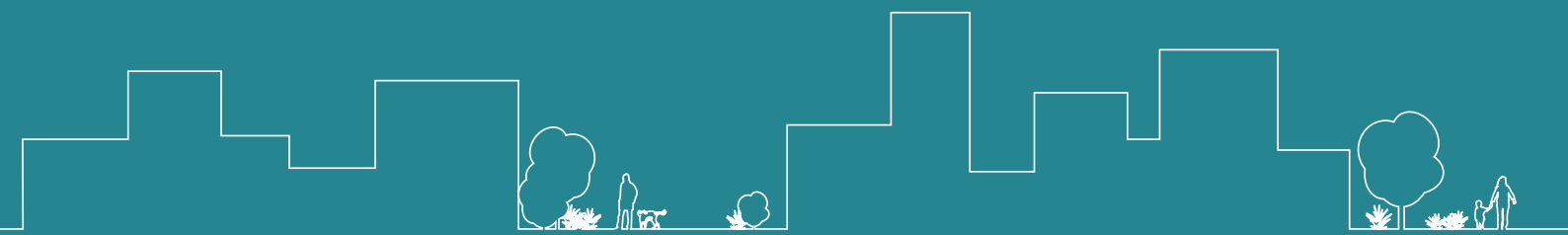


Built Environment Adaptation Framework



An aerial photograph showing a wide river flowing through a landscape. In the foreground, there is a lush green area with scattered trees. The middle ground features a concrete bridge or dam structure crossing the river. In the background, a dense urban area with houses and buildings is visible under a clear blue sky.

The Australian Sustainable Built Environment Council proposes an Adaptation Policy Framework to improve the resilience of the built environment in the face of climate change.

All imagery supplied by: Green Building Council of Australia and Consult Australia

This Framework aims to:

- protect the wellbeing of communities through targeted policy initiatives and better urban and building design;
- ensure appropriate institutional arrangements to facilitate resilience and adaptation;
- realise economic benefits from early adaptation through effective strategic planning and risk minimisation;
- advance sustainability through better resource and risk management strategies; and
- increase community education and awareness about climate change risks and adaptation.

It outlines the ways that the Australian Government, state, territory and local governments, industry, academia and the community sector can deliver effective resilience and adaptation strategies through:

- 1. Cross-sector engagement**
- 2. Leading by example**
- 3. Sponsoring applied research**
- 4. Providing better access to information and tools**
- 5. Investing in education**
- 6. Providing incentives**
- 7. Reforming and improving regulation**
- 8. Reviewing building codes and standards**
- 9. Improving planning systems and outcomes**
- 10. Improving insurance and financial services**

For further information about this Framework and accompanying report please visit the ASBEC website www.asbec.asn.au.

1. Federal Government

The Australian Government can lead the nation's resilience and adaptation initiatives, through consultation, coordination, engagement and review of regulation.

In order to enhance economic benefit through early action and risk minimisation, the Government should:

1.1. Engage with Industry

Establish a National Built Environment Adaptation Council which would:

- report directly to the Minister responsible for resilience and the built environment;
- be comprised of selected representatives from industry, the three spheres of government and the research sector that represent best practice in resilience, adaptation and mitigation;
- be supported by a dedicated and properly resourced secretariat that can coordinate cross-jurisdictional and cross-departmental action as appropriate;
- provide a platform for dialogue on resilience, climate change adaptation and mitigation policy and strategies for the built environment using this Framework as the basis for action;
- facilitate the exchange of information and closer collaboration on resilience and adaptation strategies;
- sponsor research into the impacts of climate change on the built environment and appropriate adaptation measures; and
- develop mechanisms for community engagement on resilience and adaptation needs and actions.

1.2. Lead by Example

- Set benchmarks to measure its performance in implementing resilience and adaptation strategies for their own operations;
- require the consideration of climate change impacts in tender documents for all relevant contracts;
- make all site relevant information, such as mapping, readily available through procurement processes, to support the assessment of climate change risks;
- streamline procurement processes to ensure there is minimal cost arising from any additional requirements;
- commit to undertaking resilience and adaptation work within their own facilities;
- work with private property owners to improve resilience and adaptation within properties leased by government, through the use of demonstration projects or 'green' lease clauses; and
- report annually on their performance against resilience and adaptation benchmarks.



1.3. Sponsor Applied Research

- Under continuing funding arrangements, direct the National Climate Change Adaptation Research Facility (NCCARF) to:
 - establish formal mechanisms to consult with, and act upon the advice of, industry, government, and the community on an ongoing basis about their applied research needs and the practical application of existing and future research projects;
 - conduct an annual review of leading local and international climate change adaptation policies, approaches, and solutions for the built environment, including: regulation and regulation reform; tools and techniques; innovative incentives; and education strategies; and
 - develop a robust assessment of the nature, timing, impact, and consequences of climate change for the built environment, including mapping the ongoing hazard exposure to identify priority areas for intervention and preventative hazard mitigation;
 - commission the National Built Environment Adaptation Council to work with Australian and State/Territory Treasury and Finance departments to develop cost benefit methodologies that appropriately value climate change adaptation; and
 - work with the developers of existing building rating tools to identify opportunities to recognise adaptation activity.





1.4. Provide Better Access to Information and Tools

- Develop a national climate change risk allocation framework for the built environment to help governments, businesses and communities recognise, understand, and manage the risks they face. This will clarify:
 - what government predicts the biggest risks are likely to be and in what timescale;
 - how climate change risks are currently identified and managed; and
 - who will bear the cost of disasters caused by extreme weather;
- establish a 'one stop shop' climate change adaptation web portal and make it freely available. This will:
 - provide information on national climate change data, such as expected temperature changes, flooding risk and other hazards, to facilitate adaptation decision making;
 - help people keep up-to-date with the most recent advice and data provided to government;
 - allow built environment professionals and communities to understand the predicted impacts of climate change for their local areas and to take appropriate action to enhance resilience; and
 - give stakeholders access to information, case studies and tools to help with adaptation;
- work with state, territory, and local governments, in consultation with industry, to prepare case studies of planning and building decisions and leading practice approaches to adaptation;
- work with organisations such as Green Cross on national programs to encourage residents in high risk areas to assess and manage environmental risks;
- establish key performance indicators for measuring adaptation and resilience for all sectors of the community as part of a framework for monitoring and evaluating performance in the built environment; and
- prepare guidance to help local governments consistently manage hazards in high risk areas, including flooding, bushfires, coastal inundation, cyclones and storm surge.



1.5. Invest in Education

In consultation with the National Built Environment Adaptation Council, the Australian Government should:

- institute a public education campaign on the likely impacts of climate change, such as increased extreme weather events, to encourage people to take adaptation action; and
- support funding programs for education and training for local government staff and built environment professionals in climate change adaptation strategies.





1.6. Provide Incentives

Work with industry and its state, territory, and local counterparts to develop a suite of incentives to encourage early action on adaptation within the built environment, which might include:

- financial incentives for retrofitting existing building stock to greater resilience standards, such as:
 - targeted, interest-free loans;
 - grants;
 - accelerated depreciation;
 - stamp duty and land tax exemptions for buildings in high-risk areas that are being upgraded; and
 - assistance to reduce vulnerability for residents and businesses in high-risk areas;
- alternative financing mechanisms;
- climate resilience assessments for buildings;
- ‘green door’ development application processes for householders or businesses implementing adaptation initiatives and green design elements (an example is the City of Chicago’s Green Permit Program); and

a possible buy-back program of vulnerable properties in high-risk areas where authorities might wish to discourage development or redevelop.

1.7. Reform and Improve Regulation

Work with State and Local Government to:

- review all existing climate change regulation relating to the built environment to minimise duplication and red tape while improving outcomes; and
- identify regulations that might be improved to rectify barriers to climate change adaptation.

1.8. Review Building Codes and Standards

- Regularly review the content of the National Construction Code of Australia and its supporting standards to address climate change adaptation issues;
- improve the financial and logistical capacity of current building regulation and standards development processes to keep up to date with research and to ensure that potential climate change risks are continuously being addressed;
- reinforce the need for performance based approaches to building regulation to encourage innovations in products, building techniques, and design; and
- ensure through rigorous cost/ benefit analysis processes that any changes to building regulations are reasonable, necessary, and cost-effective, and appropriately value climate change adaptation.



1.9. Improve Planning Systems and Outcomes

Work with state, territory, and local governments to:

- determine, including through community consultation, the appropriate coverage of climate change adaptation strategies within planning frameworks;
- promote the development and implementation of nationally consistent planning principles, policies and strategies;
- promote innovative building and precinct designs to deal with future climate conditions; and
- integrate climate change considerations into strategic and precinct planning at the strategic planning and zoning stages, to provide certainty for industry and community.



1.10. Improve Insurance and Financial Services

Through the National Built Environment Adaptation Council, commission work to develop options for:

- the insurance sector that:
 - recognise the roles and responsibilities of insurers and government in providing coverage for areas at risk from climate change;
 - increase transparency around insurance funding and risk assessment processes;
 - provide plain English information about risks and the potential to obtain coverage;
 - ensure that renters and low income residents have access to appropriate insurance; and
 - examine the appropriateness of a reinsurance pool or other government-backed mechanisms to encourage insurers to insure properties in flood, cyclone, storm surge, or bushfire prone areas; and
- the financial services sector that improves its investment and lending strategies and processes to value risk and adaptation activity appropriately.

2. State and Territory Governments

State and Territory Governments have the capacity to coordinate, implement and oversee policies and programmes that will inform, support and build resilience in communities across Australia.





To facilitate resilience and adaptation, State and Territory Governments should:

2.1. Engage with Industry

- Ensure appropriate representation within the proposed National Built Environment Adaptation Council and engage in dialogue on resilience, climate change adaptation and mitigation policy and strategies for the built environment using this Framework as the basis for action.
- Investigate whether a network of state/territory government representatives could be established to engage in dialogue and share experience at a local government level that could be fed into the National Built Environment Adaptation Council via nominated representatives.

2.2. Lead by Example

- Set benchmarks to measure performance in implementing resilience and adaptation strategies for their own operations;
- require the consideration of climate change impacts in tender documents for all relevant contracts;
- make all site relevant information, such as mapping, readily available through procurement processes, to support the assessment of climate change risks;
- streamline procurement processes to ensure there is minimal cost arising from any additional requirements;
- commit to undertaking resilience and adaptation work within their own facilities;
- work with private property owners to improve resilience and adaptation within properties leased by government, through the use of demonstration projects or 'green' lease clauses; and
- report annually on their performance against resilience and adaptation benchmarks.

2.3. Sponsor Applied Research

- Direct Treasury and Finance departments to work with the National Built Environment Adaptation Council to develop cost benefit methodologies that appropriately value climate change adaptation and resilience.
- Engage with National Climate Change Adaptation Research Facility (NCCARF) to ensure that the research input and outputs are supported.

2.4. Provide Better Access to Information and Tools

- Work with the Australian Government to develop a national climate change risk allocation framework for the built environment to help governments, businesses and communities recognise, understand, and manage the risks they face;
- Work with the Australian Government to establish a 'one stop shop' climate change adaptation and resilience web portal and make it freely available;
- Work with local governments to prepare case studies of planning and building decisions and leading practice approaches to adaptation.
- Prepare guidance to help local governments consistently manage hazards in high risk areas, including flooding, bushfires, coastal inundation, cyclones and storm surge;
- Share case studies and/or demonstration projects around strategies for resilience and adaption as well as local climate data for use in a 'one-stop shop' or portal.





2.5. Invest in Education

- Support public education campaigns on the likely impacts of climate change, such as increased extreme weather events, to encourage people to take adaptation action; and
- support funding programs for education and training for local government staff and built environment professionals in climate change adaptation and resilience strategies.

2.6. Provide Incentives

- Work with the Australian Government, industry and local government to develop a suite of incentives to encourage early action on adaptation and resilience within the built environment.

2.7. Reform and Improve Regulation

Work with the Australian Government and Local Government to:

- review all existing climate change regulation relating to the built environment to minimise duplication and red tape while improving outcomes; and
- identify regulations that might be improved to rectify barriers to climate change adaptation and resilience.

2.8. Review Building Codes and Standards

- Engage in the regular review of the National Construction Code of Australia and its supporting standards, regulations and development processes to address climate change adaptation and resilience issues.

2.9. Improve Planning Systems and Outcomes

Work with The Australian Government and local governments to:

- determine, including through community consultation, the appropriate coverage of climate change adaptation and resilience strategies within their planning frameworks;
- promote the development and implementation of nationally consistent planning principles, policies and strategies;
- promote innovative building and precinct designs to deal with future climate conditions; and
- integrate climate change considerations into strategic and precinct planning at the strategic planning and zoning stages, to provide certainty for industry and community.



2.10. Improve Insurance and Financial Services

- Play a role in identifying need, constraints and reforms to ensure equitable access to insurance and finance.
- Play a role in supporting local government in communicating the outcomes of work undertaken with the insurance industry to the community, particularly, how residents and businesses can identify risk and reduce their exposure.

3. Local Government

Local Government is in a position to engage, inform and resource Australia's communities to better deal with the effects of climate change.



To advance community resilience through targeted policy initiatives and better urban design, Local Government should:

3.1. Engage with Industry

- Ensure appropriate representation from best-practice local governments within the proposed National Built Environment Adaptation Council, who are well placed to engage in dialogue on resilience, climate change adaptation and mitigation policy and strategies for the built environment using this Framework as the basis for action.
- Investigate whether a network of local government representatives could be established to engage in dialogue and share experience at a local government level that could be fed into the National Built Environment Adaptation Council via the nominated representatives.

3.2. Lead by Example

- Set benchmarks to measure performance in implementing adaptation and resilience strategies for their own operations;
- require the consideration of climate change impacts in tender documents for all relevant contracts;
- make all site relevant information, such as mapping, is readily available through procurement processes, to support the assessment of climate change risks;
- streamline procurement processes to ensure there is minimal cost arising from any additional requirements;
- commit to undertaking adaptation and resilience work within their own facilities;
- work with private property owners to improve adaptation and resilience within properties leased by government, through the use of demonstration projects or 'green' lease clauses;
- report annually on their performance against adaptation and resilience benchmarks.
- develop case studies and/or demonstration projects around strategies for adaption and resilience that have worked or are in pilot phase as well as sharing lessons learnt when initiatives were not successful.
- Use connection to the community to communicate the risks and opportunities unique to their LGA and to consult with the community on actions for identifying and managing risk.



3.3. Sponsor Applied Research

- Collect and share locally specific data (climate data, water levels, tides, bush-fire risks etc.) wherever possible.

3.4. Provide Better Access to Information and Tools

- Work with state, territory, and federal governments to prepare case studies of planning and building decisions and leading practice approaches to adaptation and resilience.
- Share case studies and/or demonstration projects around strategies for resilience and adaption as well as local climate data for use in a 'one-stop shop' or portal.

3.5. Invest in Education

- Raise awareness in the community of the risks associated with the effects of climate change in their local government area and the strategies and actions in place to promote resilience and mitigate risk.
- Commit to supporting appropriate training and encourage participation by local government staff where appropriate.

3.6. Provide Incentives

- Consider a range of incentive options and develop and deliver initiatives for adaptation and resilience best suited to their communities.



3.7. Reform and Improve Regulation

- Review regulation and consult with industry and the community to identify where regulation is a barrier to adaptation and resilience strategy implementation.
- Take action (working with state and federal government as appropriate) to update and implement regulation that promotes greater resilience.

3.8. Review Building Codes and Standards

- Work with state and federal governments to review and update codes and standards to ensure that they evolve to ensure greater resilience in the built environment.

3.9. Improve Planning Systems and Outcomes

- Work with state and federal government ensure that planning systems and outcomes meet the needs of Australia's built environment in a changing climate.
- Share any examples of climate change considerations already integrated into strategic and precinct planning at the strategic planning and zoning stages.

3.10. Improve Insurance and Financial Services

- Play a role in identifying need, constraints and reforms to ensure equitable access to insurance and finance.
- Play a role in communicating the outcomes of work undertaken with the insurance industry to the community, particularly, how residents and businesses can identify risk and reduce their exposure.

4. Industry

As the planners, designers, constructors and operators of the built environment, industry can deliver more resilient spaces for living and working.



To promote the economic benefits of early adaptation and risk minimisation, industry should:

4.1. Engage with Government

- Participate in the proposed National Built Environment Adaptation Council and engage in dialogue on resilience, climate change adaptation and mitigation policy and strategies for the built environment using this Framework as the basis for action.
- Exchange information and collaborate on adaptation and resilience strategies;
- Work with government to establish benchmarks/indices for measuring progress towards or current status of resilience

4.2. Lead by Example

- Develop case studies and/or demonstration projects around strategies for adaption and resilience which have worked or are in pilot phase.

4.3. Support Applied Research

- Engage with National Climate Change Adaptation Research Facility (NCCARF) on an ongoing basis about their applied research needs and the practical application of existing and future research projects.
- Engage with government and other stakeholders to identify opportunities to recognise adaptation and resilience activity, through industry groups that develop building rating tools.

4.4. Provide Better Access to Information and Tools

- Assist and work with state, territory, and local governments to prepare case studies of planning and building decisions and leading practice approaches to adaptation and resilience.
- Through industry organisations such as Green Cross, assist governments with programs to encourage residents in high-risk areas to assess and manage environmental risks.
- Share information on their international exposure to adaption and resilience strategies

4.5. Invest in Education

- Support programs for education and training for built environment professionals in climate change adaptation strategies.
- Input into course content to ensure its relevance to private sector strategies

4.6. Provide Incentives

- Provide feedback on relevant incentive packages to ensure these are targeted and provide real incentive to market activities.

4.7. Reform and Improve Regulation

- Provide intelligence on where regulation is a barrier to adaptation and resilience strategy implementation.

4.8. Review Building Codes and Standards

- Engage in the regular reviews of the National Construction Code of Australia and its supporting standards, regulations and development processes to ensure address climate change adaptation issues are addressed and that industry innovation is addressed.

4.9. Improve Planning Systems and Outcomes

- Engage in consultation processes for planning systems and outcomes.





4.10. Improve Insurance and Financial Services

Through the insurance sector, work with government to:

- recognise the roles and responsibilities of insurers and government in providing coverage for areas at risk from climate change;
 - increase transparency around insurance funding and risk assessment processes;
 - provide plain English information about risks and the potential to obtain coverage;
 - ensure that renters and low income residents have access to appropriate insurance; and
 - examine the appropriateness of a reinsurance pool or other government-backed mechanisms to encourage insurers to insure properties in flood, cyclone, storm surge, or bushfire prone areas.
- Through the financial services sector, work with government on investment and lending strategies and processes to value risk and adaptation activity appropriately.

5. Academic and Research

As leaders in data collection, examination and analysis, the academic and research community can make an invaluable contribution to the decision making processes and thought leadership to enhance resilience in Australia's built environment.





To increase education and awareness of adaptation and resilience and inform targeted policy initiatives, the academic and research community should:

5.1. Engage with Government and Industry

- Work with the proposed National Built Environment Adaptation Council on research into the impacts of climate change on the built environment and appropriate adaptation and resilience measures. The CSIRO and the relevant Cooperative Research Centres should be central to these efforts.

5.2. Lead by Example

- Through Australian Universities, set benchmarks to measure performance in implementing adaptation strategies for their own operations;
- require the consideration of climate change impacts in tender documents for all relevant contracts;
- make all site relevant information, such as mapping, readily available through procurement processes, to support the assessment of climate change risks;
- streamline procurement processes to ensure there is minimal cost arising from any additional requirements;
- commit to undertaking adaptation work within their own facilities; and
- report annually on their performance against adaptation benchmarks.

5.3. Sponsor Applied Research

- Under continuing funding arrangements the National Climate Change Adaptation Research Facility (NCCARF):
 - consult with, and act upon the advice of, industry, government, and the community on an ongoing basis about their applied research needs and the practical application of existing and future research projects;
 - conduct an annual review of leading local and international climate change adaptation policies, approaches, and solutions for the built environment, including: regulation and regulation reform; tools and techniques; innovative incentives; and education strategies; and
 - develop a robust assessment of the nature, timing, impact, and consequences of climate change for the built environment, including mapping the ongoing hazard exposure to identify priority areas for intervention and preventative hazard mitigation;
- work with the developers of existing building rating tools to identify opportunities to recognise adaptation activity.

5.4. Provide Better Access to Information and Tools

- The academic and research sector should provide access to data and tools developed through research projects.
- The academic and research sector should undertake applied research into the effectiveness of tools and provide advice back to government and industry to support best practice.

5.5. Invest in Education

- Support and develop education and training for government staff and built environment professionals in climate change adaptation strategies.

5.6. Provide Incentives

- Research the effectiveness of incentive schemes.

5.7. Reform and Improve Regulation

- Research and provide advice on the effectiveness of regulatory reform options to remove barriers to climate change adaptation.



5.8. Review Building Codes and Standards

- Support the reviews of the National Construction Code of Australia in relation to climate change adaptation with research.

5.9. Improve Planning Systems and Outcomes

- Support the review and reform of planning systems with research and best practice review.

5.10. Improve Insurance and Financial Services

- Research the effectiveness of reforms to the insurance and financial sectors to support climate change adaptation and resilience.

6. Community Sector

The community sector represents neighbourhoods and networks that are affected by the impacts of climate change and can help identify needs and interests.





To promote wellbeing and advance sustainability through better resources, policies and programs, the community sector should:

6.1. Engage with Government and Industry

- Participate in the proposed National Built Environment Adaptation Council and engage in dialogue on resilience, climate change adaptation and mitigation policy and strategies for the built environment using this Framework as the basis for action.
- Exchange information and collaborate on impacts, adaptation and resilience strategies.
- Work with industry to establish benchmarks/indices for measuring progress towards or current status of resilience.

6.2. Lead by Example

- Develop case studies and/or demonstration projects around strategies for adaption and resilience that have worked or are in pilot phase.
- Outline what has been tried but was unsuccessful.

6.3. Sponsor Applied Research

- Engage with National Climate Change Adaptation Research Facility (NCCARF) on an ongoing basis about its applied research needs and the practical application of existing and future research projects.
- Provide input into applied research on adaptation and resilience.

6.4. Provide Better Access to Information and Tools

- Share information on strategies and approaches to adaptation and resilience.
- Assist governments and business to identify adaptation and resilience need.



6.5. Invest in Education

- Access and offer programs for education and training for built environment professionals in climate change adaptation and resilience strategies.

6.6. Provide Incentives

- Provide feedback on relevant incentive packages to ensure these are targeted.

6.7. Reform and Improve Regulation

- Provide intelligence on where regulation is a barrier or insufficient to adaptation and resilience strategy implementation.

6.8. Review Building Codes and Standards

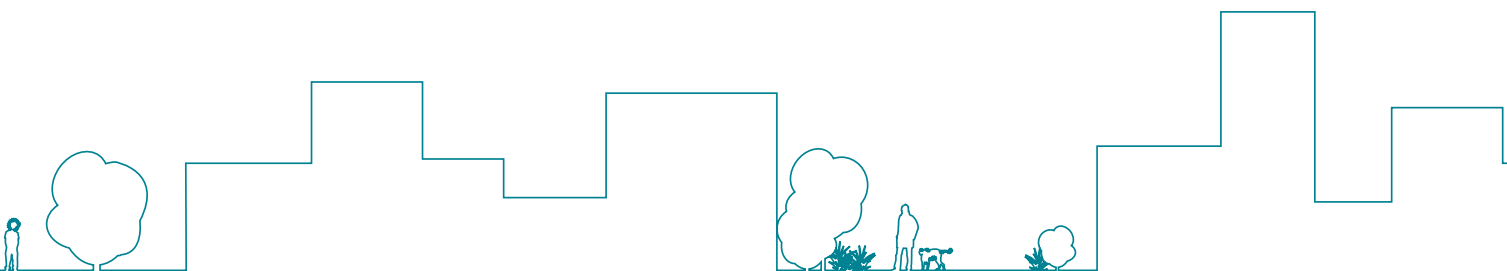
- Provide input on the applicability and usefulness of codes and standards.

6.9. Improve Planning Systems and Outcomes

- Engage in consultation processes on planning systems and outcomes that enhance resilience.

6.10. Improve Insurance and Financial Services

- Identify need, constraints and reforms to ensure equitable access to insurance and finance.



About ASBEC

ASBEC is the peak body of key organisations that are committed to a sustainable built environment in Australia. ASBEC comprises industry and professional organisations, academic institutions, non-government organisations and government observers who are involved in the planning, design, delivery and operation of our built environment and are concerned with the economic, social and environmental performance of the sector.



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