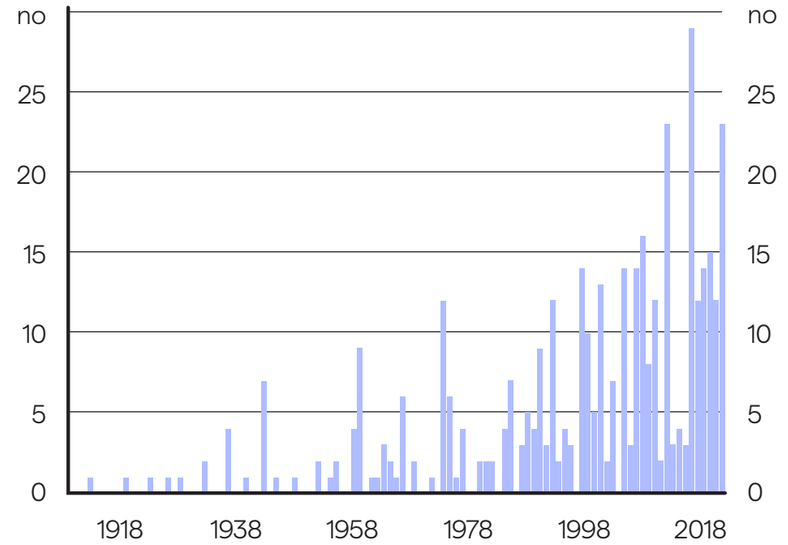
Continued temperature rises, increased frequency and reduced intervals between bushfires are projected to increase fire danger.

Bushfire events are predominately a function of temperatures, humidity and winds[1]. Long- term evidence shows that there has been both an increase in dangerous fire weather and an increase in the length of Australia's fire seasons[1]. Furthermore, research also shows a reduced time period between catastrophic bushfire events in Australia[1], with the fire season now occurring three months earlier[1] in some parts of the country. The increased duration of Australia's fire season reduces opportunities to undertake fire management approaches, and this is only projected to get worse in the future.

During the 2019–2020 Black Summer fire; 24 million hectares of land was burnt, 3,000 homes were destroyed, 33 people lost their lives, 3 billion animals were killed or displaced and residents were living under a smoke haze that was 11 times greater than the hazardous level.

Fire danger is very likely to increase for many parts of Australia[1]. The increased frequency, reduced time between events and the increase in fire intensities will make fires harder to contain[2] in the future.

Number of extreme heat days in Australia*



* Number of days each year where the Australian area-average daily mean temperature is extreme; extreme days are those above the 99th percentile of each month from the years 1910–2018; these extreme daily events typically occur over a large area with generally more than 40% of Australia experiencing temperatures in the warmest 10% for that month.

Source: Bureau of Meteorology State of the Climate report, updated to 2018

[1] Royal Commission into National Natural Disaster Arrangements, Report, 2020: https://naturaldisaster.royalcommission.gov.au/system/files/2020-11/Royal Commission into National Natural Disaster Arrangements - Report %5Baccessible%5D.pdf

[2] Reserve Bank of Australia, Financial Stability Review, 2019: https://www.rba.gov.au/publications/fsr/2019/oct/box-c-financial-stability-risks-from-climate-change.html

1

The problem

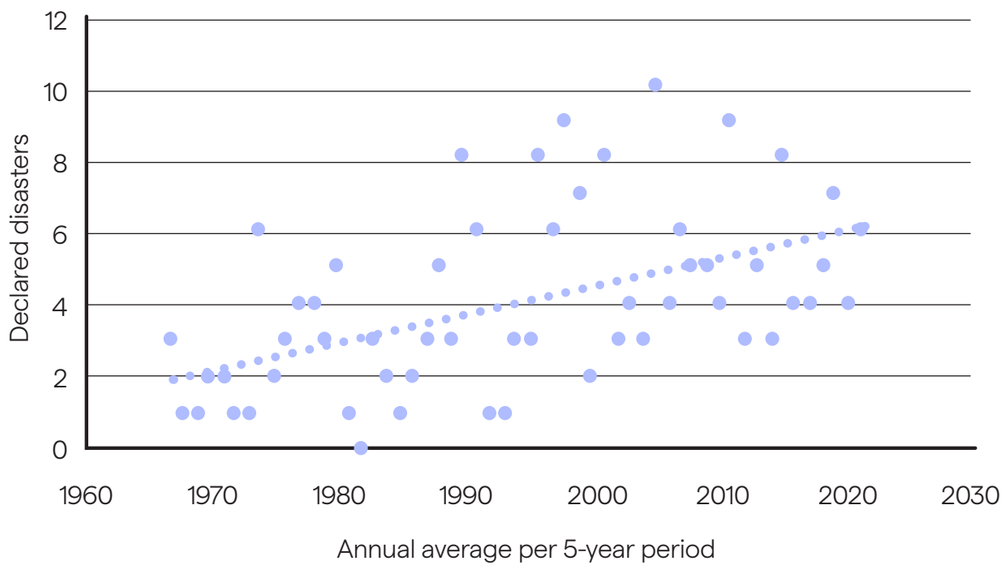
The severity, frequency and impact of catastrophic events is set to increase, with implications for the availability and affordability of insurance in Australia[3].

We are living in an era of climate change where natural hazards are exacerbated by a warming world. With an increase in mean temperature of 1.5 degrees centigrade in Australia since 1900, and no significant reduction in greenhouse gases, we can expect continued temperature rises, continued warming and increased frequency of extreme weather events including bushfire. Many communities that are already exposed to worsening extreme weather will become increasingly vulnerable, with implications for the availability and affordability of insurance[4].

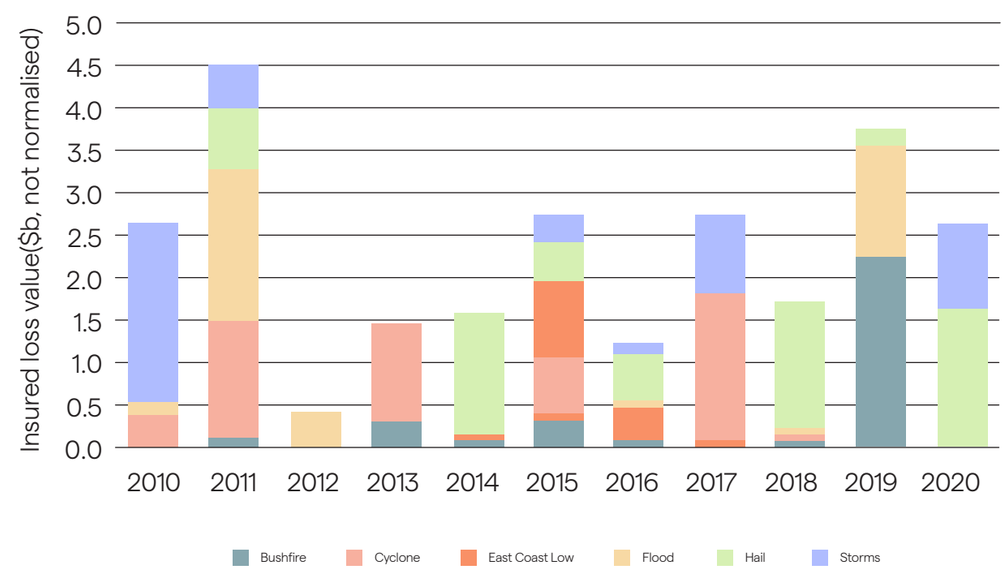
Climate hazards currently cost the economy $38 billion per year, with projections suggesting this cost will likely rise to over $78 billion per year by 2060[4].

There is an increasing understanding by Governments, insurance companies, banks and other financial services of the increased risks posed by climate changes and what steps can be taken to mitigate these risks[5].

Annual declared disasters[5]



Insured losses from natural hazards: 2010–2020[6]



[3] https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-dae-economic-reality-check-minderoo-foundation-17012022.pdf and https://insurancecouncil.com.au/issues-in-focus/affordability/

[4] Deloitte, Special report: Update to the economic costs of natural disasters in Australia, 2021: http://australianbusinessroundtable.com.au/assets/documents/Special%20report%3A%20Update%20to%20the%20economic%20costs%20of%20natural%20disasters%20in%20Australia/Special%20report%20_Update%20to%20the%20economic%20costs%20of%20natural%20disasters%20in%20A

[5] https://insurancecouncil.com.au/industry-members/data-hub/

[6] https://naturaldisaster.royalcommission.gov.au/publications/html-report/chapter-02

1

The problem

Climate change is driving an increase in the frequency and severity of extreme weather events, with implications for the affordability and availability of insurance in Australia.

For insurers to continue to provide insurance coverage at affordable pricing, action is required to strengthen the resilience of our homes, businesses, and communities and shift our approach to what we build and where we build it. The projected rise in frequency and severity of worsening extreme weather will increase the damage and destruction of assets insured and used as collateral[2]. According to The Australian Securities and Investments Commission, up to 80% of homeowners are underinsured. In the event of a natural disaster, the majority of homeowners are insured for less than what is required to rebuild their home[7].

The last three years have driven home just how devastating natural disasters can be. Insurers have paid out more than $8.9 billion in natural disaster claims over that period. With more than $6.1 billion paid out since the 2019-20 bushfires and total claims from the recent flooding and storm activity in northern NSW and QLD have an estimated claims value of over $2bn. Worsening extreme weather events can have implications for the affordability and availability of insurance in Australia.

For example, in Northern Australia the increasing scale and frequency of claims due to cyclones and flood has raised costs and rendered the insurance market unprofitable over a long period of time[8].

For insurers to continue to provide insurance coverage at affordable pricing, action is required to strengthen the resilience of our homes, businesses and communities. Although building regulations have been upgraded to reflect the heightened risk, these regulations only apply to new homes, and substantial upgrades to existing homes. There are also challenges with enforcing these codes and standards and seeing development built to the existing code. Homes that were built prior to the increasing risk or re-categorisation are less protected against bushfire risk, increasing the resident vulnerability.

[2] Reserve Bank of Australia, Financial Stability Review, 2019: https://www.rba.gov.au/publications/fsr/2019/oct/box-c-financial-stability-risks-from-climate-change.html
[7] The Conversation, A national insurance crisis looms. 2021: https://theconversation.com/a-national-insurance-crisis-looms-the-morrison-governments-10-billion-pool-plan-wont-fix-it-163796
[8] Insurance Council, 2021, https://insurancecouncil.com.au/wp-content/uploads/2021/09/ICA008_CatastropheReport_6.5_FA1_online.pdf

2

The opportunity

Climate change is leading to more frequent and intense bushfires. These climate hazards are having an increasing effect on communities, heightening the risk to people and property. To help keep our communities as safe as possible, we need to ensure our homes are upgraded sufficiently to meet the threat from regional bushfires.

Transforming how we think about building

As bushfire risks increase, communities which weren't traditionally affected by bushfires have been re-zoned as medium-to-high risk areas. This re-categorisation has increased the building requirements of new and substantial additions to existing homes. Bushfire Attack Level (BAL) ratings are the Australian standard for measuring a home's exposure risk to fire, including embers, radiant heat, and direct flame contact. The BAL rating determines the construction and building requirements required to protect homes in bushfire prone areas. Homes which were built prior to the re-categorisation are less protected against bushfire risk. Although direct flame impact is perceived to be the biggest risk to homes from bushfire, many house fires are caused by windborne embers traveling from kilometres away, settling on combustible materials or gaps in roofs, walls, or enclosures.

To ensure our homes are better protected against these risks, structural adaptations are advised to bring existing homes up to current standards.

To raise awareness of bushfire resilience, one insurance company in Australia collaborated with the government, universities, and architects to develop a series of online educational tools[9]. The tools were designed to assist customers in choosing bushfire-resilient materials when considering building or renovating their homes.

The online tools include:

- A prototype house designed and tested for bushfire resilience.
  The house is displayed as an interactive experience, providing explanations for each material used for the home and the contribution to the home's resilience.
- A suite of educational videos.
- Renovation and sustainability tips for different housing types.
- General information, checklists, and helpful links to government-owned bushfire-resilient websites.
- Resilience information for other weather events.

The range of tools provides customers with the information needed to consider, build, and home upgrades to be more resilient to bushfires, while also providing rental tenants with bushfire preparation and maintenance methods and further information that would aid their search for bushfire-resilient rental properties.

[9] Suncorp, One House, https://onehouse.suncorp.com.au/explore

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The opportunity

As bushfire risk increases it is crucial that we provide assessable and equitable ways Australian's can understand their bushfire risk and implement practical bushfire-resilient upgrades.

Developing self-assessment tools to increase bushfire resilience

An Australian insurance company in partnership with the government, industry, and the Bushfire Building Council of Australia is producing a bushfire-resilient rating tool. This bushfire resilience tool helps residents living in bushfire zones to assess their bushfire risk and adapt their homes to make them more resilient to bushfires[10]. The bushfire resilience star rating tool will rate residents' risk through a self-assessment and provide them with list of practical actions to increase the bushfire resilience of their home. The Star Rating system has the potential to provide insurers, banks, and investors with a framework for financing and rewarding bushfire resilience adaptations and will be available free to all Australians in 2023.

[10] IAG, World first project helps communities improve bushfire resilience, https://www.iag.com.au/newsroom/community/world-first-project-helps-communities-improve-bushfire-resilience

To help reduce the risk of underinsurance we can help customers understand building standards and associated costs of rebuilding a home.

Education to reduce the number of underinsured homes

Many Australians are unaware of the building standards and regulation changes that followed the significant 2019 bushfire events and how these changes will affect the rebuild cost for their home in the event of a total or significant lost as a result of bushfire.

To help their customers mitigate this, an insurance provider has created a simple and easily understood overview of these building standards and how they affect home insurance. The website content includes the Bushfire Attack Level (BAL) system, the risk of being under-insured and provides a table of the potential additional rebuild costs to inform and provide customers with the opportunity to correct their home insurance levels[11].

This transparency and information will provide customers with confidence and helps customers to understand and amend their insurance to reflect the actual rebuild costs. By providing customers with the confidence that their homes are correctly insured may influence whether residents stay and defend their home or leave during a bushfire event[12].

[11] AAMI, Check that your home is properly covered in the event of a bushfire, https://www.aami.com.au/home-insurance/bushfire-prevention.html
[12] Parliament of Australia, Insurance impacts of fires, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Finance_and_Public_Administration/Bushfirerecovery/Interim_Report/section?id=committees%2Freportsen%2F024518%2F73566

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The solution

The case studies within this Toolkit highlight the importance of insurance companies and the government collaborating to create bushfire-resilient upgrade initiatives, helping communities to achieve bushfire resilience and risk management.

Resilience mitigation and adaptation upgrades to existing or legacy homes, will play an important role in helping to tackle the challenge of insurance affordability.

According to the Institute of Actuaries of Australia (2013, p. 23): "The price of an insurance policy reflects the level of risk that is being transferred from a policyholder to an insurer. As such, a high premium is a symptom of a real problem: a high level of risk[13]."

[13]http://www.aph.gov.au/DocumentStore.ashx?id=75b997d3-d53d-43cf-a74c-a82d53140311