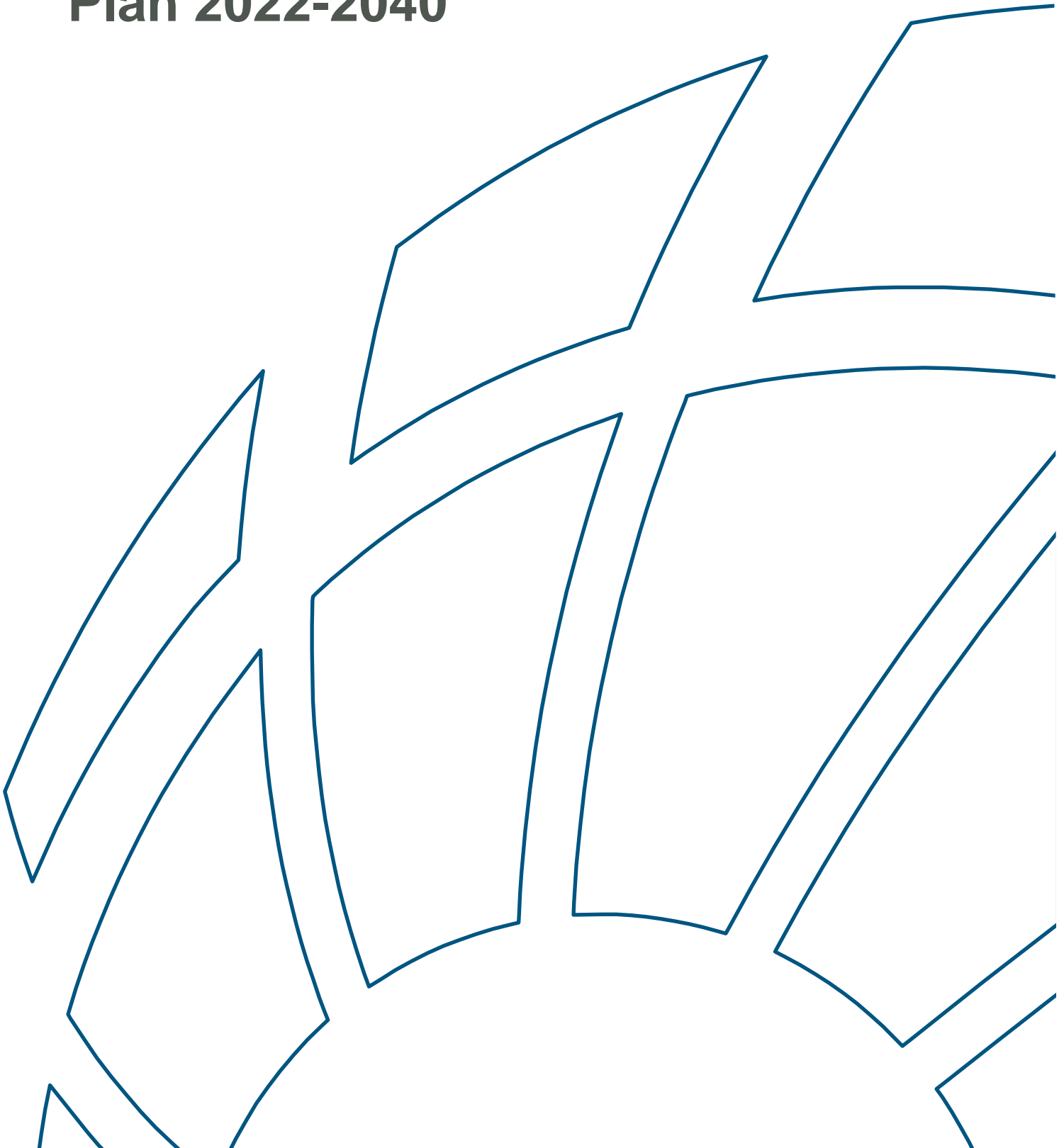




Georges River Council's Environmental Resilience Action Plan 2022-2040



Document Control Sheet

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	Title:	Georges River Council's Environmental Resilience Action Plan 2022-2040
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Synopsis:		

REVISION/CHECKING HISTORY

Revision Number	Date	Checked by	Issued by
0-6	August 2021	KOJ	LCM
7	29 September 2021		
8	22 February 2022		

Note: A wording error has been updated in the Environmental Resilience Action Plan since the document was presented to the Environment & Planning Committee on 14 February 2022, ahead of the Council meeting on 28 February 2022. On page 21, target 7, the word "Regulated" was inserted, to correct an error and replace the word "Prohibited".

DISTRIBUTION

Destination	Revision										
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Georges River Council	Doc	PDF	PDF								
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BMT Library		PDF									

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Action Plan at a Glance

Action Plan purpose

The purpose of the Georges River Environmental Resilience Action Plan 2022-2040 (Action Plan) is to guide Council towards the delivery of its environmental sustainability goals. Environmental Resilience refers to 'the ability of the natural environment to withstand disturbance and changes such as climate change, pollution or urban growth'. The Action Plan primarily focuses on measures to reduce Council's environmental footprint but also explores how Council can influence broader community outcomes such as waste generation or energy use.

Our current environment

The waterways, parks and bushland areas of Georges River are home to a variety of plants and animals, including at least 16 threatened fauna species and supports the health and wellbeing of the community. These systems are under pressure from urban development, a growing population and a changing climate.

Currently, Georges River has tree canopy coverage of 38%, although its expansion is underway through scheduled and routine planting in streets and public reserves. The Georges River, a vital part of the landscape, has a waterway health score of 'Good', as rated by the Georges RiverKeeper program.

The Local Government Area (LGA) generates about 0.38 tonnes of waste per capita, although over 40% of that waste is recycled through comingled recycling and garden organics services.

In total, the LGA produces approximately 1 million tonnes of greenhouse gases. The NSW Department of Planning, Industry and Environment (AdaptNSW) estimate by 2070, Georges River will experience an average temperature increase of 1.9°C and an additional 11 days over 35°C each year.

Where do we want to go?

Our Environment and Sustainability Vision is that '*Georges River Council is committed to protecting and enhancing the natural environment by reducing our impact and empowering others to do so*'. Using the United Nations Sustainable Development Goals as a guide, objectives for this Action Plan have been developed under the themes of:

- Responsible Consumption and Production
- Climate Action and Clean Energy
- Sustainable Cities and Communities
- Life Below Water and On Land.

The objectives focus on protecting biodiversity and waterway health, responding to a changing climate, reducing Council's emissions and resource consumption and promoting sustainable communities and urban development. Crucially, Council has made a commitment to source 100% of its electricity from renewable sources and produce net zero emissions by 2025.

This Action Plan draws on consultation from within Council and the community as well as strategic policy and best practice regionally, nationally, and internationally. Targets and actions have been identified for each of the key themes. The Action Plan will be reviewed every five years and annual reporting will be undertaken against key performance indicators.

Contents

Action Plan at a Glance	iii
1 In recognition of the Biddegal people	6
2 Introduction	6
2.1 Why is an Environmental Resilience Action Plan needed?	6
2.2 What does “environmental resilience” mean?	6
2.3 What does this Action Plan address?	7
2.4 What is Council’s role?	7
3 How have we developed this Action Plan?	8
4 Our Environment	9
5 Pressures and Drivers	11
6 Strategic Context	13
6.1 The United Nations (UN) Sustainable Development Goals	13
6.2 Resilient Sydney – A Strategy for City Resilience 2018	14
6.3 Georges River Estuary Coastal Zone Management Plan 2013	14
6.4 Georges River 2050: Leading for Change 2020	14
6.5 Local Strategic Planning Statement 2020	15
7 Vision and Objectives	16
7.1 Vision	16
7.2 Objectives	16
8 Actions	18
8.1 Responsible Consumption and Production	18
8.2 Sustainable Cities and Communities	20
8.3 Life Below Water and On Land	23
8.4 Climate Action & Clean Energy	26
9 How will Council implement this Action Plan?	29
9.1 Monitoring and Reporting	31
9.2 How will Council fund the Action Plan?	31
10 Glossary and Abbreviations	32

List of Figures

Figure 1: Council Scope for Control, Influence and Collaboration	7
Figure 2: Environmental Resilience Action Plan development process	8

Figure 3: Georges River Council LGA Environment	10
Figure 4: Interaction of Environmental Resilience Action Plan with other Key Strategies, Plans and Visions	15
Figure 5: Council's Environmental Resilience Vision and Objectives	17

List of Tables

Table 1	Global and Local Strategic Context	11
Table 2	Responsible Consumption and Production Targets and Actions	19
Table 3	Sustainable Cities and Communities Objectives and Actions	21
Table 4	Life Below Water and On Land Objectives and Actions	24
Table 5	Climate Action and Clean Energy Objectives and Actions	26
Table 6	Targets and KPIs for each environmental resilience theme	29

1 In recognition of the Biddegal people

Georges River Council acknowledges the Biddegal people of the Eora Nation as the traditional inhabitants and custodians of all land and water in the Georges River region. The Georges River, with its rich resources, was a place where people traditionally gathered and where the Biddegal people have maintained connections to Country.

Council recognises Aboriginal people as an integral part of the Georges River community and highly values their past, present and future social and cultural contributions.

Council is committed to respecting Aboriginal people as Australia's First Peoples. Council has adopted the practice of acknowledging the Traditional Custodians of Country at events, ceremonies, meetings and functions. The Georges River Aboriginal Committee Advisor reinforces this link between Council and the local Aboriginal community, respecting the right to self-determination and community empowerment.

This Action Plan acknowledges the Aboriginal vision of interconnectedness and interdependence of all life forms, humankind, flora and fauna, and all that exists on the Earth. There was a time and season for all life-sustaining activities. Earth, Fire, Sun and Water – Balance among the four basic elements of nature makes it possible to live well and comfortably. Interrelationships and Interconnectedness – take no person, animal, or thing for granted. Everyone and everything has a role and place.

2 Introduction

2.1 Why is an Environmental Resilience Action Plan needed?

Georges River Council has a responsibility to lead by example and demonstrate a commitment to sustainability, by balancing the environmental, social and financial considerations of Council's operations and service delivery. Council is committed to minimising adverse impacts from its activities on the environment and community by incorporating resilience and risk avoidance into its operations within the Georges River Local Government Area (LGA).

This Environmental Resilience Action Plan (Action Plan) seeks to guide Council towards the delivery of its environmental sustainability goals. Georges River Council engaged BMT to develop and prepare this Action Plan.

2.2 What does “environmental resilience” mean?

The term ‘resilience’ can have different meaning depending on the context and the audience. For some, resilience is a term used in disaster response or referring to adaptation to a changing climate. For others, it is a broader term that encompasses how a community responds to a range of challenges, not just environmental ones e.g. economic downturn, pandemics or chronic issues such as poverty.

For the purposes of this Action Plan, Environmental Resilience is defined as:

‘The ability of the natural environment to withstand disturbance and changes such as climate change, pollution or urban growth’.

2.3 What does this Action Plan address?

This Action Plan focuses primarily on how Council intends to reduce the environmental footprint of its own operations, but also how it manages the environmental assets of the Georges River LGA both now and into the future. It considers the health of our environmental assets (waterways, biodiversity and green spaces) and the important role they play in community well-being.

The Action Plan outlines how Council can minimise use of natural resources such as energy, water and materials. It also, explores how we can mitigate future pressure on these assets. A comprehensive adaptation plan addressing climate related risks to Council's operations and assets is outlined in the Georges River Council Climate Change Risk Assessment and Adaptation Planning Report 2021. Conveniently, the key risks and mitigation actions from the Report have been included and referred to in the development of this Action Plan, ensuring this Action Plan is as comprehensive as possible.

This Action Plan celebrates the significant gains that are already being made, but is also a forward-thinking document, that allows for flexibility into the future as new technologies, opportunities and challenges are faced. It is intended to address Council's operational environmental resilience measures from 2022 until 2040.

2.4 What is Council's role?

In this Action Plan, actions relate to two key areas; Council's own operations and the LGA. In order to drive change, Council began reducing its operational carbon footprint the baseline year FY 16/17 and is now in a position of strength to lead by example and support broader community change.

This Action Plan embeds environmental resilience into all aspects of Council's own operations over which it has direct control, such as its buildings, construction projects and public facilities. Council can also influence environmental resilience in the broader community by setting development controls, understanding traditional environmental knowledge, or through the goods and services it purchases. Where Council can influence a positive environmental outcome through its operations, both for the organisation or community this action plan has sort to enhance or expand that program.

Council is a strong collaborator with all levels of government and the private sector to enact local change particularly through its partnerships with groups such as Resilient Sydney, the Southern Sydney Regional Organisation of Councils (SSROC) and the Georges Riverkeeper Program.

Figure 1 shows the scope of collaboration, influence, and control for Council.

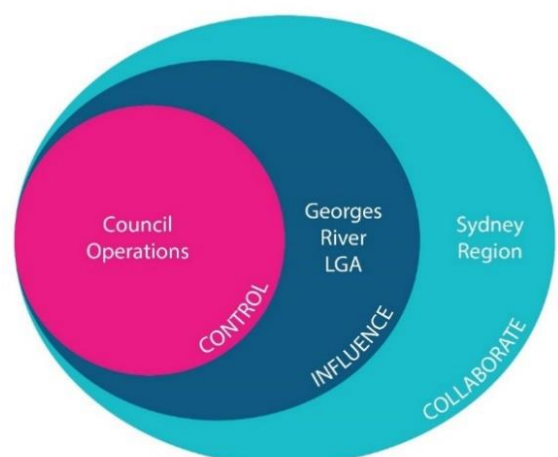


Figure 1: Council Scope for Control, Influence and Collaboration

3 How have we developed this Action Plan?

Initially, a context review was undertaken to identify current environmental sustainability programs and projects that Council was undertaking, and to identify areas for improvement. This was an important first step in informing the development of this Action Plan. The purpose of the review was to:

- Understand the drivers for preparing an Environmental Resilience Action Plan,
- Identify relevant state, regional, national and international targets with which the Action Plan should be consistent,
- Explore what other municipalities are doing, to establish best-practice performance in environmental resilience, through case studies,
- Gain an understanding of existing policy, programs or actions that have already been undertaken and that Council is committed to delivering in the future,
- Benchmark Council's environmental resilience performance to date; and
- Identify next steps to developing a framework for Council.

The review was then presented to a range of internal stakeholders across Council, neighbouring Councils and local community groups with an active interest in environmental resilience to confirm the findings.

After gaining internal feedback, a draft framework and Action Plan were prepared and distributed to internal stakeholders for review and comment; this feedback has been addressed and is incorporated into the Action Plan.

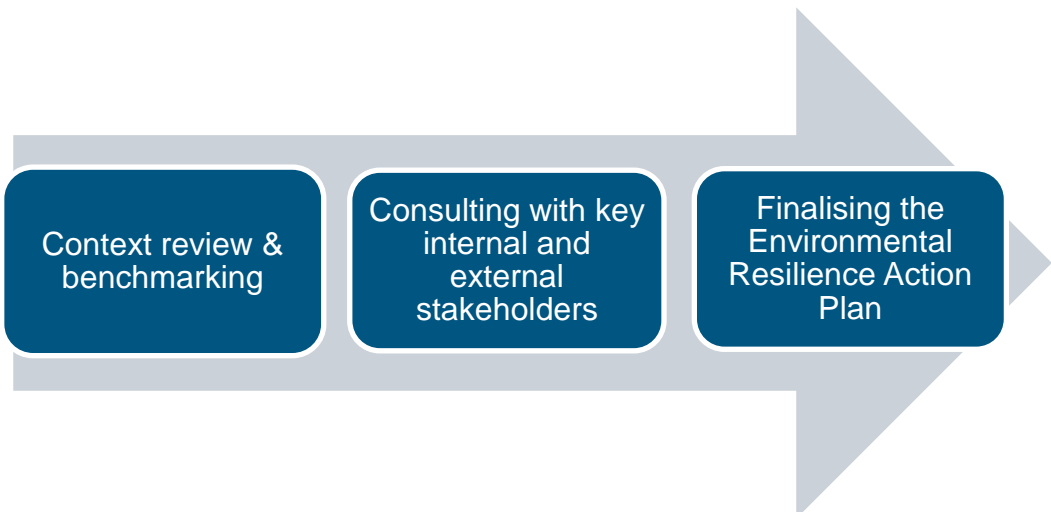


Figure 2: Environmental Resilience Action Plan development process

4 Our Environment

The Georges River area has a network of over 300 parks, reserves and bushland areas. These areas are home to a variety of native flora and fauna, some of which are listed as threatened. The creeks, wetlands and waterways of the Georges River area play a significant role in the well-being of the community, providing quality recreational opportunities as well as intrinsic environmental value.

Unfortunately, urban development and a growing population are generating pollutants that continue to affect the health of local waterways. As a result, environmental impacts such as creek-bank erosion, loss of vegetation, deterioration in water quality and loss of biodiversity have occurred. This Action Plan works to address these impacts, where it is within Council's ability to act.

The residents of the Georges River LGA benefit from having access to large areas of open space near their doorstep. There are also significant benefits to maintaining tree canopy cover in heavily urbanised environments to reduce heat, provide habitat and improve amenity. Expansion of the urban canopy is under way through scheduled and routine tree planting in streets and public reserves, supported through grant-funded and State-led programs such as the Greening Our City program to increase tree plantings throughout the LGA. Council is progressing towards achieving its target of 40% canopy cover by 2038.

The total waste and recycling generation per capita for Georges River Council residents was 0.38 tonnes in FY18/19. Of the 57,900 tonnes of waste generated by Georges River Council residents in FY18/19, approximately 24,000 tonnes were recycled through comingled recycling and garden organics services; that's about the equivalent of 208 000 bins.

It is estimated that Council's baseline carbon footprint for FY 16/17 was approximately 13,000 tonnes of CO_{2e}. Council monitors the greenhouse gas emissions produced as a result of its operations and has recently committed to sourcing all of its energy needs from renewable sources and achieving net zero emissions by 2025.

Approximately 1,000,000 tonnes of greenhouse gases are produced by the community annually, 50% of those emissions are due to electricity and 29.2% transport (Resilient Sydney Kinesis platform 2019-2020). Council can lead by example by embedding sustainability in all procurement decisions, installing solar panels on suitable buildings, and implementing Council's Integrated Transport Strategy.

The majority of employed residents living in Georges River travel outside of the LGA to work. Over 30% of these workers use public transport to reach their workplace, which is higher than the Greater Sydney average (23%), based on 2019 data. Whilst the global COVID-19 pandemic has significantly changed travel and work patterns, in the long term, encouraging public and active transport for trips within and beyond the LGA boundary will be critical for limiting congestion and contributing to healthy lifestyles.

Council facilities such as sporting ovals and swimming pools use significant volumes of potable water and energy. Implementing energy and water management plans for Council's operations helps reduce consumption of potable water at current facilities through more efficient water use and seeking alternative water sources. New facilities will be designed with water efficient features and aligned with best practice design.

CLIMATE



Mean temperatures will increase by **1.9°C** by 2070, with an average of **11** additional hot days (days over 35°C)

41% of waste produced within Georges River LGA is recycled

WASTE



GREENHOUSE GASES



Georges River produces approximately **1 million tonnes** of CO₂e each year based on 2016/17 data

WATERWAY HEALTH



The waterway health of the lower Georges River estuary is rated as **'Good'** by Georges RiverKeeper

RECREATION

Nearly all residents live within **400m** of open space



FAUNA



At least **16** threatened fauna species have been recorded within the LGA over the last 20 years



VEGETATION

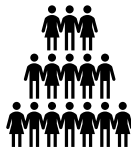
The percentage tree canopy coverage of Georges River is **38%** (including mangroves)

Symbols Courtesy of the Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/symbols/)

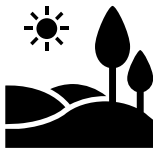
Figure 3: Georges River Council LGA Environment

5 Pressures and Drivers

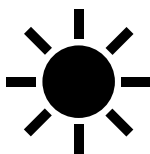
The natural environment is under pressure on a number of fronts and these drivers for change are encouraging communities to reduce their environmental impacts. For the Georges River LGA, these include:



An increasing population: Between 2016 and 2036, the population is forecast to increase by 20.8%, placing additional pressure on existing natural areas and resources.



Loss of biodiversity: Following the 2019/2020 bushfires, more than 12 million hectares of Australian bush was burnt, placing further pressure on remaining natural areas that support wildlife. Much of the original remnant vegetation has been cleared from Georges River. A 2014 study shows less than 10% of the pre-1750 original extent of remnant vegetation remains, making those areas (mostly along the Georges River foreshore) increasingly important. This remnant vegetation is continually under stress from vegetation clearing, weed invasion, urban development, polluted stormwater runoff, domestic pets, feral animals and climate change. Already, ecological communities including Coastal Saltmarsh along the foreshores of Georges River are particularly vulnerable to sea level rise.



A changing climate: Georges River is projected to encounter higher average temperatures and more hot days in the future. The NSW Department of Planning, Industry and Environment (AdaptNSW) estimate, by 2030 an additional 5-10 days hot days annually, with temperatures over 35 degrees experienced across the region. Its tidal areas will also experience some permanent inundation due to sea level rise, although this is mostly confined to public open-space areas. Council's assets and activities will need to prepare for and adapt to this changing climate and to extreme weather events.



A climate emergency: In response to the Paris Climate Agreement to limit the increase in global temperature to below 2°C, the NSW Government has set the objective of achieving Net Zero Emissions for community by 2050. Council has a role to play by reducing its own greenhouse gas emissions. Council committed to a net zero emissions target by 2025 for Council operations.



The circular economy: As the exporting of domestic waste is phased out, the drive for a circular economy, which aims to design waste out of the economy, is taking hold across NSW.



Health and well-being: There are health and wellbeing benefits associated with being in nature. Now, more than ever, the benefits of quality local green spaces in providing opportunities for recreation are being recognised.



Drought: 2019 saw prolonged drought and widespread water shortages across the state, with some towns running out of water completely. Georges River Council can help reduce the burden on resources by improving its conservation and reuse of water through stormwater harvesting.



Waterway health: The Georges River is an integral part of the LGA, supporting both ecological and community outcomes. Maintaining the health of the River is a key aspect of the region's identity.

6 Strategic Context

This Action Plan draws upon and responds to the frameworks and policies that support environmental resilience at all levels of governance (globally, nationally and regionally) as outlined in Table 1.

Many of Council's existing strategies already have significant environmental objectives and targets embedded; the most relevant documents that have informed development of this Action Plan are summarised below, and how they relate to each other illustrated in Figure 4.

Table 1: Global and Local Strategic Context

Level of Governance	Reference Frameworks and Policies
International	<ul style="list-style-type: none"> Sustainable Development Goals United Nations
National	<ul style="list-style-type: none"> National Climate Resilience and Adaptation Strategy 2015 Department of Agriculture, Water, and the Environment National Waste Policy 2019 Department of Agriculture, Water, and the Environment Resilience and Transformation, Preparing Australia for Uncertain Futures 2010 CSIRO
State	<ul style="list-style-type: none"> NSW Critical Infrastructure Resilience Strategy 2020 NSW Department of Justice Office of Emergency Management Sustainability Strategy 2015-2020 Office of Environment and Heritage Environment Protection Authority
Regional	<ul style="list-style-type: none"> Resilient Sydney 2018 City of Sydney Greater Sydney Regional Plan A Metropolis of Three Cities Greater Sydney Commission Georges River Estuary Coastal Zone Management Plan 2013 Georges River Combined Councils' Committee
Local	<ul style="list-style-type: none"> Community Strategic Plan 2018-2028 Georges River Council Georges River 2050 Leading for Change Georges River Council Georges River LSPS 2040 Georges River Council

6.1 The United Nations (UN) Sustainable Development Goals

The UN Sustainable Development Goals (SDGs) set out a framework of 17 transformational goals to tackle global social, economic and environmental challenges. These goals have been broadly adopted internationally at all levels of government. This Action Plan is aligned to the UN SDG's which have determined key themes upon which our objectives and targets have

been developed, to address specific localised environmental issues. The following six UN Sustainable Development Goals have been prioritised as follows:

- Affordable and Clean Energy – Goal 7
- Sustainable Cities and Communities – Goal 11
- Responsible Consumption and Production – Goal 12
- Climate Action – Goal 13
- Life Below Water – Goal 14
- Life on Land – Goal 15.

6.2 Resilient Sydney – A Strategy for City Resilience 2018

Resilient Sydney (City of Sydney, 2018) is a plan to improve the resilience of metropolitan Sydney, including the Georges River LGA, to shock events and chronic stresses. It aims for Sydney to become “connected, inclusive and resilient” to change. It sets key environmental objectives for the metropolitan area relating to energy and climate change, water management, greening and nature, recycling and waste, and transport options.

6.3 Georges River Estuary Coastal Zone Management Plan 2013

The Georges River Estuary Plan (BMT, 2013) addresses future land use and environmental planning across a number of local councils along the Georges River estuary. This document is to be consulted during all reviews of planning instruments for Council; and is currently under review. The Plan focuses on five high-priority issues, which are:

- Optimising water quality,
- Protecting and restoring aquatic and riparian habitat,
- Minimising the negative impacts of development in the catchment on waterway health,
- Managing bank erosion and sedimentation; and
- Planning for and adapting to sea level rise.

6.4 Georges River 2050: Leading for Change 2020

Georges River 2050: Leading for Change is forward-thinking strategy which envisages the future of Georges River and sets an ambitious agenda for a better future towards a 30-year outlook. Of particular relevance is its focus on a city that is “connected, naturally”. It sets an objective for the Georges River area to be *‘an accessible, green, diverse and innovative place, community and economy. In 2050, Georges River is Connected, Naturally’*.

6.5 Local Strategic Planning Statement 2020

The recently released Local Strategic Planning Statement guides land-use planning and the delivery of significant infrastructure within the Georges River LGA. In relation to environment and open-space land uses, the plan focuses on:

- Increasing open space close to homes,
- Improving blue (waterways) and green (vegetation) corridors,
- Encouraging environmentally friendly development; and
- Improving the ability to respond to hazards and risks.

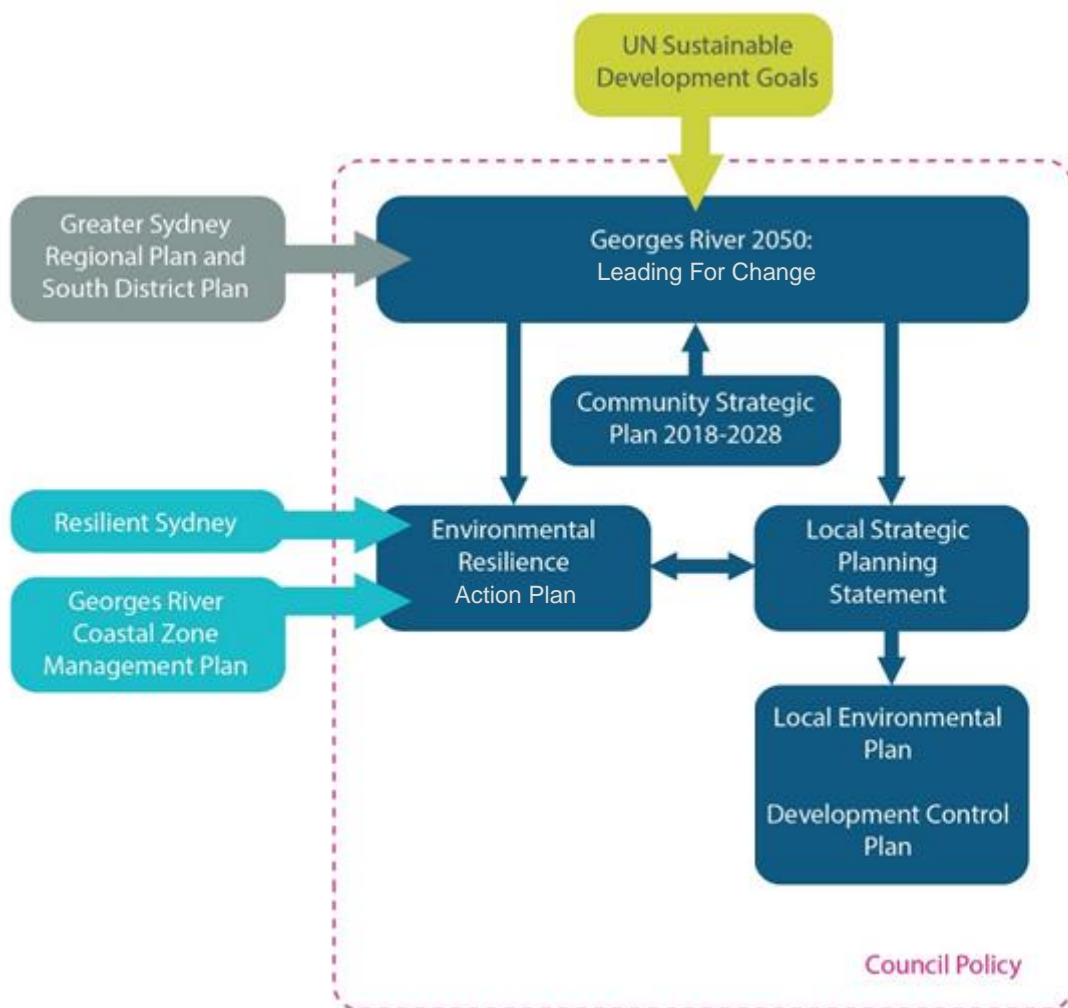


Figure 4: Interaction of Environmental Resilience Action Plan with other Key Strategies, Plans and Visions

7 Vision and Objectives

7.1 Vision

Our Environment and Sustainability Vision is that:

'Georges River Council is committed to protecting and enhancing the natural environment by reducing our impact and empowering others to do so'.

We developed our vision in consultation with the community and internal stakeholders. It is a vision specific to the Georges River community but guided by broader targets and measures identified on a local, regional, state, national and international level, including Council's Community Strategic Plan, Leading for Change 2050, LSPS 2040 and the Greater Sydney Commission South District Plan. These documents seek strong environmental outcomes and endorse Council's responsibility as a leader to inspire everyone in protecting and nurturing the natural environment.

7.2 Objectives

Councils' environmental resilience objectives are outlined in Figure 5 and as follows:

Responsible Consumption and Production

- We will move towards more responsible purchasing of goods and services required by Council.
- Council will effectively manage and work to reduce the waste produced by the community and divert more of it from landfill.
- Our construction and asset maintenance activities will have a reduced environmental footprint.
- We will mitigate the impacts of drought and use water responsibly.

Climate Action & Clean Energy

- Our built and natural assets will adapt with a changing climate.
- Council will purchase its energy from renewable sources.
- Council's operations will achieve net zero emissions.

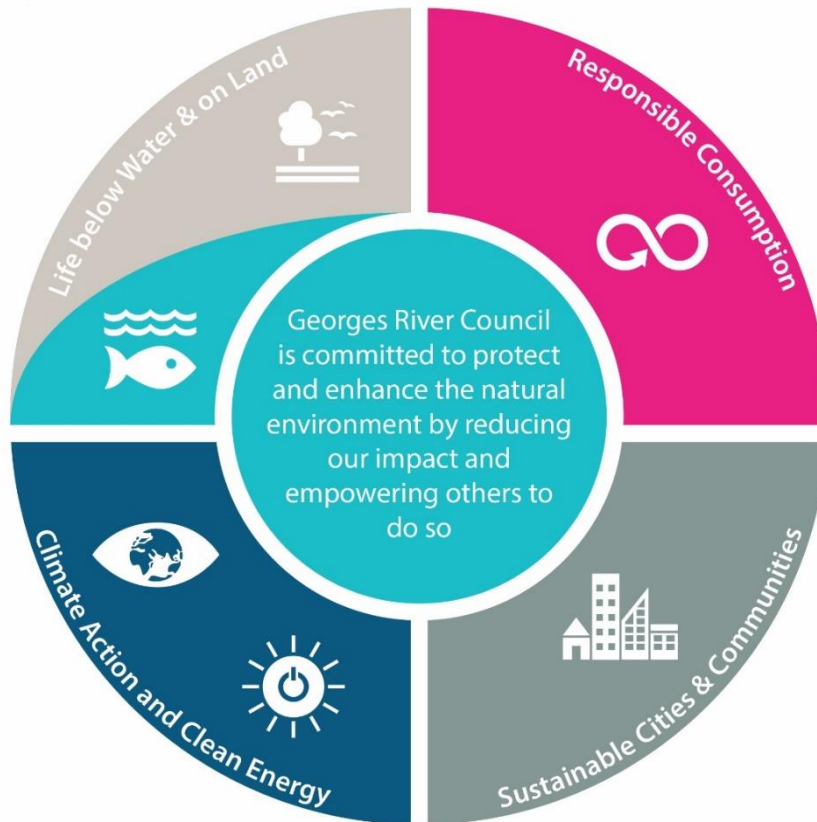
Sustainable Cities and Communities

- Council will promote sustainable urban development through forward-thinking planning controls.
- Our open spaces will be diverse and support and encourage community well-being.
- We will adopt sustainable event practices.
- Council will facilitate better access to public and active transport networks.

Life Below Water and on Land

- We will nurture our green spaces to protect biodiversity.
- We will do our part to keep the Georges River catchment healthy and accessible to the community.

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- Our construction and asset maintenance activities will have a reduced environmental footprint
- We will mitigate the impacts of drought and use water responsibly



- Our built and natural assets will adapt with a changing climate
- Council will purchase its energy from renewable sources
- Council's operations will achieve net zero emissions

- Council will facilitate better access to public and active transport networks
- Council will promote sustainable urban development through forward-thinking planning controls
- Our open spaces will be diverse and support and encourage community well-being
- We will adopt sustainable event practices

Symbols Source: United Nations, Department of Economic and Social Affairs
<https://sdgs.un.org/goals>

Figure 5: Council's Environmental Resilience Vision and Objectives

8 Actions

Council has already undertaken or commenced many actions that contribute to improving its environmental and sustainability performance and aspires to future actions that steadily improve performance. The following sections outline actions that Council is already undertaking, as well as the targets to be achieved, additional actions to meet them and the timeframes for undertaking action i.e. short term (next five years), medium term (5-10 years) and long term (beyond 10 years).

8.1 Responsible Consumption and Production

The United Nations (UN) reports that the world's material footprint (the materials that are used globally to support economic growth) grew by 17.4 per cent in 2017 in comparison to 2010. As an organisation, Council uses a large quantity of natural resources every day to carry out its activities including, for example, maintaining roads, watering sports grounds and powering libraries. It is also responsible for collecting and processing waste produced by the community.

Responsible consumption is about doing more and better with less. Making an informed decision about the resources Council consumes can not only minimise environmental impacts associated with producing these resources but can also potentially save Council money and boost the local, circular economy.

Council can also work with the community and businesses to raise awareness about responsible consumption to help reduce the use of resources across the LGA.

The NSW Government released the NSW Waste and Sustainable Materials Strategy 2041 Stage 1 Plan: 2021–2027 in June 2021. The NSW Government have committed to several targets within this State Strategy and outline what action will be taken over the next 6 years to move towards a circular economy.

The State Strategy mandates for separate collection of food and garden organics from all NSW households by 2030. This is a target which can be met through Council's provision of waste collection services, with the support of the NSW Government.

Council will work in collaboration with the State Government, where State or grant funding can be provided, to assist with delivery of such targets at a local level. Targets outlined in Table 2 are included to meet Council's responsibility toward the NSW Waste and Sustainable Materials Strategy 2041. The Georges River Waste Strategy 2021-2040 was endorsed in March 2021 and will be amended during its review period to include the updated strategic State direction.

The actions under this theme are related to the following topics:

- Sustainable procurement
- Water use
- Waste management and resource recovery.

Table 2: Responsible Consumption and Production Targets and Actions

Responsible Consumption and Production	
<p>Targets:</p> <ul style="list-style-type: none"> • All tenders posted by Council will include sustainability and/or consumption requirements. • 75% of waste is diverted from landfill by FY 21/22 (Council's Waste Strategy 2021-2040) • 100% of households to have access to a separate collection of food and garden organics by 2030 (NSW Waste and Sustainable Materials Strategy 2041) • No single-use plastics are used at Council-run events or facilities by FY 20/21. • Maximise opportunities to avoid and reduce potable water use. 	
<p>What is Council already doing?</p> <ol style="list-style-type: none"> 1. Prepared a policy that will prevent the use single-use plastics (plastic bags and plastic straws) at Council events or facilities. 2. Prepared a Waste Management Strategy designed to deliver an environmentally and economically sustainable waste management system for the next 20 years. 3. Provided residents with a regular comingled recycling bin collection service. 4. Provided a weekly e-waste drop-off service and Return and Earn Reverse Vending Machine. 5. Doubled the number of Chemical Clean-Out events for the disposal of hazardous materials. 6. Provided waste education programs for schools and community groups to encourage reuse and recycling. 7. Implemented best practice water-saving methods for major water using facilities, particularly sports fields. This includes irrigating only in the early morning, using soil wetters to allow greater infiltration, monitoring for rain events and pausing watering. 8. Water billing data is monitored for anomalies in order to identify leaks. 9. Implemented a number of stormwater harvesting projects, i.e. using water captured in the Upper Boggywell Creek stormwater treatment ponds to irrigate nearby sporting fields. 10. Preparing for and responding to the NSW Waste and Sustainable Materials Strategy 2041 released during mid-2021. 	
What is Council working towards?	Timeframes
1. Undertaking a waste audit of Council buildings, assets and operations to identify further opportunities to reduce, reuse or recycle.	Short
2. Developing a Water Management Plan (WMP) once all the efficiency measures recommended in the 2018 - 2022 plan have been implemented. The WMP will identify water efficiency opportunities for high water use facilities, for example golf	Short

Responsible Consumption and Production	
courses and leisure centres. Alternate water sources will be considered for Council operations.	
3. Investigating the value of seeking sustainability ratings of applicable Council construction projects to achieve best practice and Council's sustainable procurement goals during construction.	Medium
4. Developing a sustainable Procurement Policy position to ensure Council's purchasing decisions and practices align with Council's renewable energy, energy efficiency and sustainable transport goals.	Medium
5. Implementing food and garden organics collections for residents in line with NSW Government Strategy.	Short
6. Contributing to a regional policy and review collective procurement arrangements for alternative waste technologies i.e. Anaerobic Digestion, pyrolysis, waste to energy etc).	Medium
7. Investigating user-pays principles for residential and commercial waste collections to incentivise waste minimisation.	Short
8. Maximising the diversion of kerbside clean-up materials from landfill through a regional collection contract.	Medium
9. Adopting best practice sustainable design principles in new developments through the LEP 2021 Environmental Sustainability clause.	Medium
10. Providing support or funding for local not-for-profits that encourage sustainable practices, such as community gardens and/or food rescue, where the project or purpose assists Council in meeting its targets.	Long
11. Providing a dedicated Event Sustainability Marshall or similar role to ensure compliance at major events.	Short
12. Assisting community groups to reduce single-use plastic at events in Council facilities.	Short

8.2 Sustainable Cities and Communities

A sustainable community can be defined as one that promotes sustainable living with a focus on balancing environmental, social and economic well-being. The CSIRO reports that Australia's cities are highly liveable but face significant and growing pressures such as climatic and atmospheric changes, changing population demographics, and new business models. This will require different ways of planning health and well-being, infrastructure, open space and housing needs.

It is important to Georges River to create an urban environment that celebrates water and nature and to develop a collective identity that nurtures connection to the natural environment.

While this Action Plan focuses primarily on environmental resilience (as opposed to social or economic resilience), Council can contribute to a sustainable community by providing quality urban and natural spaces for its residents as well as encouraging sustainable urban growth through planning controls. It can also contribute to the NSW Government's target of creating a 30-minute city by facilitating access to public and active transport.

The actions under this theme are related to the following topics:

- Development and planning
- Sustainable transport
- Sustainable communities and events
- Air quality.

Table 3: Sustainable Cities and Communities Targets and Actions

Sustainable Cities and Communities
<p>Targets:</p> <ul style="list-style-type: none"> • Increase community satisfaction levels, measured through the percentage scored in the categories of “satisfied” and “very satisfied”. • Sustainability Guidelines will be enforced for all major Council-run events and community run events in a Council facility. • Increase the percentage of trips made to/from the LGA by public transport and active transportation modes, reducing car trips. Based on Georges River Council's “Transport by Mode” baseline FY 16/17 figures (Train 24.2%, Bus 5.4%, Walked 2.7%, Other mode 2.7%). • Host a minimum of four educational workshops annually around sustainable lifestyle choices, including topics such as waste reduction, reducing energy use, composting etc.
<p>What is Council already doing?</p> <ol style="list-style-type: none"> 1. Created the Georges River Walk, to encourage active living and greater recreational opportunities along the river. 2. Prepared an Open Space, Recreation and Community Facility strategy. 3. Developed Sustainable Guidelines for Council run events. 4. Provided education workshops and initiatives targeting residents, businesses, and schools to encourage waste minimisation and local sustainability. 5. Provided controls in Council's Development Control Plan (DCP) 2021 and the Local Strategic Planning Statement (LSPS) which stipulate the provision of facilities to support car and ride-sharing in high-density residential and commercial centres. 6. Incorporated provisions in Council's DCP 2021 from the LSPS, that encourage people to walk or cycle around local neighbourhoods. 7. Regulated the use of domestic solid-fuel heaters within the LGA to maintain air quality. 8. Adopted flexible working practices which allow staff to work from home, reducing emissions associated with commutes.

Sustainable Cities and Communities	
9. Resolved to transition Council's fleet and lease back vehicles to hybrid and eventually electric vehicles.	
What is Council Working Towards?	Timeframes
1. Preparing a Sustainable Travel Plan for Council staff to reduce the number of trips made by car both travelling to, and for, work.	Medium
2. Considering engaging a dedicated Sustainable Transport Officer to support active transport measures across Council.	Medium
3. Increasing active and passive transport across the LGA (through implementation of our Integrated Transport Strategy).	Long
4. Encouraging new development through the DCP 2021 to reduce car dependence with the provision of end of trip facilities, bicycle parking, car share and small vehicle parking spaces, electric vehicle sharing stations and green travel plans.	Medium
5. Implementing a car-sharing trial to test car-share in Hurstville and Kogarah to inform the development of a Car Share Policy for the LGA, as well as introducing care share zones at major destinations.	Medium
6. Collaborating with Transport for NSW to optimise public transport options for the LGA.	Long
7. Advocating for the Kogarah to Parramatta rail link ('River Rail' link) to sustain the growth of Sydney without congestion.	Short
8. Actively facilitating the installation of Electric Vehicle charging network across the LGA.	Medium
9. Promoting car share parking spaces.	Medium
10. Delivering the priority projects identified in the Georges River Foreshore Access and Improvement Plan, including key headline projects, i.e. access links between Clarendon Road to Riverwood Park, Oatley Park to Yarran Road, Dover Park East Foreshore and Sans Souci Park.	Medium
11. Seeking opportunities within new development to integrate nature and water into our streetscapes.	Short
12. Preparing a 'sustainability design guide' for new Council building/construction works to assist in choosing sustainable design options.	Short

Sustainable Cities and Communities	
13. Promoting sustainable recreation within our parks by enabling more opportunities to retreat from urban life and connect with nature, for example, peaceful spaces, bushwalking, cycling, environmental education and nature-based play.	Short
14. Creating sustainable event guidelines for non- Council events held in community facilities.	Short
15. Holding a Sustainability Festival or Open Day event or initiative to highlight local sustainable businesses and products.	Short
16. Using our LEP, LSPS, DCP and other planning instruments to allow and mandate for more sustainable development.	Short

8.3 Life Below Water and On Land

To maintain a sustainable community, our natural environment needs to be appreciated, protected and enhanced. This involves maintaining functional waterways and ecosystems for both wildlife and the community to use. Vegetation corridors for habitat are most prevalent along the foreshore areas, particularly in the south and west of the LGA. Council can help protect and enhance habitat areas that support wildlife by managing weeds, protecting existing vegetation, increasing planting regimes, reducing litter that enters waterways and connecting vegetated corridors.

Improving the quality of habitat will promote resilience and support its ability to adapt in a changing climate. A focus for Council is protecting existing trees and growing the urban tree canopy. This will provide multiple benefits including improved amenity, better air quality, carbon sequestration, cooler urban environments and wildlife habitat.

Also critical is the protection and enhancement of the LGA's estuarine and saltmarsh communities, which are threatened by rising sea levels. These communities provide important nursery areas for marine life.

The actions under this theme are related to the following topics:

- Biodiversity
- Open space, bushland and urban forest
- Soil and landscape management
- Healthy catchments and waterways.

Table 4: Life Below Water and On Land Targets and Actions

Life Below Water and On Land	
<p>Targets:</p> <ul style="list-style-type: none"> • Increase tree canopy cover across the LGA to 40% by 2038. • Expand threatened vegetation in Council reserves, to a target of 10% coverage across the LGA, with particular emphasis given to landward saltmarsh expansion. • Ensure landscaped areas in new developments retain existing trees or provide replacement trees for every tree removed in line with Council's Tree Management Policy. If there are not trees on a site, a percentage of the total site area must allow for deep-soil planting of one or more suitable mature tree species within the landscaped area of the site. • Maintain and enhance habitat for all threatened plants and animals that currently inhabit the LGA, progressing towards Council's canopy coverage target. • Contribute to improvement of the Georges River lower estuary river health grades, as scored by the Georges Riverkeeper Program. 	
<p>What is Council already doing?</p> <ol style="list-style-type: none"> 1. Encouraging biodiversity in private gardens through provision of the Backyard Biodiversity Guide. 2. Planting over 1,000 native trees and shrubs each year through planting days and giving away over 1,000 trees and shrubs and perennials through annual give-aways. Note, this initiative has been disrupted by the COVID-19 pandemic for the past two years. 3. Supporting and promoting bushcare activities throughout the LGA. 4. Completed a Biodiversity Study for the whole LGA. 5. Funding a dedicated Biosecurity Officer through available grants to deliver weed and pest eradication programs and education programs. 	
What is Council working towards?	Timeframe
1. Implementing recommendations from the Biodiversity Study 2020-21.	Medium-Long
2. Preparing and implementing management plans for our threatened Ecological Communities and species, including the threatened Grey-headed Flying-fox within Myles Dunphy Reserve, Oatley.	Medium
3. Preparing and implementing dedicated Vegetation Management Plans and/or Corridor Greening Plans to strengthen connectivity of existing areas of remnant vegetation.	Medium
4. Revegetating our open spaces to protect and restore Threatened Ecological Communities and remnant vegetation, particularly along existing vegetation and waterway corridors.	Medium-Long

Life Below Water and On Land		
5.	Continuing to monitor and minimise weed prevalence in the LGA's green spaces.	Short
6.	Reducing litter in the environment by combating illegal dumping, improving the capacity of public bins and litter catching (for example, gross pollutant trap installation and monitoring program).	Long
7.	Increasing collaboration with other government and non-government stakeholders in the management of feral animals, led by the SSROC Pest Animal Action Network.	Short
8.	Strategically reducing populations of feral animals in the LGA by preparing a local Feral Animal Management Plan, with follow-up control programs focusing on the priority species of foxes, rabbits, feral cats, Indian mynas and Red-eared Slider Turtles.	Medium-Long
9.	Preparing and implementing a Significant Tree Register for the LGA, particularly focused on protecting mature hollow-bearing trees	Short
10.	Establishing a comprehensive internal mapping system for monitoring actual trees planted and those removed on public and private land.	Short
11.	Utilising and integrating traditional Indigenous knowledge and land management techniques for threatened species recovery and conservation management where available and appropriate.	Medium
12.	Creating 'living waterways' through Water Sensitive Urban Design (WSUD), which is an approach and framework that encourages collaboration and the integrated planning and design of urban water systems.	Medium-Long
13.	Contributing to and implementing an updated Georges River Council Estuary Coastal Zone Management Plan to accommodate sustainable population growth, and the use and protection of resources.	Medium to Long
14.	Participating in the Georges Riverkeeper Research Group to inform future projects and direct targeted action to waterway and catchment management protection projects.	Short

Life Below Water and On Land	
15. Advocating through collaboration with the NSW EPA, for improvements in the Georges River LGA sewerage system infrastructure by Sydney Water Corporation (SWC) to prevent pollution incidents.	Short
16. Exploring opportunities to expand saltmarsh and estuarine vegetation communities through habitat creation.	Short

8.4 Climate Action & Clean Energy

Council produces greenhouse gases mostly through electricity use in its facilities, but also by using fuel in its vehicles and gas for heating Council aquatic centres. It is estimated that Council's baseline carbon footprint for FY 16/17 was approximately 13,000 tonnes of CO_{2e}. As well as reducing its emissions, Council also needs to understand and mitigate the risks to its assets from a changing climate.

Council can take a leadership role through its operations, enabling and demonstrating how residents and businesses can reduce their emissions and prepare for climate change. The actions under this theme are related to the following topics:

- Renewable energy
- Greenhouse gases
- Climate change adaptation.

Table 5: Climate Action and Clean Energy Targets and Actions

Climate Action & Clean Energy
<p>Targets:</p> <ul style="list-style-type: none"> • 100% of Council's electricity is supplied from renewable energy sources on an ongoing basis by 2025. • Net zero emissions are achieved for Council operations by 2025.
<p>What is Council already doing?</p> <ol style="list-style-type: none"> 1. Measuring and monitoring the operational carbon footprint of Georges River Council. 2. Auditing energy use at Council's largest facilities. 3. Implementing energy efficiency and renewable energy projects across Council facilities through the Revolving Energy Fund. 4. Undertaking a climate change risk assessment to identify which Council operations and services are at risk. 5. Undertaking an assessment of areas within the LGA subject to permanent sea-level rise. 6. Updated planning controls in the LEP to protect people and property from coastal hazards, like sea-level rise.

Climate Action & Clean Energy	
<p>7. Certified the Georges River Bush Fire Prone Land Map completed by the Rural Fire Service.</p> <p>8. Prioritised areas to increase tree canopy by using urban heat assessment to identify areas of the LGA that will be most vulnerable to a hotter climate.</p> <p>9. Monitoring and replacing trees as per the Tree Management Policy.</p> <p>10. Providing residents with advice on renewable energy opportunities and making their homes more energy efficient.</p> <p>11. Adapting Council's risk assessment processes to consider climate change when planning new projects or upgrading existing assets.</p> <p>12. Producing Sustainable Event Guidelines to ensure sustainability is included and prioritised in the delivery of major projects.</p> <p>13. Engaging and partnering with volunteer organisations included in the Local Emergency Management Committees such as Rural Fire Service, St John's Ambulance, Georges Riverkeeper etc, and support them where possible for future preparedness.</p> <p>14. Transitioning passenger and light vehicle fleet to hybrid vehicles and evaluating a plan for progression towards an entirely electric vehicle fleet.</p>	
What is Council Working Towards?	Timeframe
1. Achieving net zero carbon emissions by implementing energy efficiency, renewable energy measures.	Medium
2. Council's electricity supplier will provide 100% renewable energy to Council and its Large-scale Generation Certificates (LGC's) will be retired.	Short
3. Transitioning Council's vehicle fleet to hybrid and electric vehicles	Medium-Long
4. Once all efficiency measures recommended by the Energy and Water Management Plan 2018 have been implemented or further assessed for viability, a secondary Energy Management Plan will be produced to reassess Council's top energy consuming facilities for further emission reduction potential.	Short
5. Investigating the feasibility of battery storage options for key facilities to manage loads and take advantage of electricity generated by solar panels.	Short
6. All new Council assets will be assessed for solar suitability.	Short
7. Including energy efficiency measures and renewable energy sources in all applicable new Council buildings or construction projects from the concept design stage.	Short - Medium

Climate Action & Clean Energy	
8. Making our community facilities as sustainable as possible i.e. low energy/water use.	Short - Medium
9. Completing the replacement of streetlights with more energy-efficient bulbs in the LGA.	Short-medium
10. Promoting the use of sustainable transport methods when commuting to work, both for Council workers and the general community.	Short-medium
11. Encouraging greater uptake of green infrastructure, such as green roofs and rain gardens, through planning controls in Councils Development Control Plan 2021 (DCP).	Medium
12. Encouraging energy efficient and climate-conscious development through planning controls.	Medium
13. Participating in the 'Greening Our City' project, greening our city by planting trees across Sydney's urban environments and sequestering carbon.	Short-Medium
14. Identifying other opportunities to sequester carbon within our open spaces and along our waterways by restoring wetlands, improving estuarine habitat and investigating land management practices that sequester carbon.	Short-Medium
15. Supporting low-income households to install solar energy, by promoting NSW government "Solar for Low Income Households" Program.	Short
16. Developing education and behaviour-change programs to support local residents and businesses to tackle climate change through clean energy, energy efficiency and sustainable transport. This will include offering incentives, support or grants.	Short-Medium
17. Increasing collaboration with other government and non-government stakeholders to support an accelerated response to climate change.	Short
18. Update the Local Emergency Management Plan and Corporate Government Framework to ensure climate change risks are adequately addressed.	Short
19. Provide a dedicated local Emergency Management Officer responsible for overseeing Council's emergency response and resilient recovery.	Short-Medium
20. Continue with representation on Resilient Sydney Program.	Short

Climate Action & Clean Energy	
21. Collaborate with local Rural Fire Brigades to undertake more low-moderate intensity hazard reduction burns in areas of vegetation senescence.	Short
22. Improving the management of our physical assets to build their resilience to a changing climate.	Medium
23. Developing criteria for assets to be constructed to withstand a changing climate.	Short - Medium
24. Reviewing the Corporate Governance Framework to integrate and embed climate change risk mitigation and adaptation strategies.	Short

9 How will Council implement this Action Plan?




This Action Plan will be reviewed every five years and annual reporting will be undertaken against each target within this document in accordance with the review framework provided below.



Whilst this document is forward-looking and caters for future needs, it also needs to be flexible to take into account rapid changes now taking place in our urban spaces and how they are managed. It is intended that the implementation of this Plan will be regularly updated to reflect emerging trends, available data, policy direction and changing technologies.

Each action will be assigned to a particular role or department, which will be responsible for delivery of these actions. Table 6 summarises the UN Sustainable Development Goals Council is working toward, its targets and Key Performance Indicators (KPIs).

Table 6: Targets and KPIs for each environmental resilience theme

Themes	Targets	Key Performance Indicators
Responsible Consumption 	All tenders posted by Council will include sustainability and/or consumption requirements.	Sustainability criteria in all Council tenders and Request for Quote (RFQs)
	75% of waste is diverted from landfill by FY 21/22 (Council's Waste Strategy 2021-2040).	% of waste diverted from landfill
	100% of households to have access to a separate collection of food and garden organics by 2030 (NSW Waste and Sustainable Materials Strategy 2041).	% of households
	No single-use plastics are used at Council-run events or facilities by FY 21/22.	% of compliant facilities at events

Themes	Targets	Key Performance Indicators
	Maximise opportunities to avoid and reduce potable water use.	Total amount of potable water use
Sustainable Cities and Communities 	Increase community satisfaction levels, measured through the percentage scored in the categories of “satisfied” and “very satisfied”.	% scored in each category from the satisfaction survey
	Sustainability Guidelines will be enforced for all major Council-run events and community-run events in a Council facility.	100% of major events
	Hosting a minimum of four educational workshops annually around sustainable lifestyle choices, e.g. waste reduction, reducing energy use, composting etc.	Number of events
	Increasing the percentage of trips made to/from our LGA by active and public transportation modes, and reducing car trips based in Georges River Council from “Transport by Mode” baseline FY 16/17 figures.	% trips
Land Below Water and On Land  	Increase tree canopy cover across the LGA to 40% by 2038.	% mapped tree canopy cover
	Expand threatened vegetation in Council reserves to a target of 10% cover across the LGA, with particular emphasis given to landward saltmarsh expansion.	% of mapped threatened vegetation communities within the LGA
	Ensure landscaped areas in new developments retain existing trees or provide replacement trees for every tree removed in line with Council’s Tree Management Policy. If there are not trees on a site, a percentage of the total site area must allow for deep-soil planting of one or more suitable mature tree species within the landscaped area of the site.	Percentage of deep-soil planting areas within landscaped area on a new site
	Contribute to improvement of the Georges River lower estuary river health grades, as scored by the Georges Riverkeeper Program.	Health score
	Maintain and enhance habitat for all threatened plants and animals that currently inhabit the LGA. progressing to Council’s canopy coverage target.	Significant Tree Register adopted and implemented by Council. Biodiversity Study and resulting recommendations completed by Council
Climate Action and Clean Energy	100% of Council’s electricity is supplied from renewable energy sources on an ongoing basis by 2025.	Target met by Council, % of renewable energy supplied

Themes	Targets	Key Performance Indicators
 	<p>Net zero emissions for Council operations by 2025.</p>	<p>Carbon footprint inventory, % of reduction and % of carbon offsets purchased to achieve neutrality</p>

9.1 Monitoring and Reporting

Progress toward the Environmental Resilience Action Plan targets will be reported in Council’s annual reports in accordance with the review framework provided in Table 6. Progress toward the targets and milestone achievements will be monitored by the internal Environmental Resilience Committee.

9.2 How will Council fund the Action Plan?

The actions outlined in this Action Plan will be funded through the operational and capital works budgets, grants and savings made through efficiencies. Council has identified climate change as a significant risk to its operations and the community. In addressing this, a new approach to design, procurement and asset management will be adopted to ensure environmental resilience considerations are prioritised and embedded into business processes and budgeting from the outset.

Council will also seek external grant funding where available from Federal and State Governments and other agencies.

10 Glossary and Abbreviations

BASIX	Building Sustainability Index is a NSW Government planning requirement that sets out a number of conditions that must be adhered to by anyone submitting a Building Application for a new development. It outlines minimum sustainability targets for new and renovated homes.
Biodiversity	The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.
Carbon sequestration	The process of capturing and storing atmospheric carbon dioxide, e.g. tree habitat rehabilitation.
Clean energy	Indicative of renewable resources such as solar, wind and hydro power.
DCP	Development Control Plans is a document prepared by the Council which provides detailed guidelines which assist a person proposing to undertake a development.
Environmental assets	e.g., waterways, biodiversity and green spaces.
Environmental footprint	Also known as ecological or carbon footprint, measures the level of consumption of environmental resources.
Environmental resilience	The ability of the natural environment to withstand disturbance and changes such as climate change, pollution, or urban growth.
Estuary	An area where a freshwater river or stream meets the ocean.
Green financing	Financial investments flowing into sustainable development projects and initiatives, environmental products, and policies that promote a more sustainable economy.
Greenhouse gases	Gases in the earth's atmosphere that trap heat including carbon dioxide and methane.
LEPs	Local Environmental Plans guide planning decisions for local government areas (LGAs).
LGA	Local Government Area is an administrative division of a country that a local government is responsible for.
LSPS	Local Strategic Planning Statement focuses on the visions and priorities for land use in the local area.
Municipality	A city, town, or other district possessing corporate existence and usually its own local government.
Natural resources	e.g. energy, water, raw materials
Net-zero emission	Achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions removed from the atmosphere. Also known as carbon neutral, but different to zero emissions which suggests no emissions produced initially.
NSW EPA	NSW Environmental Protection Authority is the primary environmental regulator for NSW.
Rain gardens	A garden of native shrubs, perennials, and flowers planted in a small depression, generally formed on a natural slope.
Revolving energy fund	Financing to implement energy efficiency, renewable energy and other sustainability projects that generate cost savings.
Riverkeeper	A person or organisation responsible for the maintenance and upkeep of a river.

BASIX	Building Sustainability Index is a NSW Government planning requirement that sets out a number of conditions that must be adhered to by anyone submitting a Building Application for a new development. It outlines minimum sustainability targets for new and renovated homes.
Saltmarsh	Coastal wetlands that are flooded and drained by salt water brought in by tides. Generally composed of deep mud and peat which is comprised of decomposing plant matter.
Sedimentation	The process of particles (or sediments) settling to the bottom of a body of water.
Action Plan	Referring to the Environmental Resilience Action Plan.
Sustainable procurement	The act of adopting social, economic, and environmental factors into procurement processes and decisions, also ensuring they meet the requirements of the company and its stakeholders.
United Nations SDG's	United Nations Sustainability Goals constitute a framework of 17 goals to tackle global social, economic and environmental challenges.
Urban canopy	Also known as tree canopy cover, is the layer of tree leaves, branches, and stems from all publicly and privately owned trees, forests, and understory within urban settlement areas.
Vegetation corridor	Also known as a wildlife corridor, is a link of a wildlife habitat, generally native vegetation which joins two or more areas of a similar wildlife habitat.
WMP	Water Management Plan is a document used to determine baseline figures for Council's annual water consumption.
WSUD	Water Sensitive Urban Design is an approach and framework that incentivises collaboration and integrated planning and design of urban water systems.



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