

# EVALUATING OUR PROGRESS

## Resilient South Southern Region Local Government Implementation Plan 2015–2019

Internal Evaluation – January 2021

Resilient  
South | Climate  
Ready  
Southern  
Adelaide



Government of  
South Australia



CITY OF  
HOLDFAST BAY



CITY OF  
MARION



CITY OF  
ONKAPARINGA



CITY OF  
MITCHAM



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**Context:**

This report was prepared by Nina Keath, City of Onkaparinga, on behalf of the Resilient South Regional Partners (the Cities of Holdfast Bay, Marion, Mitcham and Onkaparinga) as an internal reflections document. Other stakeholders, including the Department for Environment and Water and Green Adelaide, have had the opportunity to review and comment on this document but it does not necessarily reflect their views, nor have they endorsed it.

It is envisaged that this document will be used to inform external evaluation of the Resilient South partnership and its activities, as well as shape the development of future plans (namely the Resilient South Regional Climate Action Plan, slated for development in 2022).

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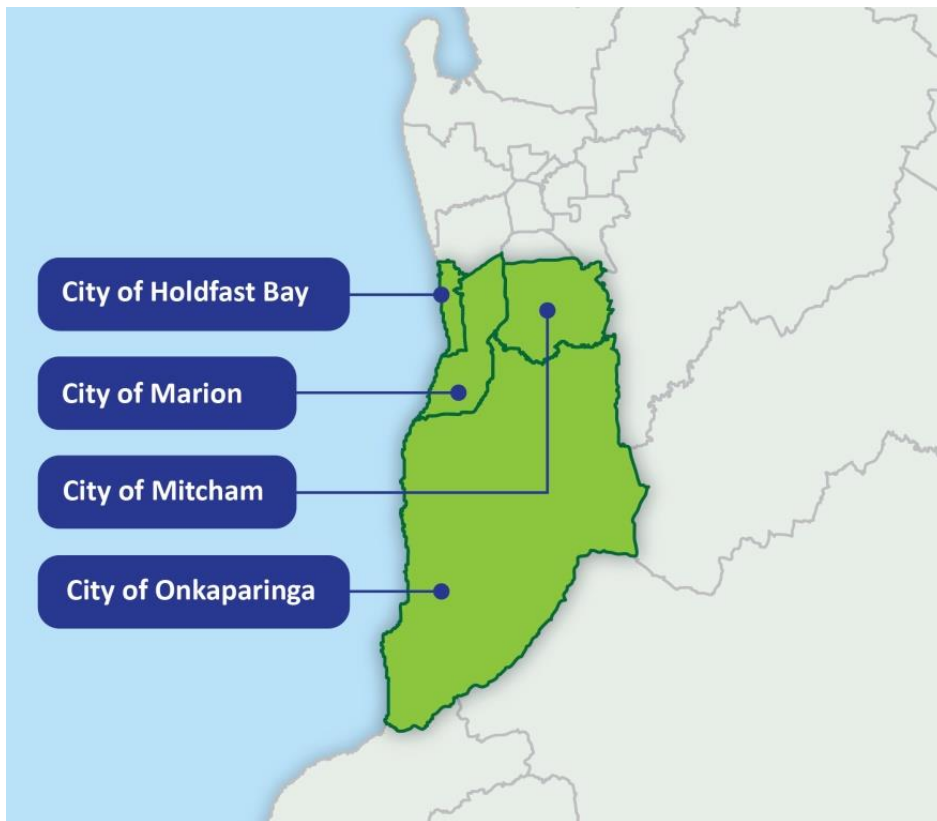
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# 1. ABOUT RESILIENT SOUTH

## 1.1 BACKGROUND

Resilient South is a partnership between four southern Adelaide councils and the South Australian government aimed at strengthening the resilience of our region so that our businesses, communities and environments can tackle the challenges of climate change and make the most of opportunities.

Operating since 2011, we are one of eleven Regional Climate Partnerships across the state.



Partners are the Cities of Holdfast Bay, Marion, Mitcham and Onkaparinga, and the South Australian government (represented by Department for Environment and Water and Green Adelaide (previously Adelaide and Mount Lofty Ranges Natural Resources Management Board)).

During 2014, the partners worked collaboratively to develop the evidence based and stakeholder informed *Southern Region Local Government Implementation Plan*

2015–2019. Member councils have been proactively implementing the plan since then.

A Program Management Committee, comprising representatives from each partner organisation, oversees delivery of the regional implementation plan, oversees project delivery, reviews progress, and responds to emerging priorities.

At various times, a Regional Coordinator has been engaged to support the Program Management Committee. Resilient South has been operating without a coordinator since June 2016, but recently received Green Adelaide funding to engage a Regional Coordinator for a one-year period commencing March 2021.

Initially focussed on climate change *adaptation*<sup>A</sup>, Resilient South broadened its focus in 2018 to deliver an overarching regional climate change response that also includes *mitigation*<sup>B</sup>. Considering both adaptation and mitigation actions, through the lens of our intertwined social, economic and ecological systems, gives us our “climate resilience” identity.

More details can be found on our website at [www.resilientsouth.com](http://www.resilientsouth.com).

## 1.2 OUR HISTORY

Resilient South was initiated in 2011 under a Heads of Agreement, as a partnership between the Cities of Holdfast Bay, Marion, Mitcham and Onkaparinga aimed at a collaborative climate change response for Southern Adelaide.

In 2012, Resilient South councils received funding from the South Australian and Australian Governments under the state government’s *Prospering in a Changing Climate* initiative to conduct an Integrated Vulnerability Assessment (IVA) of climate risks, opportunities and vulnerabilities for key sectors within the region.

In August 2013, Resilient South partner councils strengthened the collaborative intent of the Partnership by entering into a *Southern Region (Metropolitan Adelaide) Sector Agreement* with the South Australian Government, pursuant to the *Climate Change and Greenhouse Emissions Reduction Act 2007*. The Sector Agreement was renewed in February 2018 and is now due for renewal again.

Resilient South’s regional Integrated Vulnerability Assessment (IVA) informed the development of a *Resilient South Regional Climate Change Adaptation Plan* (adopted by partner councils in 2014) followed by a *Southern Region Local Government Implementation Plan 2015-2019* (Regional Implementation Plan – adopted by

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<sup>A</sup> Making changes to cope with the expected effects of climate change.

<sup>B</sup> Taking action to limit global warming caused by human activity.

partner Councils in 2015), as well as council-specific local implementation plans/policies.

Resilient South Partner councils have worked collaboratively to deliver upon the intent of these plans, regularly consulting and collaborating with other Regional Climate Partnerships, the LGA SA and the State Government to ensure a consistent state-wide climate change response.

### 1.3 OUR SOUTHERN REGION LOCAL GOVERNMENT IMPLEMENTATION PLAN

Resilient South recognises that each level of government, the community, non-government organisations (NGOs), academia and business all have a role to play in responding to climate change. We have developed a suite of planning documents that are designed to be accessed and utilised by all relevant sectors in southern Adelaide.

The *Southern Region Local Government Implementation Plan 2015–2019* (the regional implementation plan) is focussed on the joint regional actions that can be taken by partner councils. The regional implementation plan is the subject of this evaluation. Published in 2015 with the signed endorsements of the mayors of the four partner councils, the foreword describes the commitment to work together to implement regional priorities through tangible actions, and to make the most of other opportunities.

The suite of planning documents prepared by Resilient South as part of the comprehensive planning process can be located at [www.resilientsouth.com/our-resources](http://www.resilientsouth.com/our-resources), and includes:

1. *Integrated Vulnerability Assessment (IVA)* (Resilient South, 2014) – considers who and what is vulnerable to climate change impacts in southern Adelaide
2. *Regional Adaptation Plan* (Resilient South, 2014) – draws upon the IVA to propose preferred adaptation actions for a range of sectors in ten key areas over a fifty-year timeframe. This nationally-recognised plan was developed with the active participation of 150 champions<sup>c</sup> from the economy, infrastructure, environment and social domains. It is a guide for local and state government, business, and the community in adapting to climate change in southern Adelaide.
3. *Southern Region Local Government Implementation Plan 2015–2019* (Resilient South, 2015) – draws upon the Regional Adaptation Plan to consider the most relevant and urgent actions that can be delivered regionally by councils over a four-year period. It draws upon the 57 preferred adaptation options recommended in the Regional Adaptation Plan to propose four local government focussed foundation projects underpinned by 23 priority actions, plus a series of sub-actions. Existing and new partners are identified, and links made directly

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<sup>c</sup> Note that these contributors are distinct from the Climate Ready Champions program, which provides training to members of the community to positively influence climate change mitigation and adaptation.

back to the relevant original adaptation actions. An estimate of the timing to implement each of the strategic actions is made, subject to available funding. The four foundation projects are:

- EQUIP – addressing existing institutional barriers to climate change adaptation.
- AWARE – influencing our region’s willingness and ability to adapt to a changing climate.
- COOL PLACES – increasing the resilience of vulnerable people and the wider community to urban heat.
- SOURCE TO SEA – protecting our precious water resources, catchments and coastlines.

4. *Local Implementation Plans and Policies* – identify actions that can be taken individually, in a locally-relevant way, by each partner council.

### 1.4 OUR GUIDING PRINCIPLES

The Resilient South management committee operates according to the following principles.

<b>Advocate and lead</b>	Demonstrate our leadership through commitment, action and advocacy to the LGA and state government.
<b>Share knowledge</b>	Generously share tools, resources and knowledge with each other and beyond. Design our programs and initiatives so they can be replicated.
<b>Keep collaborating</b>	Continue working with other Regional Climate Partnerships, the LGA, state agencies and NGOs to leverage collective impact and reduce the load for individual councils.
<b>Go where the energy is</b>	Leverage local priorities, existing initiatives and networks to sustain and build momentum. Be flexible and pragmatic. Take up opportunities.
<b>Be evidence based</b>	Take an evidence-based and rigorous approach that considers both the physical and social sciences. Base decisions on principles of adaptive and resilient systems.
<b>Prioritise good governance</b>	Prioritise consistency, effectiveness, transparency and accountability in all our processes and decision making.

Resilient South has sought to ensure that we are delivering long-term resilience outcomes and reducing the risk of unintended consequences or maladaptive



solutions by underpinning our work with a rigorous and scientifically robust set of adaptation principles.

Understanding and clearly articulating the principles of resilient and adaptive institutions and regimes was the first step towards supporting our organisations to transition towards more resilient and adaptive practices. Resilient regimes emphasise a systems approach whereby interconnections between the management of different services deliver and protect multiple benefits. They are adaptive and ready to respond to unanticipated outcomes by being prepared for multiple potential future conditions. Therefore, investing in a level of strategic redundancy is part of a resilient system. Such an approach is somewhat at odds with traditional management approaches whereby the most likely future condition is often optimised leaving systems vulnerable to future change.

	<b>Traditional Regimes</b>	<b>Resilient Regimes</b>
<b>Management Approach</b>	Compartmentalisation and optimisation of single components of the sector	Adaptive, integrated, sustainable management of systems
<b>Objective</b>	More (no limit)	Enough (limit)
<b>Means</b>	Growth, competition, centralisation	Balance, cooperation, decentralisation
<b>Expertise</b>	Narrow technical and economic focussed disciplines	Interdisciplinary, inter-sectoral, multi-stakeholder learning across social, technical, economic, design, ecological spheres etc.
<b>Service Delivery</b>	Centralised, linear and predominantly technologically and economically based	Alternative, flexible solutions at multiple scales via a suite of approaches (technical, social, economic, ecological etc)
<b>Role of Public</b>	Services managed by government on behalf of communities	Co-management of services between government, business and communities
<b>Risk</b>	Risk regulated and controlled by government	Risk shared and diversified via private and public instruments

Resilient South underpinned our planning and design with fifteen adaptation planning principles that built upon the above understanding of resilience attributes, as well as the principles for prioritising adaptation actions contained in the *Climate Change Adaptation Framework for South Australia* (Government of South Australia, 2012) and the adaptation principles prepared by the Social, Economic and Institutional Dimensions Research Network as part of the National Climate Change Adaptation Research Facility (NCCARF, 2012). We also drew upon insights from practitioners, climate scientists and policy makers working in the field of adaptation

planning at the time. A detailed explanation of our adaptation planning principles is provided in the Appendix.

Adaptation Planning Principles:

1. Adaptation and mitigation are complimentary processes
2. Prioritise public goods
3. Remember that climate change is more than an environmental issue
4. Ensure an equitable distribution of risk and opportunities
5. Establish Shared Responsibility for planning at the most appropriate scale
6. Recognise that adaptation will involve managing change
7. Be consistent in messaging
8. Manage risks and exploit opportunities
9. Take an evidence-based approach
10. Plan for uncertainty and deliver adaptation actions where there is a plausible risk of harm, even in the absence of complete scientific certainty
11. Take action using an adaptive management approach to allow for readjustments as new information arises - Be flexible, reflective and iterative
12. Integrate climate adaptation considerations into existing management and decision-making processes
13. Accept failure as a part of successful adaptation
14. Accept that Adaptation won't be easy
15. Recognise that there are limits to adaptation

When selecting climate change response options for the Implementation Plan, Resilient South recognised that there are many options available to address climate change impacts, not all of them efficient or desirable. Equally, there are many parties who could deliver adaptation responses, some of them not necessarily best placed to do so. Therefore, careful consideration needed to be given to designing and prioritising adaptation responses. Resilient South adapted and expanded upon the principles for prioritising adaptation actions contained in the *Climate Change Adaptation Framework for South Australia* (Govt. SA, 2012) and the adaptation principles prepared by the Social, Economic and Institutional Dimensions Research Network as part of the National Climate Change Adaptation Research Facility (NCCARF, 2012). A detailed explanation of the principles for identifying and prioritising adaptation actions is provided in the Appendix.

Principles for identifying and prioritising adaptation actions:

1. Give priority to those sectors and adaptation options that are likely to provide the greatest social, economic and environmental benefit for the region and State
2. Take early action where there are demonstrated cost-benefits

3. Ensure responses avoid unintended consequences and do not undermine our ability to adapt over the long-term - Avoid maladaptation
4. Be mindful of greenhouse gas emissions
5. Make trade-offs explicit
6. Consider the impact from cascade failures
7. Incorporate Strategic Redundancy

## 2. THE STATE POLICY CONTEXT

### CLIMATE CHANGE

In August 2012, the *South Australian Climate Change Adaptation Framework* (the Adaptation Framework) was adopted by the South Australian government to provide leadership in developing a response to the likely impacts of climate change.

Fundamental to the Adaptation Framework is the necessity for Councils to work at a regional level in collaboration with government, business and our communities to establish joint strategies to prepare for significant negative impacts expected in the future.

In November 2019, the South Australian government released a [\*Directions for a Climate Smart South Australia\*](#) policy statement that established the government's agenda for practical, on-ground action to address climate related impacts.

In late 2020 the *South Australian Government Climate Change Action Plan 2021–2025* (Action Plan) was released. The Action Plan was developed with input from the Premier's Climate Change Council, and other experts including renowned climate economist Professor Ross Garnaut. The Action Plan states that the government will partner with local government and other regional organisations through the Regional Climate Partnerships network to support projects that help communities adapt and mitigate climate risk.

Prior to the release of *Directions for a Climate Smart South Australia* and the *South Australian Government Climate Change Action Plan 2021-2025*, the key documents which underpinned the state government support for Resilient South were:

- *South Australia's Climate Change Strategy 2015-2050: Towards a low carbon economy* - reiterates the state Government's commitment to regional adaptation planning; and
- *Towards a Resilient State: The South Australian Government's Climate Change Adaptation Action Plan* - released in 2018, providing a framework for priority adaptation actions by government. This Plan supported the implementation of regional priorities and recognised the importance of some adaptation responses being coordinated at a state-scale.

### EMERGENCY MANAGEMENT AND DISASTER RESILIENCE

The South Australian State Emergency Management Committee (SEMC) established under the *Emergency Management Act 2004* is chaired by the Chief Executive of the Department of the Premier and Cabinet and provides leadership and oversight of emergency management planning in South Australia, including the preparation and review of the *State Emergency Management Plan*.

The *State Emergency Management Plan* (SEMP) recognises that climate change will continue to increase the frequency and severity of such extreme weather events, leading to even greater impacts upon the South Australian people and government.

Zone Emergency Management Committees (ZEMC) operate across eleven emergency management zones and are responsible for zone (regional) planning to support the SEMP. The ZEMC's use an all-hazards approach to emergency management from prevention through to recovery, including the development of zone emergency management plans.

In 2019, the South Australian government released *Stronger Together – South Australia's Disaster Resilience Strategy 2019-2024*. Climate resilience is a key focus.

The National Strategy for Disaster Resilience was endorsed by the Council of Australian Governments in February 2011. The purpose of the Strategy is to provide high-level guidance on disaster management to federal, state and local governments, business and community leaders and the not-for-profit sector. Climate resilience is a key focus.

#### **PUBLIC HEALTH PLANNING**

Under the South Australian *Public Health Act 2011*, Councils have a statutory obligation to develop a regional public health plan that is consistent with the South Australian Public Health Plan. The state public health priorities include 'Preparing for Climate Change (e.g. improving resilience to extreme weather conditions and hazards, green infrastructure).

### 3. EVALUATION APPROACH

Evaluation of the Regional Implementation Plan is being undertaken in two phases – internal and independent.

#### 1. Internal Evaluation

An internal evaluation was undertaken by the Resilient South Program Management Committee during 2020/21 and is the subject of this report. It involved answering the following questions:

- Did we do what we said we would do?
- What are our key achievements?
- What are our reflections on successes, challenges and future opportunities?

Our internal evaluation process involved:

- *Quantitative Evaluation* – Committee members reviewed the Strategic Actions contained in the Regional Implementation Plan and scored them as: Complete, Ongoing, Changed Priority, Outstanding (Appendix C).
- *Qualitative Evaluation* – Committee members provided reflections about: What worked? What didn't? Recommendations for next steps (Chapters 4 & 5).
- *Indicator Assessment* – Committee members evaluated progress against the five evaluation indicators laid out in the Regional Implementation Plan.

#### 2. Independent Review and Benchmarking

An independent review and benchmarking process is currently being undertaken by the Climate and Sustainability Policy Research Group at Flinders University. This review will include seeking feedback from Resilient South partners and stakeholders and benchmarking against international best practice. This report has been drafted to inform and support the independent evaluation.

Recommendations from the evaluation will inform a renewed Regional Climate Change Action Plan for Southern Adelaide.

## 4. OUR KEY ACHIEVEMENTS

This section provides an overview of some of our key regional Resilient South initiatives and achievements. Appendix C provides a complete list of regional strategic actions and progress achieved.

Appendix E provides a non-exhaustive summary of initiatives by individual partner councils that support our shared goal of resilience-building.

### 4.1 AWARDS

Resilient South is widely recognised as a leader in regional climate resilience and we have been recognised with the following awards:

- 2014 Local Government Climate Adaptation Champion, National Climate Change Adaptation Research Facility
- 2015 Best Planning Ideas Award, Planning Institute of Australia
- 2018 Minister for Health and Wellbeing – Excellence in Public Health Award, Government of SA
- 2018 Resilient Australia Government Award, Government of SA, Australian Government, Australian Institute for Disaster Resilience
- 2019 LG Pro Awards for Excellence: Environmental Leadership and Sustainability – Finalist.

### 4.2 AWARE & EQUIP

#### ADAPTATION PLANNING

Over 150 Program Champions were actively involved in the development of both the Regional Adaptation Plan and the Regional Implementation Plan. Champions were recruited from all levels of government, community, NGOs, academia and business.

#### COMMUNITY SURVEY

In 2017 and 2018, Resilient South partner councils surveyed our communities about their knowledge, attitudes and behaviours regarding climate change. Survey questions were adapted from the *CSIRO Attitudes to Climate Change Survey*, which allows us to benchmark results against national averages and to track changes within southern Adelaide over time. The surveys attracted a high level of engagement from community members who told us that they are concerned about climate change and would like more information about what councils are doing as well as support with how to take personal action. Selected results are available at [www.resilientsouth.com/community-survey](http://www.resilientsouth.com/community-survey).

Survey results were used to inform the development of Resilient South and council specific communications materials and engagement programs.

#### **ENVIRONMENTAL ENGAGEMENT NETWORK**

The Community Survey revealed that our communities are crying out for positive ways to engage with climate change. Resilient South has responded to this need by partnering with each other as well as with state agencies and NGOs on community engagement programs that facilitate meaningful participation and empowerment.

Our Resilient South Environmental Engagement Network members (from each partner council) collaborate to ensure a regional and consistent approach to delivering climate ready information through targeted social media campaigns and by providing a wide range of online and in-person community workshops.

Workshop topics include energy efficiency, solar for households, planting to cool your home, sustainable retrofits, bushfire and heatwave readiness, climate action, water sensitive design at home, and climate medicine.

Events are advertised on our Resilient South website and council Facebook pages. The Network regularly partners with other organisations such as Water Sensitive SA, Green Adelaide, Red Cross, Energy Partners Program, Renew, Willunga Environment Centre and SA Water. To date over 15,000 residents have participated in online and in-person education sessions.

#### **WEBSITE**

The Resilient South website – [www.resilientsouth.com](http://www.resilientsouth.com) – was established in 2018 and provides public access to Resilient South plans and resources, upcoming events, descriptions of our projects, links to other relevant projects, and a Wall of Fame which highlights local Climate Ready Champions’ personal stories about how they are taking climate action. Community members can sign up to our mailing list and get in touch via the website.

#### **CLIMATE READY COMMUNITIES**

The Climate Ready Communities Program began as a two-year pilot partnership between Resilient South and the Australian Red Cross in 2017 with the aim of empowering self-organising community volunteers to spread climate preparedness and adaptation messaging and take local action.

The project aimed to build participants’ understanding of the natural hazard risks they currently face; the way these are changing because of climate change; and what they can do to build their resilience and that of their community.



The success of the pilot has resulted in the program subsequently being rolled out across other Regional Climate Partnerships and individual councils. This now brings the total number of trained Climate Ready Champions from 62 during the pilot phase to 180. Despite the challenges presented by the COVID-19 pandemic, the Climate Ready Communities project has seen Champions take at-home actions, hold events and have face-to-face and virtual conversations, reaching an estimated 1,660 further people.

Champions' achievements include: delivery of a Climate Ready Forum for the community attended by more than 80 people; input into creation of Climate Ready House Signs to help start climate ready conversations in their neighbourhood, with over 50 distributed for use; and collaboration on development of an Actions Toolkit to support trained Champions with organising skills for events and groups.

A targeted youth workshop was held in November 2019 following a youth engagement survey that showed environmental concerns as a high priority for young people.

[www.resilientsouth.com/climate-ready-champions](http://www.resilientsouth.com/climate-ready-champions)

#### **CLIMATE READY SCHOOLS**

City of Onkaparinga conceived and piloted the Climate Ready Schools program in partnership with Resilient South and the former Adelaide and Mount Lofty Ranges Natural Resources Management (NRM) Board NRM Education program, now Green Adelaide Education. The program teaches students about climate change risks, including using council's localised hazard data, and utilises STEM (tools drawn from science, technology, engineering and mathematics) and Design Thinking to support them to develop adaptation solutions for their schools.

The successful program was expanded to schools in the City of Marion during 2019/20 and is now being rolled out in schools across the state, in partnership with councils and other Regional Climate Partnerships.

[www.resilientsouth.com/climate-ready-schools](http://www.resilientsouth.com/climate-ready-schools)

#### **FLEURIEU FILM FESTIVAL: CLIMATE CHANGE - HOT TOPIC KOOL FILMS**

In 2019, City of Onkaparinga partnered with Resilient South and The Fleurieu Film Festival on their theme: Climate Change – Hot Topic Kool Films. Film makers were given access to City of Onkaparinga's climate change data, including 3D coastal mapping that can be used to generate animations. The festival received hundreds of submissions from local and international filmmakers, each sharing stories of hope, inspiration and action. Over 800 community members attended the sold-out event.

## CLIMATE ARTS EXCHANGE

Art meets science in this unique Resilient South initiative. The Climate Arts exChange was developed by City of Onkaparinga and offers artists access to Resilient South partner councils' climate change data and science to interpret through their art. Artists are also able to collaborate with council staff and draw upon their expertise. Past artists have worked with a wide range of staff from teams responsible for Assets, Coastal Planning, Spatial Information Systems, Sustainability, Biodiversity, Conservation and Volunteer Coordination. The resulting art has fostered rich community dialogue around the nature of the climate challenge and the question of how we should respond as a community.

[www.resilientsouth.com/climate-exchange](http://www.resilientsouth.com/climate-exchange)

## CLARENDON CREATIVE

Clarendon Creative is a residency program akin to a living laboratory where artists and thinkers come to examine urgent climate change and social challenges through reflection, collaboration, exchange and experimentation, to find ways for these issues to be effectively communicated and implemented into society.

In 2021, Resilient South is partnering with Clarendon Creative under the banner of our Climate Arts exChange program.

## 4.3 COOL PLACES

### HEAT AND TREE CANOPY MAPPING

In 2016 we used airborne infrared sensing to create a heat map of our suburbs and towns on a 39° C day to help identify hot spots to help the region plan cooling and green infrastructure projects.

This involved the capture of aerial imagery of land surface temperature across the Resilient South region. The data highlights areas in the region that accumulate heat and are vulnerable to the effects of urban heat islands. Clear reductions in urban heat are visible for areas with high vegetation cover. Urban heat maps and associated reports are available at [www.resilientsouth.com/urban-heat](http://www.resilientsouth.com/urban-heat).

Resilient South Councils also worked together to map tree canopy in partnership with 15 metropolitan councils and the state government to contract aerial mapping company Aerometrex. The company used LiDAR (Light Detecting and Ranging) technology for the first time to capture high resolution, three-dimensional tree metric data. This was done by flying across the metropolitan Adelaide study area in June 2018 and October 2019.

The result was the establishment of a benchmark of tree canopy cover and trees above 3 m in height, which can now be used to track future canopy loss and gain both on private and public land into the future.

Data on both urban heat and tree canopy can now be viewed in an interactive online map that is informing a consistent and shared approach to urban greening across the entire metropolitan area: <https://data.environment.sa.gov.au/Climate/Data-Systems/Urban-Heat-Mapping/Pages/default.aspx>

The data and strong working relationships are being used to inform a host of council and state government strategic priorities including urban greening targets, tree and vegetation planting, materials selection, water management, urban planning, and resilience and wellbeing initiatives and the formation.

### **URBAN GREENING TARGETS**

Resilient South partner councils responded proactively to the results of the Heat and Tree Canopy mapping by developing a series of council-specific urban greening targets:

- Onkaparinga – 20% increase in both tree canopy cover and green cover (trees and shrubs) in our urban area by 2045; plant 100,000 trees in 20 years. Since 2016, 35,000 trees have been planted.
- Holdfast Bay – 10% increase to tree canopy coverage by 2030.
- Marion – plant 3,000 street trees annually to increase coverage to 1,000 street trees per square kilometre
- Mitcham – Accelerated planting of 4,850 trees across the city since 2016/17 plus additional planting of 9,300 trees between 2019 and 2025.

City of Onkaparinga and City of Marion have combined the results of the urban heat and tree canopy mapping with socio-economic data (SEIFA<sup>D</sup>) to prioritise plantings in areas with the highest physical and social needs.

### **TREES R COOL CAMPAIGNS**

Trees provide many benefits for our environment, health and wellbeing, and economy. In order to increase positive community awareness, connection and perceptions, Resilient South councils, in partnership with Green Adelaide, are partnering to develop a communications campaign to promote economic, environmental, social and cultural benefits of trees. The year-long ‘Trees R Cool’ campaign includes gathering stories from the community about trees, workshops and a social media plan.

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<sup>D</sup> Socio-Economic Indexes for Areas produced by the Australian Bureau of Statistics - <https://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa>

All councils have developed tree tags and walking trails to promote the benefits of trees to the community.

### **FEELING HOT! HOT! HOT! HEATWAVE HYPOTHETICAL**

In February 2018, Resilient South delivered the multi-award-winning community event *Feeling Hot! Hot! Hot! Dealing with Heatwaves in Southern Adelaide*. We brought together over twenty government, private sector, academic and non-profit organisations who contributed to the lively, interactive event that guided hundreds of community members through a heatwave scenario to improve preparedness and responses to heatwaves. The concept for this event has been replicated by other Regional Climate Partnerships and interstate organisations. Event resources are available for use at <https://www.resilientsouth.com/heatwave-hypothetical>.

### **COOLER GREENER ADELAIDE FORUMS**

In March 2019, Resilient South partnered with Water Sensitive SA to host the Cooler Greener Adelaide: Shaping our Future City Forum. Hundreds of participants heard from innovators in design, building, research, planning and business about how we can challenge the business-as-usual approach to urban renewal and build in climate resilience, health and wellbeing.

On 5 February 2020, Resilient South partnered with Water Sensitive SA to host a second Cooler Greener Adelaide event: New Planning Policy, New Opportunities. Eighty community members were supported to understand and comment upon proposed changes to the Planning and Design Code. Their feedback was captured and fed into the development of the new code.

### **GREENER SPACES BETTER PLACES**

Resilient South partner councils support the not-for-profit Greener Spaces Better Places initiative (previously known as 202020 Vision) in recognition of the role of urban greening to mitigate heat and improve amenity in our public spaces.

### **WATER SENSITIVE URBAN DESIGN**

Water sensitive urban design (WSUD) is an approach to urban planning and design that integrates the management of the total water cycle into the land use and development process. In addition to the many liveability and environmental benefits of implementing the WSUD philosophy as part of the urban design process, it's also one of the best ways to cool our cities by retaining trees, vegetation and water in the landscape. Partner councils work closely with developers to encourage them to consider WSUD principles in the design of new housing developments. We also incorporate WSUD when we upgrade our streets, parks and public spaces.

Resilient South collaborates regularly with Water Sensitive SA to deliver shared workshops and training on WSUD for council staff.

#### **COOLING THE COMMUNITY WITH SMART IRRIGATION**

Resilient South councils are partnering with SA Water to test innovative irrigation solutions that lead to lower costs, increased vegetation, and cooler public outdoor spaces for use by our community. Sophisticated software is linked with live Bureau of Meteorology data and on-ground soil moisture and air temperature sensors to provide real-time data for use by decision makers.

Data from the Smart Irrigation Trial is fed into SA Water's *Cooling the Community* webpage. An interactive map shows live temperature readings across participating councils' public spaces, enabling community members to check how cool they will be at their local park: <https://www.sawater.com.au/education-and-community/community-and-events/cooling-the-community>. Participating Resilient South councils share this information on their own websites.

## **4.4 SOURCE TO SEA**

### **NCCARF CASE STUDIES**

The National Climate Change Adaptation Research Facility (NCCARF) enlisted representatives from the three coastal Resilient South partner councils to inform its coastal adaptation research and to develop tools for coastal climate risk management. Resilient South's involvement in the NCCARF research informed our own adaptation actions and enabled us to develop and maintain important networks with other Councils and research institutions.

### **COASTAL ADAPTATION WORKING GROUP**

In 2020, Resilient South formed a Coastal Adaptation Working Group to ensure a consistent approach to coastal adaptation across the region. Members of the group work closely with the Coast Protection Board, Metropolitan Seaside Councils Committee, the South Australian Coastal Councils Alliance and the LGA to ensure a consistent state-wide adaptation approach.

## **4.5 CLIMATE RISK GOVERNANCE**

Several recent events have driven climate risk onto the mainstream financial and legal agenda – with an associated increase in potential risks and liabilities for councils. In 2016, corporate lawyer Noel Hutley SC released a widely cited opinion (updated in 2019) that climate change is a foreseeable risk, including in the short-term, and that Directors failing to disclose climate risk are in breach of their fiduciary duties. In 2018, the G20 Financial Stability Board's Task Force on Climate-related

Financial Disclosures (TCFD), released guidelines to inform lenders, insurers, and investors in disclosing climate-related financial risks. The TCFD has been widely adopted by major corporations and governments globally and across Australia.

Whilst not an identified action in the Implementation Plan, Resilient South has responded to the need with a range of targeted initiatives.

#### **CLIMATE RISKS FOR COUNCILS WORKSHOPS**

In October 2018, Resilient South (led by City of Onkaparinga) partnered with Resilient Hills & Coasts to deliver an executive briefing and a staff workshop on Climate Risks for Councils. Over 70 representatives from ten partner Councils, state agencies and the LGASA took part in the two events, where they learnt that climate change can no longer be considered solely as an environmental problem but must also be considered a financial risk and legal liability for councils.

#### **CLIMATE RISK GOVERNANCE ASSESSMENT**

Following the 2018 workshops, City of Onkaparinga and Resilient South led the first South Australian pilot of a Climate Risk Governance Assessment, using climate change consultancy Climate Planning's Informed.City tool during 2019.

All four Resilient South Councils have now baselined their performance and started to improve climate risk management through the award-winning methodology and a community of practice approach. This initiative has done more than any other to shift organisational understanding of climate change as a risk management issue (not solely an environmental issue), and to embed climate action across Council business.

The assessment ranked Marion number 1 and Onkaparinga number 3 when benchmarked against over 310 Australian Councils. Mitcham was ranked amongst the top performing smaller Australian councils. Climate Planning reported that they had never seen such a uniformly high achieving group of councils in a single cohort and they attributed this to the peer-to-peer learning and collaborative action facilitated by Resilient South.

The success of our pilot influenced 18 other SA councils to also undertake the governance assessment, with another 10 councils currently in the planning phase.

#### **RESILIENT ASSET MANAGEMENT PROJECT**

One notable gap for all the South Australian councils who undertook the Climate Risk Governance Assessment (discussed above) was in asset management. The Resilient South project "Resilient Asset Management Project" responds to this gap by developing and piloting a best-practice approach to assessing and funding a response to climate change impacts on assets and infrastructure. The project is being delivered over a three-year period to feed into the next round of council Asset Management Plans and Long-Term Financial Plans. Recognising 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 on inter-governmental and cross-sectoral partnerships and collaboration.

The project has received almost \$600,000 funding from all four partner councils, the National Disaster Risk Reduction Fund (administered by SAFECOM) and the Local Government Research and Development Scheme Fund. A Project Manager has been appointed to oversee the project on behalf of Resilient South.

#### **RESILIENT SOUTH ASSETS WORKING GROUP**

A Resilient South Assets Working Group was formed in 2020 in recognition of the need for asset management planning and practice, which informs capital spending, to consider climate risk and adaptation in a quantifiable way. The working group comprises asset managers from the four partner councils who recognise that the decisions councils make today will affect our community's climate resilience, and councils' legal and financial liabilities, tomorrow. The working group oversees the Resilient Asset Management Project and ensures regional consistency across southern Adelaide in our adaptation decision making.

## **4.6 EMISSIONS REDUCTION**

Resilient South began with a climate adaptation focus. However, in 2018, the program broadened its focus to also include mitigation in recognition of the fact that reducing emissions is the most effective strategy for reducing climate change threats.

#### **EMISSIONS REDUCTION WORKING GROUP**

A Resilient South Mitigation working group was formed in 2019 to ensure regional consistency, efficiency and cost savings from shared regional projects, and reduce duplication of effort across southern Adelaide councils.

#### **COMMUNITY EMISSIONS SNAPSHOT**

In 2020, Resilient South Councils partnered with other South Australian councils to champion the development of [Snapshot<sup>E</sup>](https://snapshotclimate.com.au/locality/australia/south-australia/mitcham) community emission profiles across all South Australian local government authorities. Community groups, residents and businesses can now monitor the Southern region community emission profiles to hopefully witness reductions in greenhouse gas emissions urgently required to address the climate change crisis over time.

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<sup>E</sup> <https://snapshotclimate.com.au/locality/australia/south-australia/mitcham>

## 5. EVALUATION INDICATORS

The Regional Implementation Plan proposed a small number of high impact indicators that cover the main elements of the plan.

- 1 Percentage of Council strategic plans, community plans, local asset plans and regional public health plans (as required under the Local Government Act) that consider climate change.
- 2 Councils' participation in government and non-government research, processes, and committees that have the potential to influence state and federal government policies.
- 3 The number of Resilient South Program Champions and their levels of activity.
- 4 Our capacity to understand the impact of heat on our region and vulnerable members of the community.
- 5 The completion of a review of Councils' management of our open spaces and outdoor recreational facilities.

### **1. PERCENTAGE OF COUNCIL STRATEGIC PLANS, COMMUNITY PLANS, LOCAL ASSET PLANS AND REGIONAL PUBLIC HEALTH PLANS (AS REQUIRED UNDER THE LOCAL GOVERNMENT ACT) THAT CONSIDER CLIMATE CHANGE**

The committee has chosen to expand this evaluation element to include the number, quality and effectiveness of council plans and governance arrangements using the Informed.City climate adaptation governance assessment tool.

In 2019, Cities of Marion and Onkaparinga were assessed using the Informed.City tool. The assessment ranked Marion number 1 and Onkaparinga number 3 when benchmarked against over 310 Australian Councils. In 2020, City of Mitcham also undertook the assessment and was ranked amongst the top performing smaller Australian councils. The consultant who undertook the assessment stated that he had never seen such a uniformly high achieving group of councils in a single cohort and it was his belief that our high performance could be attributed to our participation in Resilient South.

The assessment identified key governance gaps which partner councils have been working collaboratively to improve. For example, the Resilient South Incorporating Climate Risk into Asset Management project responds to the fact that all assessed councils have governance gaps in our asset management.

Recommendations:



- City of Holdfast Bay to undertake the Climate Risk Governance Assessment during 2021
- All partner councils to repeat the Climate Risk Governance Assessment in 2022/23

## **2. COUNCILS' PARTICIPATION IN GOVERNMENT AND NON-GOVERNMENT RESEARCH, PROCESSES, AND COMMITTEES THAT HAVE THE POTENTIAL TO INFLUENCE STATE AND FEDERAL GOVERNMENT POLICIES**

Resilient South partners have been very active in participating in research, processes and committees that have been highly effective in influencing state government processes and policies. This includes:

### Partnerships

*Regional Climate Partnerships* – Resilient South successfully advocated for the state government to create a Central Coordinator position for the Regional Climate Partnerships. In response, a one-year trial of a Central Coordinator position was undertaken by DEW during 2019-20. This role was subsequently funded by Green Adelaide and expanded to part-time roles for both a Metropolitan Central Coordinator and a Regional Central Coordinator, hosted by the Local Government Association. The two roles were then combined into a single full-time Central Coordinator. A Resilient South committee member sits on the Steering Group of the Central Coordinator Position.

The *State Government Climate Change Action Plan 2020-2025* includes an action for the Government of South Australia to Support Regional Climate Partnerships to deliver local adaptation and mitigation projects.

*Water Sensitive SA* – Resilient South has worked effectively with Water Sensitive SA to deliver coordinated advocacy around the need for WSUD and urban greening to a wide number of state policy and planning process. A strong recent focus has been advocacy regarding the urban greening provisions in the state planning reforms. In partnership with the other Regional Climate Partnerships, we have also influenced the governance arrangements for the newly formed Green Adelaide, and through engagement with the Premiers Climate Change Council highlighted the importance of considering urban greening in the South Australian *Climate Change Action Plan 2021–25*. We have been active in informing the agenda and priority for Water Sensitive SA.

Other active partnerships that we participate in include:

- *Climate Emergency Declarations* – this has been an active area of discussion for Resilient South Councils where City of Mitcham and Holdfast Bay have set

positions from their respective Elective bodies, whilst Onkaparinga Council and City of Marion have also actively investigated a formal position from a full council perspective.

- *Cities Power Partnership* – Onkaparinga Council and City of Mitcham are currently members of the Climate Council’s *Cities Power Partnership*, which provides these Councils with an opportunity to share our success stories and priorities with a national audience.
- *Vision 2020*
- *1MillionWomen*

### Research

Resilient South partners have been active participants in the following Cooperative Research Centres:

- *CRC for Water Sensitive Cities*
- *CRC for Low Carbon Living*
- *CRC for Productive Coasts and Industries (in development)*

We have received Flinders University Climate Change Research Seed Funding to undertake an independent evaluation and benchmarking of Resilient South.

### Committees

Resilient South committee members regularly participate in and engage with the following committees:

- Zone Emergency Management Committees – policy advice and input
- Premier’s Climate Change Council – advocacy regarding state priorities (esp. the *State Government Climate Change Action Plan 2020-25*)
- Urban Heat Mapping working group – a network of all metro Regional Climate Partnerships that has influenced the state government to commit to undertake regular urban heat mapping and host the data on a centralised website. This has been achieved via investment in shared regional projects and advocacy.
- Climate Emergency working group
- SA Coastal Councils Alliance
- Metropolitan Coastal Councils Committee
- Australian Coastal Councils Association
- Southern Environment Educators Group

Recommendations:

- More work is required to influence Federal policies and processes.

### 3. THE NUMBER OF RESILIENT SOUTH PROGRAM CHAMPIONS AND THEIR LEVELS OF ACTIVITY

The committee agreed not to continue the concept of formalised Program Champions beyond the initial Resilient South planning process.

Instead, a diverse group of inter-disciplinary stakeholders and community members have been actively engaged via participation in Resilient South projects, programs, workshops and events, networking, advocacy and the website (all described in the achievements section).

Recommendations:

- Meet community demand for website and newsletter content
- Share our work with other Regional Climate Partnerships
- Consideration could be given to engaging the business community.

### 4. OUR CAPACITY TO UNDERSTAND THE IMPACT OF HEAT ON OUR REGION AND VULNERABLE MEMBERS OF THE COMMUNITY

Resilient South has been highly effective in supporting communities, council staff, elected members and other stakeholders to build their awareness about the impacts of heat on our region and how to reduce our vulnerability. This work has resulted in significant urban greening and cooling outcomes for our region.

- *Urban Heat Mapping* - airborne thermal imagery mapping in 2016 and 2020 [www.resilientsouth.com/urban-heat](http://www.resilientsouth.com/urban-heat) and <https://data.environment.sa.gov.au/Climate/Data-Systems/Urban-Heat-Mapping/Pages/default.aspx>
- Tree Canopy Mapping
- Urban Greening Programs
- SA Water Smart Irrigation Trial
- How Cool is Your Park
- *Feeling Hot Hot Hot! Dealing with Heatwaves in Southern Adelaide* - Multi-award-winning community event about dealing with heatwaves. Replicated by Resilient South and interstate. [www.resilientsouth.com/heatwave-hypothetical](http://www.resilientsouth.com/heatwave-hypothetical)
- Climate Ready Schools – educates students about the heat mapping and supports them to identify adaptation options for their schools.
- Materials Selection – e.g. choosing lighter coloured paints, avoiding materials that attract and retain heat such as fake turf.
- Advocacy – see above.

## 6. REFLECTIONS

Members of the Resilient South Management Committee have reflected on the progress that has been made towards building the climate resilience of the southern Adelaide region.

Reflections from council employees and external stakeholders have been gathered via stakeholder focus groups and surveys as part of the independent evaluation by Flinders University.

### 6.1 STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT

Overall, the committee believe that Resilient South has a strong record of achievement, credibility with partners and key stakeholders, and good momentum. Steady progress has been made towards our goal of building the resilience of our region's community, natural environment, businesses and institutions. However, opportunities remain to address important gaps.

#### STRENGTHS

Resilient South was the second of eleven Regional Climate Partnerships in SA to develop a Regional Adaptation Plan. Our award-winning methodology was unique in the way that it combined both physical and social science investigations and is credited with influencing all subsequent regional plans across the state.

A key indicator of our success is that we have implemented most of the actions identified in the Resilient South Regional Implementation Plan. In doing so, we have been effective in securing funding for projects from internal and external stakeholders and seeing climate change become more embedded across partner organisations.

We have also been proactive and responsive to emerging priorities, going above and beyond the actions identified in the plan. When new information and needs have arisen that were not in the original plan, we have been quick to respond and make the most of opportunities.

Each Council has allocated meaningful financial resources and staff time to mitigating climate risks and resilience building activities. Climate change is now incorporated into partner Councils' Strategic Plans and Community Plans, risk management frameworks, Asset Management Plans and Annual Business Plans. Work is underway to incorporate climate risk into long term financial planning.

There is no longer any question within partner councils about 'whether' we should be responding to climate change. The question is about 'how' to respond.

The process of developing and implementing the Adaptation and Implementation Plans at a regional level has built strong partnerships and working relationships between Councils and state government, resulting in aligned and mutually reinforcing policies and projects, along with better communication and efficiencies from shared regional projects and peer-to-peer networked learning. We have also built effective working relationships with a wide range of non-government organisations, partnerships and research institutes.

Our committee has continuously engaged with state government and the Local Government Association on leadership and cooperative work around sustainability and resilience; with a key focus on adapting and responding to the impacts, risks and opportunities arising from climate change in the region.

A strong, passionate, and influential committee (with support from a Regional Coordinator at times) has been critical to Resilient South's success. Committee members have the capability and credibility in their organisations to drive localised action, which has been supported by continuity of membership.

The partnership provides energy to promote programs across councils and encourages each council to remain accountable in progressing regional priorities.

Sharing information and resources has enhanced our ability to act with agility. Committee members have made themselves available to provide regular updates and presentations to other Regional Climate Partnerships, the LGA, professional networks and state agencies, to facilitate cross-sectoral learning.

Our projects are consistently designed so that they can be replicated by others. Acting as an 'innovation hub,' successful local actions taken by individual councils are shared and rapidly replicated by other Resilient South partners and other Regional Climate Partnerships and failures are learnt from and avoided. Councils don't feel alone in their efforts. There is always someone to problem solve with.

The Committee has benefited significantly from learning from and collaborating with other Regional Climate Partnerships, particularly since the Central Coordinator position has been in place to facilitate this.

Despite operating without a regional coordinator since June 2016, we have managed to take effective action through combined effort and a commitment to consistency and accountability. The need for a Regional Coordinator has become more pressing as climate change has become a higher societal and government priority.

As outlined in our guiding principles, we have created group norms that prioritise leadership, generosity, pragmatism, collaboration, rigour and good governance. This has been instrumental in building our effectiveness, trust amongst stakeholders and positive reputation.

## **OPPORTUNITIES FOR IMPROVEMENT**

It is likely that outside of our partner organisations, and even within some of them, there is low brand awareness of Resilient South. Despite investing in significant community and stakeholder engagement, most people will identify more with specific initiatives, individuals or projects, rather than the Resilient South brand itself.

During the initial implementation phase, progressing local action, raising awareness and embedding climate resilience within partner organisations has been our primary focus. However, now that the maturity of the partnership and the social acceptance of climate change have both progressed, there is an opportunity to focus more on strengthening 'brand awareness' with other stakeholders.

The Implementation Plan identified five monitoring and evaluation indicators (see appendix). These have been assessed during this Internal Evaluation process. The Committee has also tracked progress and achievements by a shared online spreadsheet. However, our internal monitoring and evaluation efforts have not been shared more widely with partner organisations or external stakeholders. In future, the committee should consider delivering an annual report that summaries key achievements and gaps. More regular (bi-annual) progress reports should also be considered.

Other Regional Climate Partnerships have governance models that formally involve senior executives. There is scope for Resilient South to review these models and consider opportunities for improving our governance.

In addition to these overarching governance issues, there are further opportunities to advance and improve our practice in specific priority areas as described in the Future Priorities section of this report.

## **6.2 INTEGRATING THE PHYSICAL AND SOCIAL SCIENCES**

For several decades, governments, research institutes, business and NGOs have been proactive in funding research, policy and tools to help address climate change risks. However, despite significant effort and investment, there is widespread concern that progress is too slow and that stakeholders are facing a range of social and institutional impediments to mobilising on-ground action. Bridging the gaps between science, policy and implementation remains a significant challenge.

Resilient South is widely recognised for having bucked this trend, delivering on-ground strategic projects and real cultural change within local communities and councils, shepherding climate change from a fringe issue to an embedded consideration. While there is still much to achieve, the partnership has delivered impressive outcomes, running on significant goodwill between partners.

This raises the question: why and how has Resilient South managed to achieve consistent, tangible and effective action where many others have struggled?

One likely reason is our approach of strategically integrating both the physical and social sciences into our program planning, design and delivery.

Technical investigations underpinned by rigorous ‘physical science’ are important for providing data about risks and possible response options. For example, building sea walls to protect vulnerable coastal communities, undertaking climate hazard mapping (heat and sea-level rise) to understand risk, introducing water and vegetation into cities to minimise the urban heat island effect and developing green corridors to enable the movement of flora and fauna, are practical changes to technologies, infrastructure and physical systems. This is where most organisations tend to stop when planning their climate change response.

However, the ‘social sciences’ provide valuable, though less-utilised, information that enables us to develop strategies for successful implementation of the proposed response options. For example, the social sciences help us to understand that people’s perceptions of risk will significantly influence whether the risk is considered to be worth managing and the types of management approaches that should be adopted. The implications from one set of climate science will be interpreted and responded to differently by people depending upon their aspirations, needs, beliefs, values and skills. Activities could include internal organisational training and awareness raising, advocacy aimed at changing legal and regulatory frameworks, broad scale changes to governance systems, capacity building programs, networking events, fostering interactions between sustainability niches and traditional regime actors etc. – these are changes to practices, behaviour, attitudes, social systems and governance regimes. Exposure or participation in such activities can improve the capacity of community segments to actively adapt to climate change, regardless of their own personal beliefs, preferences and skills.

The failure to consider and strategically address social and institutional change mechanisms is likely to be part of the reason for the widespread perception that climate change reforms are not meeting expectations and that evaluations of policy programs are showing a level of failure.

Resilient South has overcome this challenge by using the physical sciences to understand risk exposure and possible solutions, and the social sciences to help identify response strategies that meaningfully address the needs, values and socio-institutional factors influencing those tasked with applying the climate response actions. It is why two of our four Foundation Projects in our Regional Implementation Plan are focussed on addressing existing institutional barriers to climate change adaptation and influencing our region’s willingness and ability to adapt to a changing climate.

One of the challenges with investing in the recommendations that arise from social science investigations is that they are often largely ‘invisible.’ It is easy to show value on investment to communities and ratepayers via infrastructure. It can be more challenging to show value on investment for the less tangible but equally important changes to practices, behaviour, attitudes, social systems and governance regimes.

Taking such a rigorous and intentional approach to integrating both the physical and social sciences into our planning, design and delivery has helped Resilient South to bring our elected members, staff and communities along on the journey and has made it easier to justify investment in all the ‘invisible but essential’ change strategies that we have employed.

As the second Regional Climate Partnership to develop a regional adaptation plan in South Australia, this approach has influenced practices across the other south Australian Regional Climate Partnerships. In November 2015, Resilient South, and its consultants URPS and Seed Consulting, received a Commendation at the Planning Institute of Australia (PIA) Awards. The PIA said that "it [the Adaptation Plan] is the most comprehensive and well executed of its kind in South Australia." The PIA went on to commend the program's engagement processes and to say that "the project stands out for its understanding that the values, decisions and behaviours of individuals is critical to achieving meaningful climate change action."

More recently, Resilient South regional partners have worked together with the state government to ensure that the recently released *Climate Change Science and Knowledge Plan for SA* includes a commitment to ‘integrating social sciences into climate response planning.’

For more information on Resilient South’s approach to integrating the social and physical sciences, refer to:

- Resilient South Background Paper: Transitioning Towards Resilient Futures - Building capacity and commitment to adapt to climate change in the southern Adelaide region (Keath, 2012)
- Social & Institutional Mechanisms for Transitioning to Resilient Practices (Resilient South, 2013)<sup>F</sup>

### 6.3 FROM ADAPTATION TO RESILIENCE

Resilient South recognises that adaptation and mitigation are complementary and equally essential resilience-building responses.

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<sup>F</sup> [https://static1.squarespace.com/static/5989629cf7e0abe54892a40b/t/5b5144b903ce64a3522aa822/1532052679864/social\\_and\\_institutional\\_mechanisms\\_for\\_transitioning\\_to\\_resilient\\_practices.pdf](https://static1.squarespace.com/static/5989629cf7e0abe54892a40b/t/5b5144b903ce64a3522aa822/1532052679864/social_and_institutional_mechanisms_for_transitioning_to_resilient_practices.pdf)



Resilient South, along with all eleven South Australian Regional Climate Partnerships, began with a narrow focus on climate change adaptation.

In 2009, the Premier’s Climate Change Council (PCCC) reviewed climate change adaptation activities at local, state and national levels, and concluded that these were not well coordinated in South Australia, and that gaps may leave the state vulnerable to the impacts of climate change. As a result, the *Prospering in a Changing Climate - Climate Change Adaptation Framework*<sup>G</sup> was developed in 2012 by the (then) Department of Environment, Water and Natural Resources, in partnership with the PCCC, the (then) Natural Resources Management Council and key government agencies, and with input from the local government and regions. The framework was highly successful in supporting councils and their communities to adapt.

The result has been widespread cultural change and significant on-ground adaptation action. However, as we have progressed, several problems associated with taking a narrow ‘adaptation’ focus have arisen:

1. The strong regional and organisational focus on adaptation action led some councils and elected members to wrongly assume that the mitigation imperative was a lower priority than adaptation. On the contrary, the single biggest risk reduction action is to reduce emissions and the more we mitigate, the less we will need to adapt.
2. Many actions deliver both an ‘adaptation’ and ‘mitigation’ benefit and the artificial divide between the two was confusing for communities, staff and elected members during the implementation phase.

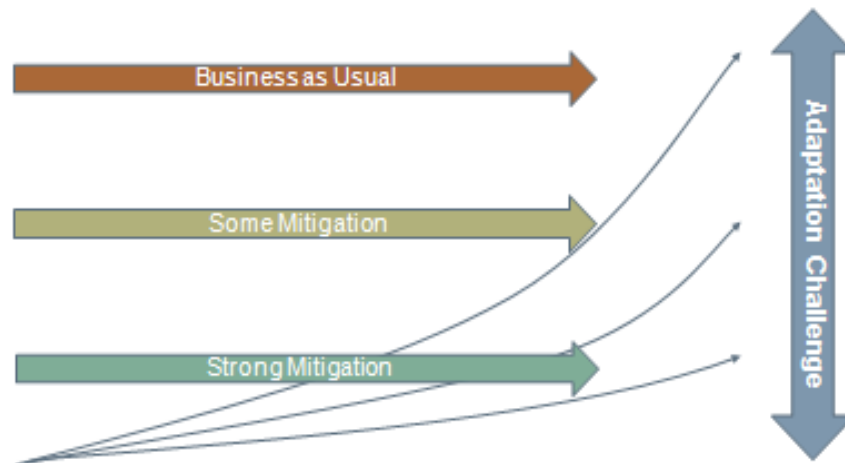
It became clear to the Resilient South committee that the narrow focus on adaptation, whilst important for the initial vulnerability assessment, is now redundant and that a more integrated approach to planning and implementation is required.

The Resilient South committee agreed, in 2018, to broaden our focus to include both adaptation and mitigation, in line with our mandate of resilience building.

Mitigation and adaptation must be recognised as complimentary and equally necessary approaches if we are to effectively address the challenges of climate change. The degree of adaptation required will depend upon the success of global and local mitigation efforts.

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<sup>G</sup> <https://www.environment.sa.gov.au/files/sharedassets/public/climate-change/prospering-in-a-changing-climate-adaptation-framework-sa.pdf>



## 6.4 COMMUNITY & INDUSTRY ENGAGEMENT

Resilient South recognises that climate change adaptation is a multi-scale and multi-actor process. For this reason, Resilient South has intentionally shared responsibility for adaptation planning and implementation across stakeholders and scales.

This has resulted in co-management and sharing of responsibility between public and private actors, across sectors, across levels of government, and with the community at risk. We have built on, enhanced and learned from the experience of all relevant interests, particularly those who are responsible for adapting.

In designing and delivering our community engagement, we have been mindful of which changes can be realistically achieved at different scales. Change at the level of individuals is important for the impact itself and the contribution to changed social norms. However, Resilient South recognises that individuals are constrained or enabled by wider influences (such as how suburbs are designed, essential services are provided, houses are built, and food production networks are maintained).

Resilient South has targeted all levels, from the actions that individuals can make through to changes that are required to broad regimes that manage systems such as water management or land use planning.

During their recent Climate Adaptation Governance Assessment, consultants Climate Planning and Seed Consulting Services commented that City of Onkaparinga’s approach to community engagement for climate resilience was possibly the best in the country. In their view, this was supported by Onkaparinga’s participation in Resilient South.

## 6.5 SECTOR AGREEMENTS

In August 2013, Resilient South partner councils entered a *Southern Region (Metropolitan Adelaide) Sector Agreement* with the South Australian Government, pursuant to the *Climate Change and Greenhouse Emissions Reduction Act 2007*. The Sector Agreement was renewed in February 2018 and is again due for renewal.

The Sector Agreements have emerged as an important tool for formalising and strengthening regional collaboration and cooperation across state and local governments. The Sector Agreement acknowledges the importance of taking a leadership role in climate change and sustainability and commits to take a collaborative approach to tackle climate change impacts and work towards reducing greenhouse gas emissions.

Sign-off from Ministers and Mayors has provided the Regional Climate Partnerships with institutional legitimacy.

State government support for the Regional Climate Partnerships, including Resilient South, has been inconsistent. State government funding was made available during the development of Resilient South's first Adaptation and Implementation Plans. More recently, Green Adelaide has provided funding to reinstate the Regional Coordinator role and entered into discussions regarding support for other regional projects.

The inception of Green Adelaide as a successor to the Adelaide and Mt Lofty NRM Board has seen an increased focus on metropolitan local governments as a delivery arm for state-funded environmental and climate change initiatives. This approach recognises that climate change adaptation is a whole-of-government responsibility and is a promising step towards equipping local governments with the ability to adequately manage the risks and opportunities in our community.

## 6.6 CENTRAL COORDINATION - LGA AND STATE GOVERNMENT SUPPORT

The importance of central coordination of the Regional Climate Partnerships cannot be overstated.

In the early days of *Prospering in a Changing Climate*, central coordination of the Regional Climate Partnerships was provided by the state government with support from the Local Government Association, who worked closely to support the adaptation planning process and build local government capacity and peer-to-peer learning.

During the implementation phase of the regional plans, local government needs around climate change capacity building and coordination were partially filled by the Adaptation Practitioners Network (co-funded by the state government), IPWEA,

Water Sensitive SA, the 2020 Vision (now Greener Spaces Better Places), SA Coastal Councils Alliance, Australian Coastal Councils Association, and council/region led workshops.

Two climate related resolutions seeking greater advocacy, coordination and leadership from the LGA SA were carried at the LGA Ordinary General Meeting on 12 April 2019. The resolutions related to Climate Emergency Declarations and Local Government Leadership in Climate Risk Management.

Concurrently, Resilient South worked with the state government to fund a 2019-20 pilot of a Central Coordinator for the Regional Climate Partnerships.

By fostering a strong community of practice amongst local and state government climate practitioners, this pilot role effectively demonstrated increased efficiency and reduced duplication of effort across councils, significant cost savings from shared regional projects, peer-to-peer learning, coordinated advocacy efforts, and a more consistent state-wide adaptation approach.

There is now a renewed commitment to central coordination by the state government and LGA as evidenced by the Resilient South's Regional Coordinator role being funded by Green Adelaide and the Central Coordinator role hosted by the LGA. The longevity of this arrangement is still unclear, however Green Adelaide has indicated interest in continuing to fund these roles for the time being.

The importance of the Regional Climate Partnerships and the local government sector in responding to climate change has also been formally recognised in the *South Australian Government's Climate Change Action Plan 2021-2025*.

The LGA has also recently developed a Climate Commitment Action Plan. The draft plan contains 24 actions across four themes:

- (1) advocate for urgent action on climate change;
- (2) assist member councils in their efforts to reduce carbon emissions and adapt to the impacts of climate change;
- (3) advance the local government sector's leadership on climate change; and
- (4) achieve emissions reduction and adaptation through the operations of the LGA. LGA are proposing to implement these actions over the next three years in support of a sector wide response to climate change.

## 7. FUTURE PRIORITIES

Our original four priority areas EQUIP, AWARE, COOL PLACES and SOURCE TO SEA all remain.

It is not the purpose of this evaluation to propose specific strategic actions for the new Resilient South Action Plan (to be developed in 2021). However, below are several potential priority areas identified by Resilient South Committee members that can be explored during the development of the next plan.

### 7.1 CHANGE MANAGEMENT

Resilient South has always operated on the assumption that we need to support our organisations and communities to do things differently in order to become more resilient and that our work is largely about managing a process of socio-technical change.

However, given the rate, magnitude and nature of the changes that can be foreseen, the importance of this goal will need to be further strengthened.

We make the important (and challenging) distinction that responding to climate change will require people to ‘do things differently’, not just ‘do the things they currently do better.’

It will not be enough to simply know the risks from climate change to our existing systems. We must work together to understand and agree upon what a ‘Resilient Southern Adelaide’ would look like. And we must then identify the social, institutional, cultural and technical ingredients required to get us there. Such an approach is one that ‘walks purposefully towards resilience’ rather than ‘runs from risk.’

Since we last undertook our adaptation planning, the social sciences have advanced their understanding of ‘ingredients for socio-technical change.’ We should prioritise understanding and applying these ‘change ingredients’ as a priority.

### 7.2 EMISSIONS REDUCTION

Whilst most Resilient South Councils are well underway with finalising their individual corporate greenhouse gas emission reduction plans and some have set carbon neutral or net zero targets, there will be a number of opportunities to work together as a region to reduce costs and promote efficiencies.

Examples of potential opportunities to work together include greening fleet, 100% renewable energy procurement, circular economy, waste management and trailing developments in new technologies as they arise. While council corporate energy use

is not a major source of greenhouse gas emissions (generally representing <1% of the wider city community emission profile), councils have the opportunity to demonstrate cost-effective transitions to reduce their emissions and partner with to the private sector to reduce their emissions in line with South Australian<sup>H</sup>, Australian<sup>I</sup> and international targets.

### **7.3 GREY INFRASTRUCTURE**

Grey infrastructure refers to council owned and managed infrastructure that is built from bitumen, concrete or steel. Grey Infrastructure is traditionally impermeable and built for functions without consideration of the impacts of climate change. Examples of council managed grey infrastructure assets include traditional roads, footpaths, buildings, and stormwater pits and pipes.

The impacts of climate change are expected to require not just asset renewal but a reconsideration of some traditional methods of construction. This includes the capability of the existing stormwater network to effectively manage intense rainfall events. The implementation of further water sensitive urban design elements across the city and the development of business plans to enable improvements to the existing stormwater network will provide council with options to manage peak rainfall events.

### **7.4 GREEN INFRASTRUCTURE / NATURE-BASED SOLUTIONS**

Green infrastructure is a term usually used to describe planned, designed and managed networks of green spaces, street trees and urban vegetation that provide functions for people, such as shade and evaporative cooling. An example might be a vegetated urban wetland that filters stormwater, reduces urban heat and provides habitat for urban fauna.

Resilient South councils, especially City of Mitcham, have been recognised as leaders in the implementation of water sensitive urban design (WSUD). The WSUD approach seeks to capture, clean and reuse stormwater, rather than transport to the aquatic and marine environment for disposal. It will be important for Resilient South Councils to continue partnerships with state government and research organisations to deliver WSUD projects for the benefit of the natural resources and residents of the Southern region.

Approximately 1/3 of the excess CO<sub>2</sub> in the atmosphere can be attributed to the loss of soil carbon. Capturing and increasing soil carbon can also assist with keeping

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<sup>H</sup> Current South Australian government goal is to reduce South Australia's greenhouse gas emissions by more than 50% below 2005 levels by 2030, and to achieve net zero emissions by 2050.

<sup>I</sup> Current Australian government goal is to reduce greenhouse gas emissions to 26-28% below 2005 levels by 2030.

water in the landscape, a critical consideration for South Australia. As the Resilient South Councils are mainly highly urbanised areas (with the exception of Onkaparinga which is 75% rural), this limits opportunities to increase soil carbon in large areas of the landscape. However, there are numerous small patches where this could be attempted, thus leading to a cumulative impact for the region.

Included in current Council plans are exemplar projects such as:

- The creation of the Warriparri/Sturt River Biodiversity Corridor in Holdfast Bay and the Pasadena Biodiversity Corridor, a project in Mitcham that will redirect stormwater captured in Panorama to vegetation planted in Pasadena.
- In line with existing strategies, Resilient South Councils are well underway with implementing accelerated tree planting programs.
- Further partnerships to implement future LiDAR tree canopy cover and heat mapping to examine loss and gain; and
- The construction of more rain gardens and tree inlets.

## **7.5 CLIMATE READY DEVELOPMENT**

‘What,’ ‘where’ and ‘how’ we build is arguably the bread and butter of local government. Resilient South has worked to influence the urban greening requirements in the new Planning and Design Code. However, there remain significant opportunities and unmet needs for influencing the design and construction of our suburbs and urban developments.

‘Business as usual’ urban development is widely agreed to be locking in future vulnerability and there is significant work to be done to build the case for changing our practices so that we are instead building in resilience.

There is an opportunity to build upon and leverage the work of Water Sensitive SA, the Insurance Council of Australia and Resilient Hills & Coasts’ Where We Build What We Build Project, amongst others.

We could also look to engage early with developers to ensure they are considering climate resilience in development plans and proposals.

## **7.6 COMMUNITY ENGAGEMENT & WELLBEING**

Resilient South has had great success in engaging our community around climate resilience and we should remain committed to our existing effective community engagement activities. However, there remains broad scope for doing more.

One of the key functions of adaptation and mitigation is to meet the needs of those who are most vulnerable to climate change and to increase the resilience of the community to respond to the impacts of climate change.

Education, training, and awareness raising are key to this. Council recognises that partnering with education specialists allows for greater impact and spread across the community. Specific education campaigns, such as partnering with the State Emergency Services to improve the preparedness of the broader community, including schools, residents and community groups will be important resilience building activities.

Other awareness raising activities might include articles delivered through print media, such as the Council Newsletters, information provided through websites and community engagement campaigns.

There is more community demand for localised climate resilience content than Resilient South has been able to meet under current capacity. The website [www.resilientsouth.com](http://www.resilientsouth.com) receives a high level of use despite very little advertising, and we receive new subscribers on a weekly basis. The appointment of a Resilient South Regional Coordinator in 2021 has improved the maintenance and currency of the website.

There are untapped opportunities for working with Community Climate Envoys and Patrons, i.e., inspirational members of the community or local businesses who are taking strong action on climate change.

## **7.7 ECONOMIC DEVELOPMENT OPPORTUNITIES**

Engaging with our local business and manufacturing sectors offer an untapped opportunity to support climate resilient economic development within our region and to harness the economic opportunities available to those who act early on climate change.

There are opportunities for engaging with the business and manufacturing sectors using existing business engagement networks already operating in southern Adelaide such as OnBusiness, New Venture Institute, and Southern Business Connections.

## **7.8 PLANNING, POLICY & GOVERNANCE**

Our work piloting the Informed.City™ Climate Risk Governance Assessment tool has proved invaluable in engaging Council executives and helping them to understand that climate change is not just an environmental risk but also a legal, financial, transitional and reputational risk.



This initiative has lifted awareness of climate risks, measured a baseline of how they are considered now, and provided an action pathway to improve their consideration. The assessment's focus on benchmarking has been effective for shining a light on high performing councils and enabling their successes to be shared with other councils and regions. Repeat assessments in several years should be prioritised to facilitate further peer-to-peer learning opportunities and to enable Councils to evaluate their progress.

There is also opportunity for resilient South Councils to prioritise the development and delivery a council wide sustainability management systems over the next five years. Such systems could be underpinned by internal management plans that will help guide updates to policies and procedures to guide environmental practice within council and together with this document will drive the adoption of climate adaptation measures across council. The main goal would be an embedded framework to help decision makers to incorporate climate adaptation and mitigation into procurement, planning and business services across southern region councils.

The development of Climate Change Policies within each Council should not only consider mitigation responses but also climate adaptation as key to embedding adaptation planning across council operations. The broader community will greatly benefit from such policies, where there will be opportunity to comment on design via community consultation.

Climate change is also a considerable risk to 'business as usual.' As such, the completion of a climate vulnerability assessment for all functions and assets within councils is a recommended high priority. The continuation of such assessments will allow councils to further understand their risks and help prioritisation of future funding and planning measures to increase the resilience to climate change and in many cases reduce long term cost and loss of life. Climate planning processes also have the potential to identify economic opportunities that can be leveraged by the government and private sector.

## **7.9 COORDINATED CLIMATE HAZARD MAPPING**

Resilient South Councils (along with other regions) have mapped a range of climate hazards including coastal erosion, sea-level-rise, bushfire, and urban heat. A map can be worth a thousand words, with the visual story of hazard exposure enabling informed community and elected member conversations and land use and asset planning.

However, the current approach of each Council undertaking hazard mapping in isolation is inefficient and risks duplication and inconsistency. The Regional Climate Partnerships, with support from the Central Coordinator, have been effective in

communicating the need for a consistent and coordinated state-wide approach to climate hazard mapping.

The Urban Heat and Tree Canopy Mapping Working Group, including representatives from local Councils, Green Adelaide and Department for Environment and Water, worked collaboratively during 2020 to investigate better coordination of urban heat and vegetation mapping. The same is required for all other climate hazards including bushfire, flood and coastal hazard mapping (including tidal gauge monitoring).

The state government's Science and Knowledge Plan and Climate Change Action Plan both recognise the importance of a consistent and coordinated state-wide approach to climate hazard monitoring and mapping.

Resilient South is committed to informing this process via our pilot project – Incorporating Climate Risk into Asset Management Plan.

### **7.10 CENTRAL COORDINATION & CAPACITY BUILDING**

For several years, the LGA used their state budget submissions and election campaigns to advocate for a \$10 million, four-year Climate Change Capacity Building program.

The LGA's proposal built upon detailed investigations into barriers and drivers for climate action, which were undertaken via the Science to Solutions project, a collaborative initiative between the LGA and state government during 2012. The investigations provided evidence around the need for a climate change capacity building program.

The one-year pilot of a Central Coordinator for the Regional Climate Partnerships sought to facilitate knowledge sharing across regional groups and explore options for the establishment of a centralised information sharing platform.

While the Central Coordinator position has been highly effective and has gone a long way towards supporting the Regional Climate Partnerships, there remains a need for a climate change capacity building program for South Australia.

Such models exist in other sectors (for example the LGA's Council Ready Program, or Water Sensitive SA). The goal of such a program would be to build stakeholder knowledge, expertise and capability by: developing and sharing case studies of Councils taking effective action; providing tools, guidelines, training and workshops; and facilitating opportunities for networking across disciplines, levels of government and industries.

### 7.11 LINKS WITH DISASTER RESILIENCE

Resilient South has worked informally with the LGA's Council Ready Program, which builds the capacity of the local government emergency management sector. We have also received funding from and collaborated with SAFECOM on a range of community initiatives aimed at disaster and resilience preparedness.

As Australia responds to the outcomes of the Bushfire Royal Commission, there is an opportunity to partner more formally with our local and national emergency management and disaster resilience counterparts.

## APPENDICES

### A. PROGRESS - STRATEGIC ACTIONS

#### EQUIP STRATEGIC ACTIONS

The EQUIP foundation project identified a total of 16 strategic actions, comprising 11 overarching actions and a series of sub-actions, concerned with addressing existing institutional barriers to climate change adaptation. The goal was to integrate adaptive thinking and action into everyday council operations and long-term decision-making. Councils' role in this project were as:

- Service Provider (Direct, Regulatory, Agent)
- Advocate,
- Initiator / Facilitator,
- Information provider / Promoter

This project was specifically designed to deliver:

- a strategic approach to advocating to the state government to include climate change adaptation in state-level policies and procedures;
- Council strategic plans and operational planning processes that help to implement the Regional Adaptation Plan;
- Council resourcing policies and procedures that incorporate climate change adaptation into their long-term decision-making.

Of the 16 strategic actions (outlined below), 6 are complete, 7 are ongoing, 3 have been discontinued due to changed priorities.

<b>1. EQUIP Strategic Actions</b>			
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
<b>1.1 Formalise the partnership between the South Australian Government and the four Partner Councils by renewing the Southern Region Climate Change Sector Agreement.</b>			<b>Ongoing</b>
<p><b>Status / Achievements</b></p> <p>Ongoing</p> <ul style="list-style-type: none"> <li>– Sector agreement signed 31 July 2013 – Expired 30 June 2014</li> <li>– Sector Agreement renewed February 2018 – Expired 30 June 2020</li> <li>– Currently due to be renewed again.</li> <li>– During the period in which the first Sector Agreement had lapsed and the new one was being developed and negotiated; strong regional collaboration continued</li> <li>– Throughout 2019, Resilient South, in partnership with other regions, actively advocated around the need to strengthen and renew the regional partnership approach.</li> <li>– The state’s new Climate Change Action Plan has identified the importance of the regional climate partnerships.</li> <li>– Green Adelaide has provided funding for a Regional Coordinator</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– The Sector Agreements are an important tool for formalising and strengthening regional collaboration and cooperation across state and local governments.</li> <li>– The Sector Agreement acknowledges the importance of taking a leadership role in climate change and sustainability and commits to take a collaborative approach to tackle climate change impacts and work towards reducing greenhouse gas emissions.</li> <li>– To be effective, they must be matched with adequate and equitable resourcing and funding. For several years, the regional climate partnerships, including Resilient South, were funded by council partners with some grant funding for projects from the state. More recently, more substantial support from the state government has been provided in the form of support for RCP Coordinators.</li> <li>– Sector Agreements have been signed with the Minister for Environment and Water and engagement included DEW/Green Adelaide, but there should be a higher-level recognition that climate change is a whole of government responsibility requiring broader state government engagement.</li> </ul> <p><b>Recommendations</b></p>			

1. EQUIP Strategic Actions			
Complete This action has been completed	Ongoing This action has been commenced and is still ongoing	Changed Priorities This action has not been completed and is no longer relevant due to changed priorities/needs/context	Outstanding This action has not been completed and is still relevant
<ul style="list-style-type: none"> <li>– Renew Sector Agreement in 2021-22</li> <li>– Continue advocating to the state around the need for adequate co-investment from the state to finance regional partnerships and associated projects.</li> <li>– Actively apply for mitigation and climate adaptation funding opportunities as they arise</li> </ul>			
1.2 Embed the Regional Adaptation Plan in all Councils’ strategic and community plans, local asset plans and regional public health planning.			Ongoing
<p><b>Status / Achievements</b> Resilient South Councils have been successful in embedding climate adaptation into a range of strategic, community plans and regional public health plans. During 2019 and 2020, the Cities of Marion, Onkaparinga and Mitcham undertook the Informed. City™ Climate Risk Governance Assessment. A key element of the assessment is a review of the inclusion and influence of climate change in publicly available council documents. City of Holdfast Bay did not choose to undertake the assessment. The review, and subsequent council responses have resulted in Climate change now being embedded in relevant council plans and practice for Marion, Onkaparinga and Mitcham. All councils are undertaking ongoing work to respond to the governance assessment recommendations. The Resilient South pilot project – Incorporating Climate Risk into Asset Management, is a direct outcome of the Governance Assessments.</p> <p><b>Reflections</b> – Progress has been made but more needs to be done translating words into actions.</p> <p><b>Recommendations</b> – Continue to embed refreshed Regional Adaptation Plan in all Councils’ strategic and community plans, local asset plans and regional public health planning. – City of Holdfast Bay to undertake Climate Risk Governance Assessment to bring it in line with the three other partner councils. – All councils to consider adopting the recommendations within the Climate Risk Governance Assessment – Invest time and resources into sustainability polices and frameworks to mainstream mitigation and climate adaptation into council processes</p>			

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1.3 Promote and maintain 'Resilient South Maps' as an online educational and analysis tool to support climate change adaptation planning and decision-making across the region.			Changed Priorities
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>When the ESRI hosting platform expired, the committee agreed to discontinue the hosting of the online maps and instead save layers to council GIS sites (i.e. intramaps) so that relevant layers can be shared with public and other interested stakeholders.</li> <li>Urban Tree Canopy and Heat Mapping was undertaken subsequent to the ESRI mapping. This is publicly shared via the Resilient South website, council websites and state government websites.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>The ESRI maps were important for informing the IVA and Regional Adaptation Plan. However, this function was superseded by improved existing council GIS layers.</li> <li>The Tree Canopy and Heat Mapping proved to be a highly effective tool for engaging staff, elected members and community, now maintained and managed by DEW.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>Continue to provide relevant data and information to interested stakeholders upon request.</li> <li>All councils to continue updating GIS layers with locally relevant information as it emerges, including integrating metro-wide layers (e.g. tree canopy and urban heat mapping).</li> <li>Continue to collaborate with the state government to acquire climate related spatial information at a metropolitan-wide and/or state-wide level.</li> <li>Look to partner with state government. CSIRO and BOM to develop future regional climate hazard GIS layers (heat, flooding, bushfire, wind, soil movement, storm surge, sea level rise) (every 10 years) as downscaled as possible to guide future climate vulnerability assessments.</li> </ul>			
1.4 Undertake monitoring and evaluation of the Resilient South Program, reporting to partner Councils and funding partners.			Ongoing
<p><b>Status / Achievements</b></p>			

1. EQUIP Strategic Actions			
Complete This action has been completed	Ongoing This action has been commenced and is still ongoing	Changed Priorities This action has not been completed and is no longer relevant due to changed priorities/needs/context	Outstanding This action has not been completed and is still relevant
<ul style="list-style-type: none"> <li>Resilient South partner councils developed a shared Regional Works Program spreadsheet to monitor and record progress on implementation over time.</li> <li>Committee Members have provided regular updates to partner Councils and funding partners via progress reports, presentations, memos, and briefings.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>The shared Regional Works Program spreadsheet was a simple and effective method of capturing data around progress, achievements and challenges; and has been invaluable for helping to inform this Evaluation Report.</li> <li>Regular and 'as required' reporting and updates to partners has been important for building trust, accountability and transparency around the effectiveness of the Program.</li> <li>Different internal reporting processes and timeframes for each of the partner Councils has sometimes been challenging.</li> <li>The lack of a Resilient South Regional Coordinator in recent years has meant that there has been less reporting on Resilient South progress to executives and elected members within partner councils.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>Ensure that monitoring and evaluation is built into future program plans and activities.</li> <li>Increase internal reporting on Resilient South progress when the new Regional Coordinator comes on board and agree an achievable frequency.</li> </ul>			
<p><b>1.5 Partner with the Local Government Association of South Australia to:</b></p> <p><b>a) work with SA Health to embed climate change actions in the Regional Public Health Planning;</b></p>			Complete
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>Climate change risk is now integrated into the state's Public Health Plan</li> <li>Resilient South partner councils have forged strong working relationships with other relevant agencies including SA Health, the SES, and SAFECOM</li> <li>In February 2018, Resilient South led the delivery of a community Heatwave Hypothetical event focussed upon the public health implications from heatwaves. This work was recognised via a Minister for Health and Wellbeing Excellence in Public Health Award and a Resilient Australia Award. In March 2019, prize money from the awards was used to contribute to a second event, Cooler Greener</li> </ul>			



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<p>Adelaide, coordinated by Water Sensitive SA. Later in 2018, we received a second award - the Resilient Australia Government Award from the Australian Institute for Disaster Resilience.</p> <ul style="list-style-type: none"> <li>– Healthy Parks Healthy People 2016-2021 is a partnership between SA Health and the Department for Environment and Water focussed on public health and sustainability benefits from green space. They work with a broad range of stakeholders including Resilient South to deliver upon their commitment.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– In recent years, LGASA coordination and advocacy regarding the public health impacts of climate change has fallen away. However, since the creation of the Central Coordinator role, it is likely this will increase again.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Continue to build and foster key strategic relationships with SA Government agencies to progress delivery of climate action.</li> <li>– Continue to ensure that climate change is factored into localised ‘Public Health’ plans.</li> </ul>			
<p><b>1.5 Partner with the Local Government Association of South Australia to:</b></p> <p><b>b) develop and deliver an education program for Elected Members and senior staff to further understand how a changing climate may impact locally and incorporate climate change into long-term planning and decision making;</b></p>			<b>Ongoing</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– In February 2018, the LGA developed a suite of short guidelines for engaging with Elected Members around a range of climate risks including – asset management, economic development, financial development, planning and public health.</li> <li>– Workshops were run with elected members to accompany the launch of the guidelines</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– The workshops were not of a high quality and were poorly attended.</li> <li>– It is not clear whether the guidelines are being used by staff or elected members.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Partner with SA LGA on their recently developed ‘Climate Commitment Action Plan’</li> </ul>			

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<ul style="list-style-type: none"> <li>– There is scope to develop a higher quality and more in-depth elected member education program, particularly considering the growing number of councils declaring climate emergencies and identifying climate risk as a major corporate priority.</li> </ul>			
<b>1.5 Partner with the Local Government Association of South Australia to:</b> <b>c) review and amend the SA Planning Policy Library in the context of stronger consideration of climate change impacts;</b>			<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Superseded by the 2019/20 SA Planning Reforms.</li> </ul> <b>Reflections</b> <ul style="list-style-type: none"> <li>– The SA Planning Reforms provided an important opportunity to better embed consideration of climate change resilience into the built form, however, there is still scope for substantial improvements to the new Planning and Design Code.</li> <li>– Resilient South partner councils lobbied for resilient and sustainability priorities to be embedded into the new Code.</li> <li>– We worked closely with Water Sensitive SA to push for urban greening priorities, which were successfully included.</li> <li>– The code in its current (new) form does not yet deliver long term climate resilience and sustainability outcomes.</li> <li>– Moving to a State-based planning system, reduces the ability of councils to influence resilience and mitigation outcomes at the local level</li> </ul> <b>Recommendations</b> <ul style="list-style-type: none"> <li>– Continue to lobby for improvements to state planning rules to ensure that climate change concerns are considered and adequately addressed.</li> <li>– Work with Water Sensitive SA, the Insurance Council of Australia and other regions and relevant organisations to ensure a consistent and united message on climate resilience needs for urban development.</li> <li>– Investigate opportunities to adopt learnings and outcomes from Resilient Hills &amp; Coasts What We Build Where We Build project.</li> <li>– Investigate opportunities for promoting an exemplar ‘sustainable’ or ‘resilient’ suburb or development within southern Adelaide.</li> <li>– Advocate for sustainable retrofits for commercial buildings through incentives, grants, facilitation, planning and policies</li> <li>– Facilitation and education to accelerate transition to renewable energy across community owned buildings</li> </ul>			

<b>1. EQUIP Strategic Actions</b>			
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<ul style="list-style-type: none"> <li>– Education, facilitation and strategic planning around mode shift – bikes /e-bikes /public transport / car share</li> <li>– Facilitate policy and strategic planning associated with renewable transport options across the southern region</li> <li>– Policy and advocacy in relation to community zero emission residential buildings: high efficiency and green building design.</li> </ul>			
<p><b>1.5 Partner with the Local Government Association of South Australia to:</b></p> <p><b>d) share with other regions our knowledge, challenges and success in adapting to changes in our climate;</b></p>			<b>Ongoing</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– The Climate Adaptation Practitioners Network (APN) has provided an opportunity for networking, information sharing and showcasing climate resilience work being undertaken across South Australia.</li> <li>– From mid-2019 the APN has been coordinated by a part-time Regional Climate Partnerships Central Coordinator, employed by the Department for Environment and Water.</li> <li>– Since 2021 a full time Central Coordinator role has been based at the LGA</li> <li>– Resilient South has been proactive in sharing our successes with other regions and designing our projects and initiatives so that they can be replicated by other regions and councils.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– In recent years, climate change appeared to drop off as a priority for the LGA, with key staff providing climate change support having their roles discontinued. However, advocacy from councils and the Regional Climate Partnerships has prompted the LGA to investigate avenues for supporting councils in climate change policy and response, demonstrated by the development of a DRAFT ‘Climate Commitment Action Plan’</li> <li>– Since 2021 a full time Central Coordinator role has been based at the LGA</li> <li>–</li> </ul> <p><b>Recommendations</b></p>			

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<ul style="list-style-type: none"> <li>– Continue active participation in <i>Climate Adaptation Practitioners Network</i> meetings to facilitate information sharing, peer-to-peer learning and support.</li> <li>– Continue lobbying for a South Australian Climate Change Capacity Building Program (similar to Water Sensitive SA or Council Ready)</li> <li>– Continue supporting the Central Coordinator role</li> </ul>			
<p><b>1.5 Partner with the Local Government Association of South Australia to:</b></p> <p><b>e) build financial and technical capability within Partner Councils to implement the Implementation and Local Action Plans.</b></p>			Ongoing
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– LGA stopped delivering officer support regarding climate change several years ago.</li> <li>– Capacity building was partially filled by IPWEA, Water Sensitive SA and Stormwater Association, 2020 vision, SACCA, MSCC and council led workshops.</li> <li>– Two climate related resolutions seeking greater advocacy, coordination and leadership from the LGA were carried at the LGA Ordinary General Meeting on 12 April 2019; the resolutions related to Climate Emergency Declarations and Local Government Leadership in Climate Risk Management.</li> <li>– The state government funded a pilot of a Central Coordinator for the Regional Climate Partnerships. The success of this pilot has resulted in the LGA agreeing to host the role in 2021.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– Councils and regions have had to fill the role of the LGA in the absence of their advocacy and coordination in this area.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Continue lobbying for a South Australian Climate Change Capacity Building Program (similar to Water Sensitive SA or Council Ready)</li> <li>– Continue supporting the Central Coordinator role</li> </ul>			

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<b>1.6 Advocate for the state government to:</b> a) provide for more flexible operating hours for businesses in industrial areas during heat-waves where there are no negative impacts on adjoining or adjacent land uses.			Changed Priorities
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Not progressed</li> <li>– Reflections</li> <li>– This would need to be progressed via an advocacy approach through Sate Government</li> </ul> <b>Recommendations</b> <ul style="list-style-type: none"> <li>– No further action required</li> </ul>			
<b>1.6 Advocate for the state government to:</b> b) undertake a review of how future climate hazards will impact non-government organisation (NGO) service delivery in the social services sector.			Changed Priorities
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Not relevant to local government’s role. However, supportive of the NGO sector.</li> <li>– Partnered with the Australian Red Cross, NRM AMLR and SAFECOM on "Resilient South Adapt and Aware" Community Education Program. Attendance at quarterly reference group meetings to influence program outputs and community engagement plan. Delivery of a community engagement program</li> </ul> <b>Reflections</b> <ul style="list-style-type: none"> <li>– Strong working relationships with Australian Red Cross and the Australian Council of Social Services (ACOSS).</li> </ul> <b>Recommendations</b> <ul style="list-style-type: none"> <li>– Continue to evaluate opportunities to partner with NGOs on regional response to climate change.</li> </ul>			

1. EQUIP Strategic Actions			
Complete This action has been completed	Ongoing This action has been commenced and is still ongoing	Changed Priorities This action has not been completed and is no longer relevant due to changed priorities/needs/context	Outstanding This action has not been completed and is still relevant
1.7 Work with Department of Environment, Water and Natural Resources [now Department for Environment and Water] as a Public Health Partner Authority			Complete
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>Resilient South Councils have worked successfully with relevant state government authorities to develop and update Public Health Plans</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>A key outcome of the partnership between DEW and the Department for Health and Wellbeing has been the development and implementation of the <a href="#">Healthy Parks Healthy People</a> initiative, a nature-based approach that simultaneously improves population health and environmental outcomes.</li> <li>There is ongoing collaboration with public health partner authorities to deliver public health outcomes in southern Adelaide.</li> <li>Councils continue to review their Public Health Plans in consultation with state government.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>This is now an embedded consideration for councils and is no longer required as a priority for Resilient South</li> </ul>			
1.8 Integrate climate change considerations into Council regional public health planning.			Complete
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>Partner councils have integrated climate change considerations into our Regional Public Health Plans.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>The <a href="#">State Public Health Plan 2019 – 2024</a> identifies climate change within the top 5 determinants of health and wellbeing, and includes responding to climate change as a key element of the ‘Protect’ priority; local councils are identified as partners in the delivery of these priorities.</li> <li>Ongoing collaboration with public health partner authorities to deliver public health outcomes in southern Adelaide.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>This is now an embedded consideration for councils and is no longer required as a priority for Resilient South</li> </ul>			
1.9 Ensure that climate risks identified in the Resilient South Program are considered and addressed in the development and implementation of the Southern Adelaide Zone Emergency Management Plan.			Complete

1. EQUIP Strategic Actions			
Complete This action has been completed	Ongoing This action has been commenced and is still ongoing	Changed Priorities This action has not been completed and is no longer relevant due to changed priorities/needs/context	Outstanding This action has not been completed and is still relevant
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>The Resilient South PMC contributed to the development of the <i>Southern Adelaide Zone Emergency Management Plan</i> (led by SAFECOM and Southern Adelaide Zone Emergency Management Committee)</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>Framing climate risks in emergency management language has been important when engaging with the SAZEMC and other relevant bodies.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>Climate risk is now an embedded consideration for SAFECOM and the SEMC and is no longer required as a priority for Resilient South.</li> <li>Continue to actively support the development, implementation and ongoing review of the <i>Southern Adelaide Zone Emergency Management Plan</i>.</li> <li>Ensure that climate change risks and impacts are considered and appropriately addressed in the development of the Council <i>Community Emergency Management Plans</i>.</li> </ul>			
<p><b>1.10 Engage with the National Climate Change Adaptation Research Facility (NCCARF) on the development of a Sea Level Rise assessment tool.</b></p>			Complete
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>Resilient South partner councils participated in NCCARF research around coastal adaptation.</li> <li>City of Marion was awarded a small grant from NCCARF to test CoastAdapt as a tool to develop the methodology for Marion's <i>Coastal Climate Change Adaptation Plan</i></li> <li>NCCARF has been defunded.</li> <li><a href="https://coastadapt.com.au/">https://coastadapt.com.au/</a></li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>NCCARF played a vital role in building technical capability and understanding of climate adaptation within the local government sector.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>Advocate to the State and Federal governments to re-fund NCCARF and the Coast Adapt Tool</li> </ul>			

1. EQUIP Strategic Actions			
Complete This action has been completed	Ongoing This action has been commenced and is still ongoing	Changed Priorities This action has not been completed and is no longer relevant due to changed priorities/needs/context	Outstanding This action has not been completed and is still relevant
1.11 Review relevant Council outdoor event guidelines for risk assessment of extreme weather events and natural hazards such as heat wave and bushfire.			Complete
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>- Actioned – WHS and HSE procedures</li> <li>- City of Mitcham have developed and are using the following forms: (1) Weather Plan and; (2) Risk Assessment. Both documents factor in risk assessment of extreme weather events and natural hazards such as heat waves and bushfire.</li> <li>- Linkage of above to Council emergency management plans</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>- There has been an increase in the number of events cancelled or postponed due to extreme weather conditions relating to extreme heat, bushfire or storms. This is being reflected in insurance costs for outdoor events.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>- All four Councils to review learnings from above and improve and enhance event guidelines for risk assessment of extreme weather events and natural hazards s</li> </ul>			



## AWARE STRATEGIC ACTIONS

The AWARE foundation project identified a total of 10 strategic actions, comprising 7 overarching actions and a series of sub-actions, concerned with influencing the region's willingness and ability to adapt to a changing climate.

The two primary goals were to:

- increase awareness of climate impacts, risks, opportunities and vulnerabilities and tailor these messages so that they connect with the values of the target audiences; and
- increase the regions capacity to acquire the skills, systems, technologies and behaviours required to adapt.

The business and manufacturing sector was identified as a priority focus area.

Council's role in this project was as:

- Service Provider (Agent)
- Advocate,
- Facilitator,
- Information provider / Promoter

This project was specifically designed to deliver increased awareness amongst our leaders, partners and communities regarding:

- Awareness of the impacts of more frequent and intense heatwaves, bushfires, flooding and storm events
- Capacity to make effective long-term decisions to become resilient to changes in our climate
- Capacity to identify and capitalise on opportunities arising from climate change
- Community awareness of how changes in the climate impact on their open spaces including sporting facilities and local biodiversity.

Of the 7 overarching actions (outlined below), 1 is complete, 5 are ongoing and 1 has been discontinued due to changed priorities.

**2. AWARE Strategic Actions**

<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
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<b>2.1 Engage with the manufacturing and business sector to:</b> a) identify economic development opportunities arising from climate change; and b) build capacity of the manufacturing and business sector to respond and adapt to climate change impacts.	<b>Ongoing</b>
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**Status / Achievements**

- Some private sector organisations are taking strong leadership in climate resilience (e.g. Willunga Basin Water, McLaren Vale wine industry)
- City of Marion and City of Onkaparinga provide Building Upgrade Finance opportunities for businesses wanting to improve the energy performance of their buildings and operations. Uptake has been very low.
- City of Marion contributed to a Future Energy Summit at Tonsley Innovation District in 2020.
- Resilient South representatives provided input into the Southern Adelaide Economic Development Board’s (SAEDB) Economic Development Plan for the region that was launched in August 2017. The SAEDB was wound up in 2020.
- A business energy survey conducted by the SAEDB early in 2019, contributed to a Southern Adelaide Energy Baseline Report.
- City of Marion piloted a Business Energy Project in Edwardstown with funding support from the SA Government. Five small businesses were provided free energy reviews to identify energy saving opportunities. They were also provided with either a 10kW solar system or upgrade to their air conditioning system.
- Resilient South delivered a Business Breakfast in 2021 at the Future Energy Summit

**Reflections**

- There is much scope to better engage the manufacturing and business sectors in southern Adelaide.
- Most businesses across southern Adelaide are small to medium enterprises with little capacity to identify and implement energy and resilience improvement opportunities.
- Targeted programs are needed that clearly articulate the value to businesses of improving energy efficiency and resilience to climate change impacts.

**Recommendations**

- Explore opportunities for partnering with existing business networks and programs (e.g. OnBusiness, ClimateKIC, regional business associations etc) to deliver capacity building for the manufacturing and business sectors.

**2. AWARE**  
**Strategic Actions**

<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
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<b>2.2 Work with our partners to increase awareness of climate change adaptation particularly in relation to preparing for and responding to natural hazards including flooding, bushfire and storm events.</b>	<b>Ongoing</b>
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**Status / Achievements**

- Regular meetings, email updates, newsletters, workshops, presentations
- Effective working relationships across state, councils, NGOS, etc.
- Partner councils contribute funding to the REDi-Plan program that educates communities about preparing for natural hazards such as flooding and bushfires.
- Climate Ready Communities (with Australian Red Cross)
- Climate Ready Schools (with Green Adelaide Education)
- Council Ready Program (LGA)
- Hazard mapping (Heat)
- Resilient South Pilot Project – Resilient Asset Management Project (RAMP; previously Incorporating Climate Risk into Asset Management)

**Reflections**

- Partner councils have approached this task in a variety of ways including community education programs, internal staff training and workshops, hazard mapping, contributing to state policy processes, advocacy around hazard mapping needs etc
- Resilient South and our goal of improving climate adaptation is well known and well regarded across the state.

**Recommendations**

- Continue with existing initiatives

**2. AWARE**  
**Strategic Actions**

<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
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<p><b>2.3 Work with our partners to provide plain-English information through existing networks, social media and Council websites that:</b></p> <ul style="list-style-type: none"> <li>a) explains projected climate change impacts;</li> <li>b) raise awareness about managing the impacts of climate change on personal health and wellbeing (e.g. change time of day spaces are used to reduce dehydration from extreme heat);</li> <li>c) raise awareness about the impacts of climate change on infrastructure and open space and public realm and the need for councils to reassess service standards;</li> <li>d) presents potential climate change adaptation actions and other references to specific sectors;</li> <li>e) supports behaviour change to manage potable water security issues;</li> <li>f) supports behaviour change to increase energy efficiency in homes and businesses; and</li> <li>g) promote adaptation success stories.</li> </ul>	<b>Ongoing</b>
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<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>- Resilient South website launched in September 2018 (<a href="http://www.resilientsouth.com">www.resilientsouth.com</a>)</li> <li>- Website includes a Wall of Fame sharing inspirational stories from individuals</li> <li>- A wide variety of workshops have been delivered across the region via the Resilient South Environmental Engagement Network</li> <li>- Resilient South actively supports other agencies with a major role in these areas</li> <li>- We facilitate relationships between state agencies and relevant community groups</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>- It is important not to duplicate the efforts of others as this may result in confused or diluted messaging to the community.</li> <li>- Partnering and collaboration can add value to existing Council engagement programs.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>- Investigate opportunities for working with the Insurance Council of Australia</li> </ul>
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<b>2. AWARE Strategic Actions</b>			
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
<p><b>2.4 Engage Resilient South Program Champions to:</b></p> <ul style="list-style-type: none"> <li>a) inform their own networks about climate adaptation and the Resilient South Regional Climate Change Adaptation Plan;</li> <li>b) encourage new Program Champions to become involved in Resilient South;</li> <li>c) communicate the barriers and enablers to climate adaptation within their own sector; and</li> <li>d) inform a future review of the Regional Adaptation Plan.</li> </ul>			<b>Complete</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>- Climate Ready Communities program delivered in partnership with the Australian Red Cross trains ‘Climate Ready Champions’</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>- Formal Resilient South Champions were effective during the development of the plan, however, as sector-wide networks and programs have emerged, it has become evident that collaborating with these is more efficient and effective than creating our own champions network.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>- Continue to engage with networks such as the Adaptation Practitioner Network, Regional Climate Partnerships, Climate Ready Communities Program etc to build local awareness, skills and capabilities that will increase resilience to the impacts of climate change.</li> </ul>			
<p><b>2.5 Integrate climate change adaptation into community development and social connectivity programs to build resilient communities that can respond to natural hazards.</b></p>			<b>Ongoing</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>- Climate Ready Communities Program (with Australian Red Cross)</li> <li>- Climate Ready Schools (with Green Adelaide)</li> <li>- Council Ready Program (LGA SA)</li> <li>- Redi Plan (Australian Red Cross)</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>- Strong, connected communities are resilient communities. Community Capacity teams’ work are essential to building climate resilience.</li> </ul> <p><b>Recommendations</b></p>			

2. AWARE Strategic Actions			
Complete This action has been completed	Ongoing This action has been commenced and is still ongoing	Changed Priorities This action has not been completed and is no longer relevant due to changed priorities/needs/context	Outstanding This action has not been completed and is still relevant
<ul style="list-style-type: none"> <li>– Continue to work with the Australian Red Cross, Green Adelaide, state government, LGA SA and others to build climate resilient communities</li> <li>– Investigate opportunities for working with the Insurance Council of Australia</li> </ul>			
<b>2.6 Seek funding and partnership opportunities to develop technological applications and/or social media tools that engage the community and build adaptive capacity to climate change impacts.</b>			Ongoing
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– Urban Heat and Tree canopy mapping</li> <li>– Coastal 3D modelling (Onkaparinga and Marion)</li> <li>– State government have integrated tree and heat mapping into 30 Year Plan for Greater Adelaide, Green Adelaide and the Planning Reforms</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– The Urban Heat and Tree Canopy mapping is a great example of councils trialling and refining a technical tool, influencing state and council policy and mainstreaming across the state.</li> <li>– Mapping and visual element a catalyst for swift change. Short time frame for rapid change.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Continued advocacy for state government to provide integrated, publicly available, online climate hazard mapping for entire state. To build upon the joined-up heat mapping.</li> </ul>			
<b>2.7 Develop a Resilient South awards program to encourage adaptation actions within a range of community, business and industry sectors.</b>			Changed Priorities
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– No action due to limited capacity for this initiative</li> </ul> <p><b>Reflections</b></p>			

**2. AWARE Strategic Actions**

<p><b>Complete</b> This action has been completed</p>	<p><b>Ongoing</b> This action has been commenced and is still ongoing</p>	<p><b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context</p>	<p><b>Outstanding</b> This action has not been completed and is still relevant</p>
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– There are other local, state and federal awards such as Council Recognition awards, the PCCC climate award and the Resilient Australian award that have an ability to reach a wider audience

**Recommendations**

– Promote relevant awards and nominate local champions.

## COOL PLACES STRATEGIC ACTIONS

The COOL PLACES foundation project identified 7 strategic actions concerned with increasing the resilience of vulnerable people and the wider community by mitigating heat and providing outdoor infrastructure that can deliver positive health and wellbeing benefits.

Council's role in this project was as:

- Service Provider (Direct, Part)
- Owner Custodian
- Advocate,
- Initiator / Facilitator,
- Information provider / Promoter

This project was specifically designed to deliver an increased capacity to:

- Understand the urban heat island effect on our local communities including vulnerable members of the community
- Understand how existing green infrastructure can mitigate urban heat impacts
- Deliver projects that mitigate heat and result in increased health and wellbeing outcomes for vulnerable members of the community
- Open spaces that can continue to deliver residents positive health and wellbeing benefits to increase their resilience to climate change
- Increased climate change adaptation capacity of essential service providers
- Fit for purpose outdoor infrastructure that can facilitate climate change adaptation in the delivery of passive outdoor activities
- Fit for purpose outdoor infrastructure that can facilitate climate change adaptation in the delivery of organised sport.

Of the 7 Strategic Actions, 2 are complete and 5 are ongoing.



3. COOL PLACES				Implementation
Strategic Actions				Timing
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant	
<b>3.1 Develop partnerships and funding agreements to assist Partner Councils to establish geospatial evidence relating to the social, economic and environmental impacts of the urban heat island effect and the value of green infrastructure in mitigating these impacts.</b>				<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Urban Heat and Tree Canopy mapping hugely beneficial</li> <li>– Led to Tree Canopy Targets and widespread plantings</li> <li>– Led to joined up consistent approach across the entire metro area.</li> <li>– Influenced state policy and processes including new Planning Code, Green Adelaide, Climate Change Action Plan, Public Health Plan</li> <li>– Onkaparinga have developed a tree planting program that is prioritised according to heat/canopy mapping and socio-economic data (SEIFA data).</li> <li>– SA Water Smart Irrigation trail</li> <li>– City of Mitcham used heat islands in reserves to prioritise large WSUD interventions (i.e. Harvey Hayes and St Marys Reserve). Heat map findings have also been reported to community in Mitcham Community News and via an interactive story-board on Mitcham website.</li> <li>– Also heat map and NDVI layers has been placed on internal Council GIS systems and being used operationally for project delivery</li> </ul>				
<b>Reflections</b> <ul style="list-style-type: none"> <li>– Visual data effective communication tool</li> <li>– Despite the success of the urban heat and tree canopy mapping:</li> <li>– Still getting WSUD cut out at the end stage of park developments.</li> <li>– Still not getting enough quality WSUD and greening outcomes in new urban developments.</li> <li>– While urban heat and tree canopy mapping is appropriate to pursue at a regional scale, the response should be local.</li> </ul>				
<b>Recommendations</b> <ul style="list-style-type: none"> <li>– All Councils to develop a Climate Change Policy so that climate sensitivity is factored into design and planning stages</li> <li>– Incorporate heat mapping and other data sources in open space planning to ensure designs contribute to improved liveability, comfort and biodiversity services.</li> <li>– Bring data down to open space scale. If developing one park, how do you decide what design features to pay for?</li> <li>– Cost benefit analysis at the local scale.</li> </ul>				

3. COOL PLACES				Implementation
Strategic Actions				Timing
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant	
<b>3.2 Using Resilient South Maps, and other available spatial information, identify and prioritise open space and public realm areas most vulnerable to urban heat impacts that could benefit from green infrastructure.</b>				<b>Complete</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– The specific Resilient South maps tool was not progressed because other spatial mapping approaches were deemed more appropriate (e.g. metro urban heat mapping)</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– See Action 3.1</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Continue to build spatial knowledge and resources and develop key relationships to support informed decision-making in relation to mitigating urban heat impacts.</li> </ul>				
<b>3.3 Develop partnerships and funding agreements to enable Councils and/or communities to deliver their own Cool Places projects at priority locations.</b>				<b>Ongoing</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– The City of Marion and the City of Onkaparinga received funding in round 1 of Green Adelaide’s Greener Neighbourhoods Grants Program to deliver projects that will keep suburban streets green and cool. Both councils also received funding in round 2.</li> <li>– During 2019 and 2020 the City of Marion collaborated with the Green Adelaide Engagement team and Wicked Labs to trial a project that will make our suburbs more green and sustainable; the project is focussed on greening activities in the suburbs of Park Holme, Oaklands Park and Marion.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– Green Adelaide an emerging opportunity via funding and strategic projects</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Participate in Green Adelaide policy and planning processes</li> </ul>				

3. COOL PLACES Strategic Actions			Implementation Timing
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
<b>3.4 Investigate opportunities for establishing targets for increasing green infrastructure in our region to mitigate urban heat impacts.</b>			<b>Complete</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Partner councils have developed tree canopy and urban green cover targets</li> <li>– Prompted the expansion of in-house nurseries for some councils such as City of Onkaparinga</li> </ul>			
<b>Reflections</b> <ul style="list-style-type: none"> <li>– Targets (underpinned by credible data) are a highly effective tool. Galvanised council planting programs.</li> </ul>			
<b>Recommendations</b> <ul style="list-style-type: none"> <li>– Consider the use of targets in the new Regional Plan that may be appropriate in other areas</li> </ul>			
<b>3.5 Review the way open space is provided and managed regionally to enable Councils to continue to provide positive health and wellbeing benefits for residents despite reductions in rainfall and other climate change impacts.</b>			<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– SA Water Smart Irrigation Project</li> <li>– Cooling the Community website</li> <li>– The City of Marion <i>Natural Landscapes Design and Maintenance Guidelines</i> (endorsed by Council in July 2017) provide guidance on establishment and management of natural landscaping areas forming Council parks and reserves. The natural landscaping typologies are designed to reduce the amount of bare earth during summer (and therefore reduce urban heat) in comparison with pre-existing site management approaches or conversion to irrigated turf. As a rule, no typologies will require ongoing maintenance using irrigation with potable water.</li> </ul>			
<b>Reflections</b> <ul style="list-style-type: none"> <li>– Engaging with other teams within councils has been an important enabler of climate action.</li> </ul>			
<b>Recommendations</b>			

3. COOL PLACES				Implementation
Strategic Actions				Timing
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant	
<ul style="list-style-type: none"> <li>– Continue supporting existing initiatives</li> </ul>				
<b>3.6 Develop Council guidelines and advocate for stronger Australian standards for the design and construction of climate sensitive outdoor infrastructure including:</b> <ul style="list-style-type: none"> <li>a) Utilising materials that are more resilient to extreme weather such as extreme heat, wind and rainfall;</li> <li>b) Designing and constructing footpaths and trails that can cope with extreme weather; and</li> <li>c) Providing shade via vegetation or built structures for playgrounds and adjacent to walking and cycling paths.</li> </ul>				<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– The City of Marion has reviewed neighbourhood and regional playgrounds for shade provision with a view to ensuring that all Neighbourhood and Regional playgrounds will have either artificial and/or tree shade over the next 5 years.</li> <li>– City of Mitcham recently developed stronger Standards for the design and construction of climate sensitive outdoor infrastructure including: <ul style="list-style-type: none"> <li>○ Harvey Hayes Reserve and St Mary’s large scale rain gardens constructed in reserves to provide multiple cooling, storm water and environmental benefits</li> <li>○ <a href="https://www.mitcamcouncil.sa.gov.au/environment/water/environmentally-friendly-stormwater-works">https://www.mitcamcouncil.sa.gov.au/environment/water/environmentally-friendly-stormwater-works</a></li> <li>○ A permeable paving project at St Marys earned City of Mitcham a state and national award in 2020. Under the project, paving material made with recycled tyres was installed as part of a major field trial in sustainable urban drainage design. A total of six different sections, consisting of 24 parking bays, were each paved using a unique mixture of tyre-derived aggregate and crushed rock mixed with varying range of binders with different section designs. All sections were constructed in three layers, namely the compacted soil subgrade, the uniformly-graded gravel screening (reservoir layer) and the used tyre-based permeable pavement. Cutting-edge instrumentation techniques have been implemented to monitor the system’s performance over time. <a href="https://www.mitcamcouncil.sa.gov.au/future-city/innovation-in-mitcham/permeable-pavement-carpark-at-st-marys-park">https://www.mitcamcouncil.sa.gov.au/future-city/innovation-in-mitcham/permeable-pavement-carpark-at-st-marys-park</a></li> <li>○ A sustainable road in Carlisle Street, Westbourne Park and a second road, Simla Parade in Blackwood, will be laid with recycled ‘crumb rubber’ from waste tyres, HDPE plastic from locally generated yellow bin recyclables, and recycled glass by contractor Fulton Hogan. As well as the new surface, Carlisle Street has a number of other sustainable achievements including: (1) an all-concrete kerb constructed using recycled aggregate and stones, meaning less extraction of resources from quarries and lower CO2 (2) Trees watered by TREENET Inlets that harvest over 200,000 litres of stormwater</li> </ul> </li> </ul>				

3. COOL PLACES Strategic Actions			Implementation Timing
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant
<p>annual; (3) Stormwater pollutant removal by raingardens: <a href="https://www.mitchamcouncil.sa.gov.au/council/connect/latest-news/recycled-roads-to-be-rolled-out-on-earth-day">https://www.mitchamcouncil.sa.gov.au/council/connect/latest-news/recycled-roads-to-be-rolled-out-on-earth-day</a></p> <ul style="list-style-type: none"> <li>– Road trials in Onkaparinga – the first road in SA using soft plastics and glass was built in Happy Valley, which diverted thousands of plastic bags, packaging, used printer cartridges and glass bottles from landfill. Nearly 8 tonnes of recycled asphalt have been used for road reseals and rural road resurfacing and 4 tonnes of recycled tyres and other rubber used in playground surfaces.</li> <li>– Staying abreast of emerging research i.e.: AdaptWest – cool roads trial, road material studies nationally, IPWEA sharing info, road companies doing it.</li> <li>– Coastal risk assessments informed the design and location of paths away from risky areas.</li> <li>– Resilient South councils have installed ‘TREENET inlets’ channelling stormwater to tree roots.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– WSUD the main gain with climate resilience – cooling, liveability, biodiversity, infrastructure life-span benefits.</li> <li>– Coastal adaptation and bushfire preparedness will be an important future focus.</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Keep abreast of emerging research and opportunities that arise when re-developing new parks</li> <li>–</li> </ul>			
<b>3.7 Work with essential services providers such as SA Power Networks and SA Water to ensure streetscape design, planning and management delivers climate change adaptation outcomes.</b>			<b>Ongoing</b>
<p><b>Status / Achievements</b></p> <ul style="list-style-type: none"> <li>– SA Power Networks – just released a list of trees recommended around powerlines. Also have a list of inappropriate trees.</li> <li>– SA Water – City of Adelaide worked with them to review their guidelines around street trees in the middle of streets. Have a few demonstration projects in the middle of the city to test their appropriateness. Based upon this, they updated their guidelines</li> <li>– SA Water Smart Irrigation Project</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– Further work required in this space</li> </ul> <p><b>Recommendations</b></p>			

3. COOL PLACES Strategic Actions				Implementation Timing
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– Continue to work collaboratively with SAPN, SAW and others.				

## SOURCE TO SEA STRATEGIC ACTIONS

The SOURCE TO SEA foundation project identified a total of 16 strategic actions, comprising 4 overarching actions and a series of sub-actions, concerned with promoting a ‘whole of catchment’ approach to planning and project delivery that recognises that activities in the upper catchments impact on the downstream freshwater, marine and coastal environments. The goal was to work with the Adelaide and Mount Lofty Ranges Natural Resources Management Board (now Green Adelaide) and the Coast Protection Board to protect our beaches, cliff tops, water quality and marine biodiversity.

Council’s role in this project was as:

- Service Provider (Direct, Regulatory, Agent)
- Owner custodian,
- Advocate,
- Initiator / Facilitator,
- Information provider / Promoter

This project was specifically designed to deliver:

- a strategic approach for working with the state government on embedding a ‘whole of catchment’ approach to policy and flood management programs,
- Regional and national partnerships that support actions to protect our freshwater, coastal and marine environments in a changing climate,
- Integration of climate change adaptation principles in ‘whole of catchment’ management practices,
- Informed long-term decision-making regarding investments in infrastructure for coastal protection,
- Increased water security for the region through greater reuse of wastewater and stormwater.

Of the 4 overarching strategic actions, 1 is complete and 3 are ongoing.

4. SOURCE TO SEA Strategic Actions				Implementation Timing
<b>Complete</b> This action has been completed	<b>Ongoing</b> This action has been commenced and is still ongoing	<b>Changed Priorities</b> This action has not been completed and is no longer relevant due to changed priorities/needs/context	<b>Outstanding</b> This action has not been completed and is still relevant	
<b>4.1 Work with the Local Government Association of South Australia (LGA SA) in its advocacy for the state government to develop a strategic management plan to address sea level rise that considers the risk to existing and new development along the coast.</b>				<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Australian Coastal Councils Alliance (ACCA) active in this space</li> <li>– South Australian Coastal Councils Alliance (SACCA) formed in 2019 with the goal of establishing an ongoing united, collaborative advocacy voice to more coherently articulate coastal management issues facing local government.</li> <li>– The Metropolitan Seaside Council’s Committee (MSCC) continues to meet and its governance arrangements are currently being reviewed.</li> <li>– Marion and Onkaparinga Coastal Climate Risk Studies.</li> <li>– LGA Coastal Adaptation Guidelines released Nov 2020</li> </ul> <b>Reflections</b> <ul style="list-style-type: none"> <li>– Don’t separate sea-level rise out anymore. Consider coastal climate hazards collectively.</li> </ul> <b>Recommendations</b> <ul style="list-style-type: none"> <li>– Continue lobbying for re-installation of Port Stanvac gauge (if required).</li> <li>– Continue working with SACCA on a state-wide coordinated approach</li> <li>– Continue working with ACCA on federal advocacy.</li> </ul>				
<b>4.2 Continue to engage with the National Climate Change Research Facility (NCCARF) on the Coastal Climate Risk Management Working Group to develop systems and processes that build confidence and certainty regarding future projections for sea level rise and robust decisions for the coast.</b>				<b>Complete</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Coastal partner councils participated in a range of NCCARF research projects</li> </ul> <b>Reflections</b> <ul style="list-style-type: none"> <li>– Funding for the National Climate Change Adaptation Research Facility (NCCARF) was withdrawn from 2018 after 10 years of support from the Australian Government. Research conducted during this period remains available on the website: <a href="https://www.nccarf.edu.au/">https://www.nccarf.edu.au/</a></li> <li>– NCCARF was a highly valuable resource</li> </ul>				



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<b>Recommendations</b> – Advocate to the Federal Government to recommit funding to NCCARF or similar.				
<b>4.3 Work collectively with Metropolitan Seaside Councils Committee to:</b> <ol style="list-style-type: none"> <li>a) coordinate advocacy for the state and federal governments to improve funding for coastal protection and climate change adaptation in the coastal zone and neighbouring areas;</li> <li>b) partner with the Coast Protection Board and the Department of Transport Planning and Infrastructure (now Department for Infrastructure and Transport) to facilitate development and implementation of a strategic approach to mitigating the impacts of climate change in the metropolitan Adelaide coastal zone.</li> <li>c) partner with DEWNR [now DEW] and the AMLR NRM Board (now Green Adelaide) to secure additional resources to support community volunteer groups that care for our dune, marine and riparian systems; and</li> <li>d) work with the Coast Protection Board and the Bureau of Meteorology to develop a monitoring strategy to inform the design and timing of construction of hard infrastructure (e.g. storm tide barriers, sea walls, groynes etc.).</li> </ol>				<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– The South Australian Coastal Councils Alliance (SACCA) was formed in 2019 in response to sustained lobbying from coastal councils around the need for a coordinated approach to coastal adaptation.</li> <li>– We work closely with SACCA and the Australian Coastal Councils Association (ACCA) on coastal adaptation advocacy.</li> <li>– MSCC governance arrangements are currently being reviewed.</li> <li>– Successfully advocated about the need to incorporate climate hazard layers into new Planning Code</li> <li>– Marion and Onkaparinga have both undertaken coastal hazard studies and are developing monitoring plans</li> </ul>				
<b>Reflections</b> <ul style="list-style-type: none"> <li>– Metro Seaside Councils Committee has limited advocacy capabilities, but the governance review may result in more effective governance arrangements.</li> <li>– SACCA and ACCA are also important advocacy channels.</li> </ul>				

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<ul style="list-style-type: none"> <li>– MSCC does not have operational capacity, however, individual councils have done extensive work in this space in partnership with DEW and the NRM Board (now Green Adelaide)</li> <li>–</li> </ul> <b>Recommendations</b> <ul style="list-style-type: none"> <li>– Continue working with MSCC, SACCA and ACCA.</li> </ul>				
<b>4.4 Seek funding and partnership opportunities from DEWNR [now DEW], AMLR NRM Board (now Green Adelaide Board), the Environment Protection Authority and other organisations to improve water resource management including to:</b> <ol style="list-style-type: none"> <li><b>implement Stormwater Management Plans to reduce climate change related flooding risk across the region;</b></li> <li><b>implement a whole of catchment management approach to provide greater protection and consideration of marine biodiversity in relevant policies and programs;</b></li> <li><b>ensure that the Guidelines for Water Quality are implemented across the region;</b></li> <li><b>build capacity in water sensitive urban design, flood management, water recycling and wastewater reuse, and riparian rehabilitation.</b></li> </ol>				<b>Ongoing</b>
<b>Status / Achievements</b> <ul style="list-style-type: none"> <li>– Development of Stormwater Management Plans by all four Resilient South councils</li> <li>– City of Onkaparinga - Waterproofing the South</li> <li>– Water Sensitive SA and council led initiatives ongoing.</li> <li>– Mitcham have developed a WSUD Smart Water Plan with past and ongoing investments in capital program to factor in WSUD in 20/21. Cross council collaboration and information sharing ongoing. Oaklands Wetland ASR – in 2020 244 million litres of stormwater were captured, cleaned, and stored and 121 million litres of water from Oaklands Wetlands used to irrigate 35 local parks and supply water to Tonsley Innovation District.</li> <li>– City of Marion Landscape Irrigation Management Plan – developed to guide what we irrigate, when we irrigate and how much water we use.</li> <li>– City of Mitcham recently implemented the Mitcham Memorial Library and Brownhill Creek project that has been widened the creekline to create a stable creek to endure flood events. Natives have been planted within the creek channel and on the banks through an innovative surface material that provides bank stability and allows plant growth. Stepping boulders and logs have also been installed to create an active nature play space for use when the creek is dry or not flowing: <a href="https://www.mitchamcouncil.sa.gov.au/future-city/key-projects/redevelopment-of-mitcham-memorial-library-and-brown-hill-creek">https://www.mitchamcouncil.sa.gov.au/future-city/key-projects/redevelopment-of-mitcham-memorial-library-and-brown-hill-creek</a></li> </ul>				

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<ul style="list-style-type: none"> <li>– City of Mitcham is underway with implementation of Pasadena Biodiversity Trail that will improve water quality and stormwater flows into Sturt Creek that will also result in increase of tree canopy cover and cooling outcomes in Pasadena reserves through bringing stormwater pipes to the surface.</li> </ul> <p><b>Reflections</b></p> <ul style="list-style-type: none"> <li>– Investment in “pits and pipes” inevitable to address flood mitigation risks, however future storm water flows reliant on the revised “building code and planning reform” where more WSUD on private land has the potential to reduce flows, provide cooling and water quality benefits.</li> <li>– Work for Brownhill Creek and Sturt SMPs are currently being led by engineering functions within City of Mitcham and Marion with more input required from biodiversity and climate adaptation perspective</li> <li>– More work to do with respect to catchment scale strategies that also factor in biodiversity outcomes (I.e. water quality, weed control and habitat creation).</li> </ul> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>– Ongoing review and implementation of Storm Water Management Plans by all four Resilient South Councils</li> <li>– Continue to seek funding opportunities, implement stormwater management plans, whole of catchment management approach &amp; continue to build capacity in all areas of water management.</li> <li>– City of Mitcham to implement Pasadena Biodiversity Trail that will improve water quality and stormwater flows into Sturt Creek catchment and secure outcomes in increased tree canopy, cooling and biodiversity across Pasadena and share learnings with sector.</li> <li>– Partner in development of Green Adelaide 5-Year Landscape Plan and work collaboratively to meet mutual needs</li> </ul>				

## **B. LOCAL GOVERNMENT ACHIEVEMENTS**

This section contains an incomplete list of some of the achievements by individual councils that are relevant to Resilient South's climate resilience goal. The Program Management Committee has shared information and collaborated to ensure that successful initiatives are replicated by other councils.

### **7.12 AWARE & EQUIP**

#### **CLIMATE EMERGENCY DECLARATIONS**

In October 2019 City of Mitcham declared a climate emergency, reflecting Council's ambition to provide leadership for our community in addressing the unprecedented threat of climate change. Following this declaration the City of Mitcham has undertaken a range of projects that have made significant reductions to our greenhouse gas emissions. This has been demonstrated through energy efficiency upgrades to corporate facilities, installation of solar panels on key Council sites and the upgrade of Mitcham's residential streetlights to LED technology. While this reduction is a step in the right direction, Council understands that more can be done to adapt to the changing climate and mitigate its effects.

Responding to our community's concerns about climate change, in October 2019, the City of Holdfast Bay recognised that the world is in a state of climate emergency and that all levels of Government have a responsibility to act. Council has been working on reducing its greenhouse gas emissions for many years including installing solar panels, changing streetlights to LED bulbs and purchasing hybrid vehicles for its fleet. More recently, in December 2020, Council endorsed a new Environment Strategy (2020-2025), which includes a section with numerous further actions to reduce Council's corporate and community emissions and a target to become carbon neutral with our corporate emissions by 2030.

### **7.13 COOL PLACES**

#### **WATER SENSITIVE URBAN DESIGN**

City of Mitcham:

- completed research on effects of storm water infiltration on street trees, cooling and WSUD innovation.

- Development of a Smart Water Plan to continue leadership and delivery of raingarden, permeable paving, leaky wells, tree inlets, permeable car parks and water sensitive design across reserves and streetscapes.
- Ongoing flood mitigation works through Sturt and Brown Hill Stormwater Management Plans including flood mapping.
- 70% of footpath renewals for 2019/20 consisted of permeable footpaths, this represents in excess of 17,000m<sup>2</sup> of the total 25,000m<sup>2</sup> program for 2019/20.
- 75 tree inlets incorporated into capital renewal projects.
- Award winning sustainable car park trial - St Mary's Permeable Car Park incorporating geothermal pavement trial.

### **BUSHFIRE PREVENTION**

City of Mitcham have been active in implementing 'bushfire prevention' program across the city. Activities have included; (1) ongoing verge maintenance and brush cutting in the hills areas; (2) ongoing weed control and bushfire clearance work across a range of open space and woodlands; and (3) ongoing Community bushfire education, compliance and advice services.

### **GREENING EDWARDSTOWN**

The industrial areas of Edwardstown are the hottest areas of the City of Marion Council. As part of a Council initiative to revitalise the Edwardstown Employment Precinct, City of Marion Council has received two rounds of funding from Green Adelaide's Greener Neighbourhood Fund to plant trees that will increase green canopy coverage and reduce urban heat in the area. In 2020, Council has planted more than 175 trees and installed 75 tree inlets to capture rainwater from the street and water the trees. A second round of planting in 2021 will add a further 150 trees and 40 tree inlets.

### **TREE CITY OF THE WORLD**

IN 2019/20 City of Mitcham awarded 'Tree City of the World' status Arbour Day 1st September 2020 – targeting increased tree canopy on private property through education and Council tree donations.

## **TREE TRAIL**

In January 2018, City of Mitcham created a tree trail to celebrate trees across the city and show the many benefits they provide. The trail showcased nine amazing trees in Mitcham Reserve with a tag placed on each tree to show height, how much shade provided and pollution removed from the atmosphere.

## **7.14 SOURCE TO SEA**

### **3D COMPUTER MODELLING**

Resilient South councils, Marion and Onkaparinga, have worked with local consultancy, Aerometrex, to develop high resolution 3D computer models of their coastlines. These models establish a baseline from which to model and monitor future sea-level rise and coastal erosion, design structural adaptation measures, and generate high-resolution videos and images that can be used to communicate coastal climate risk with communities.

### **COASTAL HAZARD MAPPING**

Risk Assessments and Adaptation Planning - Cities of Marion and Onkaparinga have piloted Integrated Coast's Coastal Adaptation Methodology, which was developed in partnership with Flinders University and the Coast Protection Board. The methodology follows a structured approach to coastal scoping, mapping of historical changes to the coastline, sea-level-rise hazard mapping (utilising the 3D computer model described above), and risk assessments. Results are used to inform coastal adaptation monitoring and decision making. The City of Holdfast Bay has just embarked on its coastal adaptation planning journey.

## **7.15 EMISSIONS REDUCTION**

### **SOUTHERN ADELAIDE ENERGY PROJECT**

To support businesses through a transition of the energy sector, the Southern Adelaide Economic Development Board (SAEDB) identified in Priority 5 Smart Region an action to work with local businesses and industry stakeholders to develop regional energy projects. This project received \$100,000 funding from the Department for Industry and Skills to deliver the following outcomes:

- Regional Baseline Study – preparation of a Southern Adelaide Energy Report during 2018/19 that described current regional electricity supply, demand and network constraints and provide an overview of existing demand management, renewable energy and energy service programs and projects being delivered in southern Adelaide. This enabled a gap analysis to identify future priorities for the SAEDB that will complement existing initiatives.
- Edwardstown Energy Project – develop and tested a scalable and replicable energy support project that focussed on improving the energy performance of five small businesses in Edwardstown. Working with the Tonsley Future Energy Consortium (a group of business support services from including the Tonsley Innovation District), energy assessments to identify energy saving opportunities were completed, and either a 10kW rooftop solar array or an upgrade to their air conditioning system were provided to each of the participating businesses.

#### EFFICIENCY AND RENEWABLES

Resilient South councils have taken active steps to reduce their standing emissions (electricity use) and transport emissions (through fleet management). They have moved to renewable energy, either through purchasing renewables through a retailer or by installing solar panels on Council buildings.

- Resilient South Councils currently enjoy linkage to 60% renewable energy secured from Lake Bonney wind farm for its large sites and for “12 and 24” hour street lighting under a local government contract between Jan 2020 and Dec 2022. We have recently formed a working group, which includes other South Australian Councils, to explore 100% renewable energy opportunities post December 2022.
- The equivalent of 4400 homes will be powered by bio-gas and the state’s first solar farm built on a landfill at the Southern Region Waste Recycling Authority in Seaford Heights jointly owned by Onkaparinga, Marion, Holdfast Bay.
- City of Marion installed 410kW on ten Council-owned and operated buildings in 2017 and 2018. Since 2018 approximately 130kW of rooftop solar has been installed on leased sporting clubs and facilities. So far, we have reduced emissions from our buildings by around 1,600 tonnes CO<sub>2</sub>-e compared with the 2015/16 baseline. During 2018/19 five hybrid petrol/electric Toyota Corolla passenger vehicles were introduced to the City of Marion vehicle fleet. As at June 2020 there were nine hybrid passenger vehicles in Council’s fleet.
- In June 2020 City of Mitcham have installed 82KW solar panels on Mitcham Library, Melrose Park Depot, Mitcham Community Centre and Cumberland Park Community Centre. A further 45KW of Solar panels were installed prior at Mitcham Civic Centre, works depot and heritage research centre. Council have also purchased two electric vehicles to complement an existing hybrid vehicle and is the process of installing four EV charging stations. City of Mitcham has also been involved in a trial of an electric (SEA Electric) waste truck through East

Waste, Council's subsidiary green organics, recycling and hard waste service provider. A building LED lighting upgrade was also completed at Council's Civic Centre and Melrose Park Depot in 2020 reducing its greenhouse gas emissions by 86 tonnes a year.

- The City of Holdfast Bay has installed numerous solar panels on the Brighton Civic Centre (currently 45 kW and about to install another 45 kW) and the Somerton Park Depot. Council started converting its car fleet to hybrids in 2018 and now seven passenger vehicles are hybrids.
- The City of Onkaparinga has upgraded 35 Council-owned buildings and installed 1000 solar panels at Woodcroft Community Centre, Noarlunga Office and Field Operations Centre and constructed the first car park solar shade at a community building in SA at Wakefield House Ageing Centre.

### LED STREET LIGHTING UPGRADES

Street lighting is the single largest source of greenhouse gas emissions by local government in Australia. To reduce greenhouse gas emissions, Resilient South Councils committed to upgrade over 26,019 streetlights to energy efficient LED lights in 2018. This win-win initiative has saved Resilient South councils hundreds of thousands of dollars and thousands of tonnes of greenhouse gas emissions each year. A summary of each Council initiative is below:

- City of Onkaparinga changed over 12,000 streetlights to 14W LED, using 40 per cent less electricity to light our streets and reducing our emissions by 1900 tCo2e per year.
- City of Mitcham replaced 4,980 of its residential street lights to 14 W LEDS reducing greenhouse gas emissions by approximately 605 tonnes a year. This is equivalent to taking 127 cars off the road for a year. This has triggered Councils to also start planning for subsequent upgrades of its remaining 2,700 streetlights as well as possible projects to upgrade its open space lights.
- Streetlight upgrades to energy-efficient LED lights across the City of Marion has reduced annual greenhouse gas emissions by 876 tonnes CO<sub>2</sub>-e (36%) and electricity cost by \$193k in 2019/20 compared with the 2015/16 baseline. The three-year project was funded by Council and includes the sale of carbon credits and the associated income from the emissions reduction from the LED lighting upgrade.
- Between January 2018 and December 2020, the City of Holdfast Bay has upgraded 2,690 streetlights to LED, reducing streetlight electricity consumption by about half.

City of Onkaparinga:



As part of the Cities Power Partnership City of Onkaparinga has made a commitment to five City power partnership pledges as part of its mitigation plan, which includes:

- Roll out energy efficient lighting (particularly street lighting) across the municipality.
- Adopt best practice energy efficiency measures across all council buildings, and support community facilities to adopt these measures
- Install renewable energy (solar PV and battery storage) on council buildings
- Create a revolving green energy fund to finance renewable energy projects.
- Develop education and behaviour-change programs to support local residents and businesses to tackle climate change through clean energy, energy efficiency and sustainable transport.

City of Mitcham:

At a meeting on 27 October 2020 City of Mitcham made a commitment to five City power partnership pledges as part of its commitment to achieving net zero emissions by 2050, which include:

- Purchase 100% of Council's energy from renewable sources by 2030
- Change all streetlights to energy efficient technology by 2030
- Fund an ambitious and accelerated transition towards Council's fleet being fully renewables powered by 2030
- Set targets and fund programs to reduce waste to landfill by 75% both for Council's commercial and domestic waste streams by 2030
- Adopt sustainable procurement and policies by October 2022 to prioritise low emission products and services and incorporate zero emission design into all new Council buildings

Council has also recognised the need to assist the City of Mitcham community in mitigating and responding to climate change by funding programs and/or infrastructure to:

- Promote and accelerate a community renewable energy transition

- Continue building community capacity towards net zero emissions and climate resilience
- Transition toward renewables powered transportation
- Assist residents in behaviour change education
- Assist residents in designing new low energy buildings

These City Power Partnership pledges and community commitments represent Council's continued drive to take an active role in response to our changing climate. To find out more go to the below link: <https://citiespowerpartnership.org.au/partners/city-of-mitcham/>

## C. PRINCIPLES OF ADAPTATION PLANNING

Resilient South underpinned our planning and design with fifteen adaptation planning principles that built upon the above understanding of resilience attributes, as well as the principles for prioritising adaptation actions contained in the *Climate Change Adaptation Framework for South Australia* (Government of South Australia, 2012) and the adaptation principles prepared by the Social, Economic and Institutional Dimensions Research Network as part of the National Climate Change Adaptation Research Facility (NCCARF, 2012). We also drew upon insights from practitioners, climate scientists and policy makers working in the field of adaptation planning at the time.

### 1. Adaptation and mitigation are complimentary processes

Mitigation and adaptation should be seen as complimentary and equally necessary processes. The degree of adaptation required will depend upon the success of global and local mitigation efforts.

### 2. Prioritise public goods

The role of government is to prioritise public goods and services. Therefore, government adaptation response should look to ensure the viability of these important assets. We should also remember that many adaptation actions will support the goals of sustainable development.

### 3. Remember that climate change is more than an environmental issue

Historically, climate change has been viewed as an environmental issue; however, the impacts of climate change will affect all parts of society including our health, infrastructure, social and economic wellbeing.

### 4. Ensure an equitable distribution of risk and opportunities

Climate change impacts upon everyone. The challenge is in ensuring that the distribution of climate risks and opportunities is diversified and not inequitably distributed. This may mean proactive policy-making or developing new frameworks to reduce the burden on the most vulnerable – whether this is individuals, or local government agencies. Private and public risk management instruments will need to be utilised. It will also mean investing in holistic decision making and ensuring that the needs and interests of one sector or stakeholder group do not dominate decision making and access to information.

Whilst the Resilient South Project is a government-led initiative, the project is based upon a participatory model of engagement that recognises that adaptation to climate change is a shared responsibility. Given that most assets and activities at risk from climate change impacts are owned or managed by businesses or the community, it is reasonable to expect businesses and the community to manage their exposure. The allocation of responsibility for climate change adaptation actions should therefore involve a joint effort and commitment by all levels of government, business, communities and individuals.

### **5. Establish Shared Responsibility for planning at the most appropriate scale**

Adaptation is a multi-scale and multi-actor process. Therefore, responsibility for adaptation planning and implementation should be shared across stakeholders and scales: this could include co-management and sharing responsibility between public and private actors, across sectors, across levels of government, and with the community at risk. It is important that we build on, enhance and learn from the experience of all relevant interests, particularly those who will be responsible for adapting.

We must be mindful of which changes can be realistically achieved at different scales. Change at the level of individuals will be important for the impact itself and the contribution to changed social norms. However, individuals are constrained or enabled by wider influences (such as how suburbs are designed, essential services are provided, houses are built and food production networks are maintained). Adaptation strategies will need to target change at all levels, from the actions that individuals can make through to changes that are required to broad regimes that manage systems such as water management or land use planning.

### **6. Recognise that adaptation will involve managing change**

Adaptation planning is about supporting a purposeful societal evolution towards a resilient and sustainable future. This means that ‘managing change’ will be a central feature. Adaptation actions will sometimes build upon existing practices, but they will also require adopting entirely new attitudes, behaviours, practices, technologies and governance systems.

Two levels of adaptation actions will need to be identified. The first will be the specific actions required to minimise the impacts from climate change e.g. building sea walls to protect vulnerable coastal communities, water sensitive urban design to minimise urban heat island effect, green corridors to enable the movement of flora and fauna – these are practical changes to practices, technologies and infrastructure.

The second level of adaptation actions will involve building the capacity and receptivity of different stakeholders in different fields to implement the new actions e.g. internal organisational training and awareness raising, changes to legal and regulatory frameworks, broad scale changes to governance systems, the construction of demonstration projects to showcase best practice adaptation examples, the establishment of regional capacity building programs, networking events, fostering interactions between sustainability niches and traditional regime actors etc. – these are changes to behaviour, attitudes, social systems and governance regimes.

It will be helpful to understand the adaptation actions that are currently supported by relevant communities and stakeholders and to capitalise on these. However sometimes adaptation will involve changing entrenched systems that don't want to be changed.

### **7. Be consistent in messaging**

Policies and planning across government departments (e.g. in planning, water, environment, emergency management) and between levels of government (local, State, Commonwealth) should be aligned – or at least, they should not be contradictory. Explore the possibility of synergies across scales.

### **8. Manage risks and exploit opportunities**

Climate change risks are often the primary focus of these kinds of studies. However successful adaptation will also involve identifying and fostering opportunities. With effective planning, adaptation can improve the market position of existing goods and services and help develop new markets and businesses. Climate change will create significant opportunities for innovation and leadership in the southern region and provides an unprecedented chance to incorporate sustainable development principles into mainstream practice.

### **9. Take an evidence-based approach**

Always endeavour to identify and utilise data that is authoritative and credible from sources such as refereed scientific journals, government scientific agencies, research institutions and universities. Communities rightly trust science from independent scientific institutions such as universities.

While so called 'hard-data' can be questioned, it is normally the interpretation of this data that causes disagreement and controversy. Utilising reliable and trusted data is one way to reduce controversy.

**10. Plan for uncertainty and deliver adaptation actions where there is a plausible risk of harm, even in the absence of complete scientific certainty**

There will always be uncertainty about the future and we need to be mindful of this when making decisions. We need to understand and explain the degree of certainty and be transparent about the assumptions we have made in our assessments of risk and vulnerability.

However, effective risk management involves accepting that just because something hasn't happened before; it doesn't mean that it won't happen in the future. So, if the consequences of failure (i.e. runaway climate change) are catastrophic, then it's appropriate to rapidly and effectively intervene to reduce the likelihood of such an outcome. We can also plan for multiple future outcomes.

It is important to recognise that despite some uncertainty around the exact nature and extent of climate change, we do know that the climate is getting hotter and we know what the broad trends will be. In most cases, this level of information will be enough to make decisions and act. In many cases, decision makers do not require more certainty about the climate science but rather more certainty about how to respond to what is currently known.

**11. Take action using an adaptive management approach to allow for readjustments as new information arises - Be flexible, reflective and iterative**

Climate science is still advancing and not all the data that would be useful for making decisions is available. The Adaptation Plan should be seen as a living document that is updated and modified to take into account changing circumstances and new information, data and lessons. Adaptation planning should think long-term. It should be a staged process that supports long-term goals which build on short-term strategies to get there. Flexibility is also important. We need to build in time periods in our plan to evaluate how adaptation is progressing and change things if needed. Where flexible adaptation actions are required, care should be taken to ensure that this does not lead to inaction. Clear review mechanisms should be put in place that are able to regularly assess whether the adaptation action should remain flexible or transition to committing to a particular course of action.

We need to recognise that climate change adaptation is not a set of outcomes, but a process. Adaptation involves trying things, learning about successes and failures and making modifications. For an adaptive challenge to be met, interdisciplinary, inter-sectoral, multi-stakeholder learning needs to take place across social, technical, economic, design, ecological spheres etc. People have to think and talk through the problem for

themselves and arrive at a solution because new learning is involved. Traditional planning processes can often be technocratic and involve top-down processes. However, climate adaptation planning will need to involve planning for uncertainty and creating cultures that are comfortable with change and uncertainty. For adaptive challenges, 'planning' and 'implementation' should not be separate stages or processes. Rather, they should occur simultaneously as new practices are learned and new answers emerge. This will require a more bottom up, collaborative and iterative planning process.

### **12. Integrate climate adaptation considerations into existing management and decision-making processes**

Adaptation actions need to be able to be implemented. This means that they need to be able to be resourced, integrated into organisational management plans and measurable. Climate change adaptation is not a stand-alone agenda and the Adaptation Plan will need to be incorporated into existing and ongoing policy, planning and management processes. The Adaptation Plan will need to clearly articulate how the adaptation actions can be embedded into existing risk, asset and infrastructure management and development processes within public and private sector organisations. The Adaptation Plan will also need to show how it is integrated with current and future mitigation efforts in the region.

### **13. Accept failure as a part of successful adaptation**

Innovation and experimentation will be essential for building adaptive capacity, which will require a culture that is comfortable with trying new things and accepting a level of failure. Communities and organisations will need to be encouraged to identify errors and self-correct these errors so that this becomes a routine and exciting part of work and life.

### **14. Accept that Adaptation won't be easy**

It can be tempting to believe that there will be an optimal way of adapting, however, research and on-ground experience is showing that planning and implementing adaptation actions will be messy and difficult. We need to accept this and continue.

Adaptation planning is difficult because it requires integrated and holistic assessments and decision making which is constrained by the sectoral nature of society, its governments, knowledge generation and businesses. This tends to bias decisions towards singular solutions (picking winners). We must also deal with the nature of individual behaviour, our aspirations and motivations which tend to resist change. Societal norms and institutions result from societal evolution that is largely non-strategic and thus not necessarily appropriate for the future.

### **15. Recognise that there are limits to adaptation**

Adaptation planning and policy-making should recognise that there are inherent limits to how far a system, sector or social group can adapt; particularly under high emission scenario futures.

## D. PRINCIPLES FOR IDENTIFYING AND PRIORITISING ADAPTATION ACTIONS

When selecting climate change response options for the Implementation Plan, Resilient South recognised that there are many options available to address climate change impacts, not all of them efficient or desirable. Equally, there are many parties who could deliver adaptation responses, some of them not necessarily best placed to do so. Therefore, careful consideration needed to be given to designing and prioritising adaptation responses. Resilient South adapted and expanded upon the principles for prioritising adaptation actions contained in the *Climate Change Adaptation Framework for South Australia* (Govt. SA, 2012) and the adaptation principles prepared by the Social, Economic and Institutional Dimensions Research Network as part of the National Climate Change Adaptation Research Facility (NCCARF, 2012).

### **8. Give priority to those sectors and adaptation options that are likely to provide the greatest social, economic and environmental benefit for the region and State**

Priority will be given to the actions that are the most highly valued by the community, are likely to provide the greatest social, economic and environmental benefit to the region and have the most likelihood of being able to be implemented by the relevant stakeholders.

### **9. Take early action where there are demonstrated cost-benefits**

Many actions will be costly in the short-term but provide significant future benefits. The Resilient South planning process took steps to understand and communicate this. For example, significant investment was made in coastal and urban heat mapping in recognition that early investment in adaptive built and natural infrastructure will have lasting positive economic, social and environmental benefits.

### **10. Ensure responses avoid unintended consequences and do not undermine our ability to adapt over the long-term - Avoid maladaptation**

Some actions may solve a problem in the local context or in the short term but result in detrimental outcomes at a broader scale or in the longer term. The term maladaptation refers to the implementation of actions that cause problems elsewhere, such as the construction of a sea wall that causes flooding in other areas.



### **11. Be mindful of greenhouse gas emissions**

Adaptation actions should not lead to increased emissions of greenhouse gases; and should look for ways of actively reducing emissions through adaptation actions.

### **12. Make trade-offs explicit**

Adaptation will inevitably involve trade-offs. The costs and benefits associated with adaptation decisions need to be acknowledged; and the processes for dealing with trade-offs made transparent.

The interconnections between social, environmental and economic systems and the linkages between sectors needs to be explored and understood in order to make appropriate trade-offs where necessary.

### **13. Consider the impact from cascade failures**

Cascade failures can occur in interconnected systems. For example, if floods damage our energy supply system (which supports many other systems), all other services can be affected, causing a cascade of failure.

### **14. Incorporate Strategic Redundancy**

Our existing management culture often prioritises short-term efficiency and productivity, however, a level of strategic redundancy is a necessary attribute of a resilient system. For example, a resilient water supply system would be one that draws upon diverse water sources that can adapt to both water scarce and water abundant conditions. In times of drought, sources like desalination and groundwater might be utilised, whilst in times of water abundance, less environmentally costly sources such as surface water and stormwater would be utilised, leaving the desalination redundant. Similarly, building stakeholder capacity and fostering strong partnerships will not necessarily deliver tangible outcomes in the short term but will be essential in times of crisis and disaster.

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