



PROJECT SCOPE

Resilient South Pilot Incorporating Climate Risk and Adaptation into Asset Management

Striding purposefully towards resilience rather than running from risk

Project Summary

The Resilient South Pilot – Incorporating Climate Adaptation into Asset Management - is a much-needed initiative that will support asset decision makers throughout local government in SA.

The project will be delivered via a pilot with all four Resilient South councils (Marion, Mitcham, Holdfast-Bay, Onkaparinga) and one regional council, in time to feed into the next round of legislated Asset Management Plans and Long-Term Financial Plans that will be required after the 2022 local government elections.

Despite widespread agreement about the need to respond to climate change risks, along with the availability of new products, tools and guidelines, none have been rigorously trialled and verified within the local government sector. The result is that they not translating into practice because of limited skills and resourcing available to understand what tools are available, which are fit-for-purpose and how best to apply them.

A significant hurdle for incorporating climate adaptation into asset management processes is the perception of the potentially disruptive consequence to current asset management tools and processes. There is, therefore, an important question to determine the extent of changes required to introduce another 'decision lens' into day-to-day asset management processes.

This project will support better asset management planning and prioritisation of funding in long-term financial plans, thereby optimising council expenditure, addressing asset vulnerabilities, building resilience to climate-related risks and natural disasters and reducing local government exposure to legal and financial liabilities. Working across councils will deliver financial efficiencies and reduce duplication of effort.

When considering the systemic nature of climate change impacts, and the fact that climate risks do not limit themselves to council boundaries, the project has a strong focus upon cross-council collaboration and inter-governmental partnerships. There is a significant opportunity for data

sharing/coordination on a regional basis. For example, it would be more efficient and effective to collect and manage climate hazard exposure data on a regional basis. This will not only promote consistency in risk assessment approaches, but it also ensures that non-traditional data is readily available to all.

The project will be delivered in five phases over a four-year period:

Phase 1 – Reviewing the Options and Developing a Best Practice Approach (April 2021 – Aug 2021 = 4 months) Phase 1 lays the groundwork for the pilot process to be undertaken in Phase 3. A consultant will be engaged to review available guidance materials, tools, methodologies, regulatory requirements, commercial products, climate risk data, sustainable financing options and council case studies. A particular focus will be on individual councils' processes and tools to determine the adjustments that will be required when introducing climate adaptation into asset management planning processes. The potential costs and liabilities for SA councils from inaction will be assessed. Economic opportunities from proactive adaptation and disaster resilience initiatives will be considered. Based upon the above, a best practice approach for SA council asset managers to undertake climate change risk assessments and adaptation strategies for their assets and infrastructure will be devised.

Phase 2 – Planning the pilot (Sept 2021 – Nov 2021 = 3 months) Phase 2 identifies the tasks and costs associated with the Phase 3 pilot. The consultant will develop a fully costed action plan for each participating pilot council. Key tasks will be prioritised, costed, and scheduled, and staff and resourcing requirements will be identified. Action plans may vary across councils, dependent upon council priorities, available resourcing and local climate adaptation contexts. It will be important to understand and distinguish between the pilot actions required by individual councils and those activities that should be addressed in a collective manner across the region.

Phase 3 – Pilot (Dec 2021 – Oct 2023 = 23 months) Four Resilient South councils and one regional council will pilot the tasks identified in Phases 1 & 2, subject to council approval. Tasks may include climate change impact, vulnerability and risk assessments for assets and infrastructure. Will May include an assessment of the implications for local businesses and communities from disruptions to asset and infrastructure networks, and the opportunities and benefits arising from proactive investments in disaster risk reduction and climate resilience. Governance models, financing structures, procurement and delivery models and the authorising environment to enable investment will also be considered.

Phase 4 – Sharing the Results (Nov 2023 – April 2024 =) Recommendations and pilot results will be shared with all SA councils, LGA SA, Regional Climate Partnerships, CSIRO, SAFECOM and other relevant State Agencies and stakeholders via a report and interactive workshop/s and other engagement techniques, as negotiated with our funding partners.

Phase 5 - Evaluation (one year after project completion) An independent evaluation will assess the degree to which the project has helped to incorporate climate risk into risk management frameworks, asset management plans and long-term financial planning. It will also assess the degree to which awareness and capacity have been built within councils and how effectively councils can be said to be 'striding purposefully towards resilience rather than running from risk.'

Background and Rationale

With much of South Australia still reeling from the 2019/20 bushfire season, and all levels of government now leading economic recovery from the COVID-19 pandemic, there has never been a more critical time to build the climate resilience of our state.

Councils need to be well-equipped and prepared for supporting our communities and local economies through major disruption and shocks, including pandemics, extreme weather and climate change impacts.

Councils already have an unfunded backlog of infrastructure projects and, as they extend their borrowing levels to stimulate their local economies in response to COVID-19, it will be vital to ensure this funding is not wasted and contributes to building the resilience of communities and built environments to shocks and stresses.

It is critical we ensure Councils' asset management planning and practice, which informs capital spending, considers climate risk and adaptation in a quantifiable way. The decisions councils make today will affect our community's climate resilience, and councils' legal and financial liabilities, tomorrow.

Climate risks are escalating

Climate risks are now manifesting for local governments via escalating bushfire losses, higher temperatures and heatwave related deaths and damage, coastal erosion, sea level rise and storm surge damage, impacts from flooding and storms, drying conditions and changes to the growing season.

These impacts are presenting councils with physical, legal, financial and transitional risks that must be understood and managed. Failure to do so is already having serious implications for some councils.

For example, councils in Australia and overseas are being taken to court over decision-making that does not factor in climate risks. Insurers and lenders are beginning to place obligations on councils to manage climate risks or face financial penalties. Physical impacts on assets and infrastructure are forcing councils to respond and adapt in real-time. As a result, councils are either seeking to change how they invest in infrastructure to avoid or reduce climate-related risks, or going the other way and investing significant sums of ratepayer money in what are destined to become stranded assets.

Climate risk is a recognised and unavoidable priority for councils

The Local Government Research and Development Scheme Annual Business Plan (ABP) identifies 'climate risk and hazard mapping' and 'infrastructure and asset funding and management' as top priorities for good reason.

These priorities have been consistently raised by individual councils, the Greater Adelaide Region of Councils, the LGASA, the LGA Mutual Liability Scheme, the Council Ready Program, Regional Climate Partnerships, South Australian Coastal Councils Alliance, state government agencies (including SAFECOM, SES, Green Adelaide and DEW), IPWEA, and many others for several years.

The National Disaster Resilience Framework aims to 'integrate plausible future scenarios into council asset and financial planning.' South Australia's Disaster Resilience Strategy - Stronger Together identifies climate risk as a major issue that needs to be managed. Likewise, the state government's Directions for a Climate Smart State identifies 'building resilience and adapting' as a key priority for the state, and the recently released South Australian Government Climate Change Action Plan 2021-

25 identifies the importance of understanding and reducing climate change risks to infrastructure and assets.

These priorities concern an identified and agreed need to quantify the impacts of climate change on local government asset networks and the effects these impacts may have on council resourcing and service delivery to our communities. Ultimately, they are concerned with ensuring that our communities and economies are resilient, safe and adaptive in the short and long term, and that we are taking advantage of opportunities from early and proactive investment in resilience building initiatives.

Between the last two asset management planning cycles (following the 2014 and 2018 local government elections), a lot has changed for asset managers:

- Knowledge of the scale and rate of climate impacts has improved, including through development of Regional Climate Change Adaptation Plans (2014-2016) and several spatial data analyses and projection projects which show shifting trends in coastal erosion and inundation, urban heat and peak stormwater flows (among other things).
- Globally, legal and financial risks have emerged and escalated for any organisation not managing the biophysical risks of climate change – as outlined in the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD, 2017) and the original and updated Hutley Opinions on the exposure of directors to climate change litigation risks (2016 and 2019).
- The concept of ‘like for better’ replacement (or build back better) is beginning to gain traction, which is at odds with the prevailing wisdom of ‘like for like’ replacement. This acknowledges that the climatic context is no longer stable over the lifespan of assets but is shifting.
- Councils are moving towards cross-regional and inter-governmental collaborations to address climate related risks, in recognition of the fact that many climate change risks are so systemic that risk control mechanisms are often outside of the control of individual local government risk managers.
- The state government has made a firm commitment to work with the Regional Climate Change partnerships via the Climate Change Action Plan and Green Adelaide.

Climate adaptation governance assessment

In recognition of the need to manage climate risks, two Resilient South councils piloted the Informed.City Climate Change Adaptation Governance Assessment tool, during 2019. The tool is designed to assess how well councils and state governments are managing corporate climate change risks - legal, financial and transitional (the tool is not designed to assess on-ground action).

The success of the pilot resulted in the assessment being replicated by 18 other councils (with another 10 in the planning phase), revealing SA councils as the top performing in Australia – Marion was ranked first and Onkaparinga third when compared against over 330 Australian councils.

However, one notable gap for all the councils assessed in SA was in asset management. Our current failure to strategically assess and fund a response to the impacts of climate change on assets and infrastructure was identified in the assessment as exposing councils to serious physical risks and legal and financial liabilities.

Climate risk management is a challenging new skill

Despite widespread agreement about the need to account for climate risks, it is very difficult for asset managers to make the business case for climate ready investments in assets and infrastructure. This is partly because climate risk management is a new skill for asset managers, who face significant hurdles when considering how to address the impacts of climate change when operating, maintaining, renewing or upgrading assets.

The systemic nature of many climate change risks means that many risk control mechanisms are outside of the control of individual local government risk managers, requiring cross-regional and inter-governmental collaborations to effectively address the climate related risks.

In addition to managing ‘risks,’ councils must also learn how to maximise the ‘opportunities’ that may arise from the mitigation and adaptation actions being applied. This will support enhanced abilities for governments at all levels to make sound investment decisions that consider vulnerability, uncertainty and resilience in both the short and long term.

Some industry bodies, universities and commercial providers have sought to respond to this challenge by developing tools, methodologies and guidance materials to assist councils to integrate climate risk management into asset and infrastructure management. However, many are in their infancy and none have yet been reviewed, piloted and validated within the South Australian local government sector.

As a result, there is not an agreed, consistent or reliable approach to undertaking climate risk assessments for the SA local government asset management sector.

Additionally, leading councils who have attempted early climate risk assessments are reporting unsatisfactory outcomes – with limited impact upon day-to-day decision making or investments.

Four substantial challenges facing asset managers include:

- Reviewing and selecting appropriate guidance, tools and products to begin climate change risk and vulnerability assessments for an asset network, and incorporation into Asset Management Plans
- Arguing the case for resourcing new climate risk work when councils are already at capacity delivering basic services
- Quantifying the financial impacts on assets to have informed discussions with Elected Members and communities, and accounting for the impacts in long term financial planning
- Identifying mechanisms for managing systemic climate risks that outside the control of individual local government risk managers.

Until the impacts of climate change on both asset performance and financials are factored into Asset Management Plans, Long Term Financial Plans and Risk Management Frameworks, councils are unable to sustainably manage their assets. This is because many climate sensitive asset treatments are perceived to be typically more expensive to construct and maintain than the status quo.

If additional resourcing for responding to climate risks isn’t addressed in long term asset and financial plans, it will inevitably lead to either a reduction in service levels provided for the community, creation of an unfunded asset renewal backlog, or both.

The importance of local government collaboration

The need for Councils to work together as a sector on this issue could not be greater. It makes no sense for 68 Councils to be acting alone on an issue that affects all councils equally. Working collaboratively will provide savings, efficiencies, improved capability, accountability and ownership for all SA Councils, both metropolitan and regional.

Councils manage near identical asset networks, so combining effort to quantify the financially material impacts of climate change is an initiative that will benefit all local government. Asset managers are currently tackling this issue individually, and organisations run the risk of re-inventing the wheel instead of leveraging off each other to accelerate the development of this process.

Additionally, effectively addressing the impacts of climate change on assets is expensive and long-term work. When organisations approach this individually, there is an increased risk of resourcing (time, staff and funding) not being available. A coordinated approach between Councils is an opportunity to develop an industry best practice that will lead to tangible and practical outcomes for Asset Managers and Planners, that will benefit the whole sector.

A recent urban heat and vegetation mapping collaboration between all metropolitan councils, facilitated by the Regional Climate Partnerships in partnership with state government, demonstrated the financial benefits of collaboration. Hundreds of thousands of dollars in consulting fees were saved by commissioning the data once, rather than independently for each individual council.

This project is being driven by the four Resilient South partner councils, however, we have willingly accepted the recommendation of our funding partner, the Local Government Research and Development Scheme to seek participation from up to two regional councils to ensure that a range of council contexts, needs and experiences are captured in this project.

The need for strong intergovernmental partnerships

We have built a strong and cohesive team of partners who will work collaboratively to ensure the ongoing sustainability and success of this project.

Resilient South partner councils – Project Lead

Resilient South is widely recognised as a leading region with a strong record of accomplishment for delivering strategic projects, stakeholder engagement and on-ground action. The attached Project Scope provides a list of projects spearheaded by Resilient South that have resulted in widespread adoption by other councils.

Our experience in managing large, multi-stakeholder, interdisciplinary, applied projects; combined with the strong corporate support for this project - see attached CEO letters - places Resilient South in a unique position to deliver a highly effective initiative that will deliver outcomes for the wider local government sector and our communities.

Partner councils have committed to providing:

- Project management via the Resilient South committee and Regional Coordinator
- Staff time and expertise to contribute to risk assessments
- Access to relevant council data and information
- Facilities for conducting interviews, focus groups and workshops
- Funding the Phase 3 pilot, subject to budgetary processes and council approval
- Sharing the results with relevant stakeholders

Key contacts:

Resilient South Program Management Committee members:

- Nina Keath, Senior Strategic Planner, City of Onkaparinga
- Ann Gibbons, Unit Manager Environment and Sustainability, City of Marion
- Ben Leonello, Project Officer Natural Environments, City of Mitcham
- Alex Gaut, Team Leader Environment and Coast, City of Holdfast Bay
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Resilient South Assets Working Group:

- Brendon Lyons, Unit Manager Assets Solutions, City of Marion
- Morgan Ellingham, Manager Assets and Technical Services, City of Onkaparinga
- Caitlin Evans, Team Leader Asset Management, City of Holdfast Bay
- Piers Duggan, Principal Asset Management, City of Mitcham

Regional councils

At the request of one of our funding partners, the Local Government Research and Development Scheme, we have agreed to include a regional council in the project to ensure that a diversity of council experiences, contexts and needs are captured and learned from.

Department for Environment and Water (DEW) / Green Adelaide

DEW and Green Adelaide are state government partners of the Resilient South Regional Climate Partnership - a long and productive inter-governmental collaboration that has been in place since 2011. As Resilient South committee members, DEW and Green Adelaide will actively work to ensure that project outcomes inform state government policies and processes.

This project strongly aligns with existing state government priorities and Di Favier has indicated that the state government, just like councils, needs to embark on climate change risk assessments for their assets and infrastructure. This project will be a useful test case that the state can learn from and apply in their own context.

DEW has committed to providing:

- Provide advice and guidance as needed (e.g. the Guide to Climate Projections for Risk Assessment and Planning in South Australia)
- Participate in workshops and risk assessments, where relevant
- Share the outputs and learnings with government stakeholders.

Key contacts:

- Di Favier, Manager Climate Change Policy and Strategy, DEW (Resilient South committee member)
- Graham Green, Principal Advisor Climate Change Science, DEW
- Sam Philips, Senior Water Projects Engineer, Green Adelaide (Resilient South committee member)

The Local Government Association of SA

The Local Government Research and Development Scheme is a key funding partner of this project and the LGA is a strong supporter, in recognition of the strategic benefit to the entire local government sector.

Working collaboratively across councils will provide savings, efficiencies, improved capability, accountability and ownership for all SA Councils, both metropolitan and regional.

We have a very effective working relationship with the LGA, which is offering:

- Participation in the project steering group
- Access to staff expertise, subject to availability
- Facilities for conducting interviews, focus groups and workshops
- Support recruiting regional councils to participate in this project
- Support disseminating the results of the project to other councils across the state
- Consideration of the project outcomes to inform future advocacy, guidelines, and local government procedures

Key contacts:

- Michael Arman, Director of Strategy
- Lea Bacon, Director of Policy

SAFECOM

SAFECOM is a key funding partner of this project, in recognition of the strategic benefit to the entire government sector and the communities that we serve.

Resilient South has a productive history of working with SAFECOM on shared priorities. For example, we successfully partnered on the multi-award-winning event Feeling Hot Hot Hot! Dealing with Heatwaves, that has since been replicated by other regions and states.

SAFECOM has committed to providing:

- Participation in the steering group
- Staff time and expertise, subject to availability
- Providing access to relevant data or information, where available
- Facilitating involvement from other relevant state agencies or stakeholders
- Supporting the dissemination of the project results

Key contacts:

- Brenton Keen, Director, Emergency Management Office
- Miriam Lumb, Manager Policy and Strategy
- Sue Gould, Disaster Resilience Program Manager

CSIRO

The CSIRO are partnering with us on this project as technical advisors (see letter of support). A CSIRO partnership means that, in addition to the project being able to draw upon their significant technical capabilities, the outcomes can be shared and applied nationally, and will have a greater likelihood of influencing federal policy and funding priorities.

Russ Wise, our key contact at CSIRO, has extensive experience in climate adaptation, economic development and disaster risk reduction. Russ recently ended a 12-month secondment with the National Resilience Taskforce, Department of Home Affairs, where he led the development of best-practice guidance for strategic climate and disaster risk assessment.

CSIRO are currently seeking Federal funding to contribute to this. CSIRO funding would mean that the opportunities and scope for this project could be expanded, in consultation with our funding partners. However, this project is not dependant on CSIRO funding.

CSIRO have made the following commitments to this project:

- participation in the project steering group and/or technical advisory committee,
- providing access to staff time and expertise, subject to availability,
- providing access to climate science and data, subject to approvals and funding,

- support disseminating the results of the project at a national level,
- consideration of the project outcomes to inform future CSIRO climate change priorities, tools and methodologies

Key contact:

- Russ Wise, Principal Research Scientist, CSIRO Land and Water

IPWEA – Institute of Public Works Engineering Australasia

The IPWEA *Practice Note 12.1: Climate Change Impacts on the Useful Life of Infrastructure* provides guidance to local government asset managers about how to consider climate change risks in asset management decisions. However, this is yet to be rigorously applied and tested in the South Australian local government sector. IPWEA are partnering with us, with the goal of using the outcomes of this project to improve and update future guidance materials.

IPWEA have made the following commitments to this project:

- Participation in the project steering group (via Bredon?)
- Access to staff and board member expertise, subject to availability
- Access to the IPWEA Practice Note 12.1: Climate Change Impacts on the Useful Life of Infrastructure
- Support disseminating the results of the project via IPWEA networks
- Consideration of the project outcomes to inform future IPWEA priorities, practice notes and guidance

Key contact:

- Brendon Lyons, Board Member IPWEA SA

The Regional Climate Partnerships

A Central Coordinator for the Regional Climate Partnerships, funded by the state government, works with the LGA SA, Regional LGAs, Regional Development Authorities and state government to facilitate peer-to-peer learning and consistency of approach across the state.

Sharing the results of this project with all SA Councils will be a key priority of this role going forward, as evidenced by the attached letter of support.

The central coordinator role is committed to:

- Advocacy support around local government climate risk priorities and needs
- Support disseminating the results of the project to other Regional Climate Partnerships, councils, and state agencies across the state

Key contacts:

- Matthew Green, Central Coordinator, Regional Climate Partnerships
- Lucy Dodd, Central Coordinator (Regional), Regional Climate Partnerships

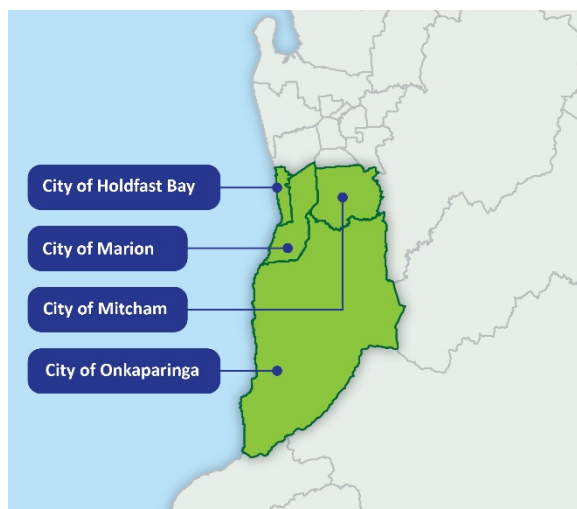
Resilient South has a solid track-record

Resilient South is in a strong position to pilot an approach to incorporating climate risk into asset management and financial planning.

One of 11 Regional Climate Partnerships (RCPs) operating across SA, Resilient South is widely recognised as a leading region with a strong track record for delivering strategic projects, stakeholder engagement and on-ground action that is replicated by other councils and regions across the state.

Resilient South partners include:

- City of Holdfast Bay
- City of Marion
- City of Mitcham
- City of Onkaparinga
- Government of SA



Each region has developed a Regional Climate Change Adaptation Plan that guides regional climate change responses.

A Central Coordinator for the Regional Climate Partnerships, funded by the state government, works with the LGA SA, Regional LGAs, Regional Development Authorities and state government to facilitate peer-to-peer learning and consistency of approach across the state.

Recent examples of Resilient South projects that have been adopted by other councils and regions include:

- *Climate Adaptation Governance Assessment Pilot* – as described on page 3, the success of this pilot resulted in councils across SA undertaking the assessment (12 currently completed with another 10 in the planning phase).
- *Regional Adaptation Plan methodology* – Resilient South was the second region in SA to develop a Regional Adaptation Plan. Our innovative and award-winning methodology combined both physical and social science investigations and is credited with influencing all subsequent plans. SA is now globally recognised as a leader in regional adaptation planning.
- *Urban Heat and Tree Canopy Mapping* - Resilient South partner, City of Onkaparinga, was one of the first SA councils to undertake Urban Heat and Tree Canopy Mapping. This influenced all other metropolitan councils and RCPs to collaborate with state government to map temperature hotspots and tree canopy cover across the entire metropolitan Adelaide region. This data is now captured in an interactive online map and is informing tree and vegetation planting, water management, urban planning, and health, resilience and wellbeing initiatives.
- *Coastal Climate Hazard Mapping and Risk Assessments* – Resilient South councils, Marion and Onkaparinga, have piloted Integrated Coast's coastal hazard mapping and risk assessment process developed in partnership with Flinders University and the Coast Protection Board. Resilient South is now working closely with the Coast Protection Board, Metropolitan Seaside Councils Committee and South Australian Coastal Councils Alliance on coastal adaptation strategies and stakeholder engagement.

- *Feeling Hot! Hot! Hot! Heatwave Hypothetical* – Resilient South developed the multi-award-winning community event Feeling Hot! Hot! Hot! The heatwave hypothetical guided community members through a heatwave scenario to improve preparedness and response to heatwaves. The community and service providers were engaged in a lively, interactive event that built knowledge and capacity and showcased best practice responses. The concept for this event has been replicated by other RCPs and interstate organisations and the event resources are publicly available at www.resilientsouth.com.
- *Climate Ready Schools Pilot* – City of Onkaparinga and Resilient South conceived and piloted the Climate Ready Schools program in partnership with the state government’s NRM Education program (now Green Adelaide Education). The program teaches students about climate change risks and utilises STEM and Design Thinking to support them to develop adaptation solutions for their schools. The program is now being rolled out in schools across the state in partnership with a range of councils and RCPs.
- *Climate Ready Communities Pilot* – Resilient South co-designed and piloted the Climate Ready Communities program in partnership with the Red Cross and state government. The program supports Climate Champions to lead conversations and take climate action in their communities. The program is now being rolled out across other RCPs and councils.

Relevant Policy and Legislation

This project contributes to the fulfillment of council obligations in a range of legislation, plans and policies at both state and local government level.

Legislation:

- Local Government Act 1999 (Sections 6, 7, 8, 48, 122)
- Public Health Act 2011
- Planning, Development and Infrastructure Act 2016
- Climate Change and Greenhouse Emissions Reduction Act 2007

National plans and policies:

- National Disaster Resilience Framework

State plans and policies:

- South Australian Government Climate Change Action Plan 2021-25
- Directions for a Climate Smart South Australia
- Climate Change Science and Knowledge Plan for South Australia
- Stronger Together: SA’s Disaster Resilience Strategy
- Public Health Plan 2019-2024
- Zone Emergency Management Plans
- Planning and Design Code

Council plans and policies:

- Community and Strategic Plans
- Emergency Management Frameworks
- Asset Management Plans
- Long Term Financial Plans
- Public Health Plans
- Climate Change Response Plans (adaptation and mitigation)
- Development Plans

Project Plan

Project Goals

- Understand the risks to our assets and infrastructure (including cross-dependencies)
- Identify the features of a resilient and adaptive southern Adelaide
- Increase council staff confidence and capability to respond
- Build resilience and adaptive capacity within councils (and our communities)
- Identify the economic and social opportunities from investments in climate resilient assets and infrastructure
- Achieve efficiencies and cost savings via collaborative effort and reduce duplication of effort
- Embed a response within our governance processes (e.g. asset management, financial planning, risk and emergency frameworks etc)
- Provide a consistent, shared approach across councils and other levels of government

Project Objectives

- Review and pilot methods that quantify the impacts of climate change on local government asset networks and the effects these impacts may have on service delivery for our communities.
- Identify the costs and timeframes required for assessing climate risks to assets and service delivery.
- Undertake detailed, localised risk assessments for Resilient South partner council assets and infrastructure.
- Consider the potential cost implications of climate impacts on assets and service delivery and identify methods for accounting for these financially.
- Find opportunities for cost savings via shared collaborative projects.
- Identify options for incorporating climate risk and adaptation considerations into Asset Planning Software Systems, Asset Management Plans, Long Term Financial Plans, risk frameworks and budgeting processes.
- Undertake visioning about what a 'Resilient Southern Adelaide' would look like and develop decision-making process for ensuring our infrastructure asset investments are contributing to this vision.
- Identify economic and social opportunities from investments in disaster risk reduction and climate resilience.
- Determine the most effective mechanisms for funding a response through a Sustainable Financing Strategy.
- Develop best practice guidelines and decision-making frameworks for use by the South Australian councils

Project Outputs

This project will be delivered over a four-year period in five phases:

- Phase 1 – Reviewing the Options and Developing a Best Practice Approach (Jan 2021 – Aug 2021)
- Phase 2 – Planning the pilot (Sept 2021 – Nov 2021)
- Phase 3 – Pilot (Dec 2021 – Oct 2023)
- Phase 4 – Sharing the Results (Nov 2023 – April 2024)
- Phase 5 - Evaluation – (One year after project completion)

Phase 1: Reviewing the Options and Developing a Best Practice Approach (Jan 2021 – Aug 2021)

Phase 1 provides the information required for councils and asset managers to confidently commit funds and resources towards climate risk management obligations. Recommendations are provided around the key tasks and resources required for asset managers to consider climate risks and adaptation in their planning, resourcing and execution.

A consultant or academic will be engaged to:

- Review available guidance materials, methodologies, tools, commercial products, services and climate hazard data.
- Provide a summary of available options that includes a cost-benefit analysis, indicative costs and timeframes for piloting each of the available methodologies, tools, products etc
- Review local government climate risk regulatory requirements
- Undertake a full review of asset management planning enablers: People, tools and processes to understand the impact of introducing climate adaptation as another ‘decision lens’ into the planning process. For example, what needs to be changed in order to incorporate climate hazard data into the data and management software systems, processes and human resources to manage that? What are stakeholders’ existing skills, capabilities, needs and priorities?
- Assess the knowledge gap that will inform a training and resource development strategy.
- Assess costs and liabilities from inaction.
- Assess economic and social opportunities from proactive adaptation and disaster resilience initiatives.
- Identify examples of Australian councils incorporating climate risk into asset management and financial planning, and provide case studies.
- Based upon the above, develop a best practice approach for SA council asset managers to undertake climate change risk assessments for their infrastructure assets.
- Recommend priority actions for participating councils to consider in Phase 2 and pilot in Phase 3.

Key outputs for this phase will include:

1. Review and Recommendations Report
2. Results workshop with Resilient South councils, LGASA, SAFECOM, RCP and Technical Advisory Committee representatives
3. Workshop Summary Report

Phase 2 – Planning the Pilot (Sept 2021 – Nov 2021)

In Phase 2, partner councils will be supported to develop an Action Plan for piloting the best practice risk assessment approach that was developed in Phase 1.

The key questions being asked in this phase are:

- What are the priority actions required of each participating council to undertake the best practice climate risk assessment?
- What are the detailed tasks required to deliver these actions?
- What will be the associated costs?
- How many staff hours will be required?

Key outputs for this phase will include:

1. An Action Plan that determines the priority actions for each council to Pilot in Phase 3, including a detailed budget.

Phase 3 – Pilot (Dec 2021 – Oct 2023)

In Phase 3, the four Resilient South councils will pilot the actions identified in the Phase 2 Action Plan, subject to council approval.

The overarching questions being answered in this phase will be:

- What would a 'Resilient Southern Adelaide' look like?
- How can our infrastructure and asset investments contribute to resilience e.g. How can we stride towards resilience rather than run from risk?
- Which assets have the greatest exposure to climate risk?
- What are the treatment options?
- How can the response options be executed and funded?
- How can these risks be incorporated into Asset Planning Software Systems, Asset Management Plans and Long Term Financial Plans?
- What broader institutional changes are required for building resilience?
- What are the costs and benefits from investing in disaster risk reduction and resilience building initiatives?
- What are the social and economic opportunities from proactive investment in resilience building initiatives?
- How can value be optimised from these investments?
- What are the economic implications for local businesses and communities from disruptions to asset and infrastructure networks?
- What support is required to build stakeholder capacity?
- What are the governance models, financing structures, procurement and delivery models and the authorising environments required to enable the required investments?

The specific project elements, methodologies and costs for Phase 3 will be determined in Phases 1 and 2.

While we won't know the exact methodologies and tasks that will be recommended, nor the associated costs and timeframes until Phases 1 & 2 have been completed, it is likely that recommended tasks for this phase will fall into the following broad categories.

1. Exposure, risk and vulnerability assessments –

- I. Climate exposure assessments – a location-based assessment of asset exposure to key climate variables and impacts i.e. flooding, bushfire, heatwaves, storms, drying conditions.
 - II. Climate vulnerability assessment - Following an exposure assessment, the vulnerability of asset elements (e.g. roads, rooftops, stormwater drains etc) assessed across all climate variables.
 - III. Criticality analysis of geographical areas to determine community and environmental vulnerabilities.
 - IV. Detailed climate risk assessment – detailed risk assessments are undertaken for critical assets.
2. Options and opportunities assessments – response options identified and prioritised. Opportunities for value optimisation considered including the economic implications for local businesses and communities from disruptions to asset and infrastructure networks, and the opportunities arising from investments in disaster risk reduction and climate resilience.
 3. Funding mechanisms – approaches for incorporating climate risk into LTFPs and budgetary processes i.e. an indexation that is applied to council LTFP's annually or a fund that is quarantined through the LGA (in a similar fashion to SA's self-insured industry approach). Governance models, financing structures, procurement and delivery models and the authorising environment to enable investment are to be considered.
 4. Planning processes – approaches for incorporating climate risk into Asset Planning Software Systems, Asset Management Plans, Long Term Financial Plans and Risk Management Frameworks.
 5. Visioning – investigating what a resilient southern Adelaide would look like and identifying ways in which our infrastructure and asset decisions can contribute to this vision.

Key outputs for this phase will include:

- Council Pilot process, *subject to council approval*.
- Shared learnings workshop – at which pilot participants come together to share and optimise the learnings arising from each council
- Pilot Results Report including case studies and recommendations

Phase 4 – Sharing the Results (Nov 2023 – April 2024)

Phase 4 will share the pilot results with other SA councils via a report and interactive workshop in collaboration with the LGA SA, SAFECOM, DEW, and other relevant state agencies, CSIRO, the Regional Climate Partnerships, and relevant federal agencies.

Results will be shared as a best practice case study, with the goal of improving practices across the sector and informing future government policy priorities and procedures.

The CSIRO, as a key project partner, will use the results to inform their guidance and methodologies around best practice climate risk assessments for assets and infrastructure at a national level.

Key outputs for this phase will include:

- Local and state government staff and Regional Climate Partnership workshop
- Council and state government Executive and LGA Board briefing
- Elected member workshop
- Final Report including sector wide recommendations and case studies

Phase 5 - Evaluation (one year after completion of the project)

Phase 5 Assesses the degree to which the project has helped to incorporate climate risk into asset management and long term financial planning. The anticipated short, medium, and long-term outcomes of the project that are likely to be assessed (in consultation with our funding partners and Project Steering Group) include:

Anticipated Outcomes	Timeframe	Indicator
Four Resilient South metropolitan councils and one regional council participate in the pilot project	Short Term	Number of councils participating in the pilot
Pilot councils understand the risks posed to their assets and infrastructure from climate change and the adaptation options available.	Short Term	Councils have undertaken climate risk and vulnerability assessments for key assets and infrastructure as Phase 3 of the pilot project.
SA local government asset managers know which tools, methodologies, and products to use when assessing climate risk and adaptation options. Councils have a shared understanding about how to respond to climate risks and adaptation in asset management.	Medium Term	Regional Climate partnerships, the LGA, DEW, Green Adelaide and SAFECOM are collaborating to share the learnings from this project via workshops and events. Project Reports are widely shared and available on LGA, DEW, SAFECOM and Regional Climate Partnership websites and newsletters.
SA Councils have the information they need to embed climate adaptation considerations into standard corporate governance processes.	Medium Term	Climate change impacts on assets are considered in Asset Management Software products, Asset Management Plans, Long Term Financial Plans and Risk Management Frameworks. Note: This indicator will be assessed via the results of the Informed.City Climate Change Adaptation Governance Assessment which is routinely undertaken by Resilient South partner councils.
Pilot councils have invested in adaptation actions and resilience building initiatives to address climate change impacts on assets and infrastructure. Communities and businesses in the Southern Adelaide region that rely on these assets are better placed to manage current and future climate change impacts and emergencies.	Long Term	Financial investment by councils in treatments and adaptation actions to address climate change impacts. Cost spend on climate related emergencies pre- and post-project.
Councils are saving money and reducing duplication of effort by shared projects	Long Term	Councils and state government are collaborating on shared regional adaptation projects. Long-term quantifiable cost savings and efficiencies demonstrated.