



YOUR VISION.  
YOUR FUTURE.

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## Sustainable Hornsby 2040





LET'S SUSTAIN  
THE HORNSBY  
OF TOMORROW.



Sustainable Hornsby 2040 is a roadmap to help Council achieve its vision for the community of Hornsby Shire over the coming 20 years. The Strategy includes a range of tasks and projects, often in addition to services currently provided.

It will not be possible to fund all of the actions immediately, so they will need to be prioritised. Those actions at the top of the list will be considered in the annual budget and delivery program. Council will also seek opportunities for alternative funding, such as grants from the NSW and federal governments.

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**Council recognises the Traditional Owners of the lands of Hornsby Shire, the Darug and Guringai peoples, and pays respect to their Ancestors and Elders past and present and to their Heritage. We acknowledge and uphold their intrinsic connections and continuing relationships to Country.**



## Indigenous Connections to Country

The Aboriginal heritage of the Hornsby Shire region was at least 15,000 to 20,000 years old by the time European settlers arrived in 1788.

The Hawkesbury River, called Deerubbin, was central to their way of life. Yams, a staple food, grew plentifully along the riverbanks, and both men and women fished for fish, eels, and shellfish within the river. Bark canoes were used for travel and transportation along the rivers and creeks which provided efficient transport routes for the Darug and Guringai people.

Many of the local names reflect this longstanding connection to water, such as Deerubbin meaning “wide, deep water” and Cowan meaning “big water.”

There are more than 200 known Aboriginal heritage sites in Hornsby Shire, including rock shelters, middens and engravings. Burial sites are not common, but they are the most sacred sites to Aborigines. Around the year 1900 a burial site was discovered in the Ku-ring-gai Chase National Park, which also contains carvings of many types. Middens and carvings can be found at Bobbin Head and Berowra Waters, while a collection of ceremonial carvings can be found off the Pacific Highway near Berowra.

Cultural heritage is not confined to sites; it also includes peoples’ memories, storylines, ceremonies, language and ‘ways of doing things’ that continue to enrich local knowledge about the cultural landscape. It involves teaching and educating younger generations. It is also about learning and looking after cultural traditions and places and passing on knowledge. It is enduring but also changing. It is ancient but also new (OEH, 2011).

Indigenous cultural knowledge provides crucial links between the past and present and therefore represents an essential part of the identities of Indigenous people and all Australians.





## Message from the Mayor

I am pleased to present to the community Hornsby Shire Council's environmental sustainability strategy: Sustainable Hornsby 2040. This strategy provides an overarching framework to achieve an innovative and environmentally sustainable Shire with resilient, diverse and thriving communities and ecosystems.

Council will seek to implement the bold but realistic actions which can be achieved with sensible, steady and continuous improvements. Our title as the Bushland Shire is strongly valued by our communities and this strategy identifies a range of actions to protect and enhance the Shire's character and our natural environment. The strategy empowers us to action on many fronts, including reducing Council's greenhouse gas emissions, potable water use, waste sent to landfill, increasing our urban forest, and protecting and enhancing biodiversity. There are actions to embed sustainability into Council's strategic processes that also demonstrate leadership and environmental innovation.

The development of this strategy has been a genuine collaboration between Council and the community. I would like to sincerely thank all of the many people who played a part in bringing this to fruition, particularly the local residents who took their time to have a say. Council looks forward to making a positive difference to the environmental sustainability of our Shire through the implementation of this strategy and its supporting documents.

**Philip Ruddock AO**  
**Mayor**



# 1. Executive summary

Environmental Sustainability underpins the core values of why people live and work in Hornsby. We are known as the Bushland Shire, not only for our abundant bushland but for the biodiversity in flora and fauna, waterways and rural areas. Our natural environment is one of the hallmarks of Hornsby Shire and we need to continue to work collaboratively to ensure a healthy, prosperous and resilient future for all.

The Sustainable Hornsby 2040 Strategy sets the framework for Council and the community as we embark on our journey to embed sustainability into our daily lives. Environmental sustainability underpins the four pillars of our Community Strategic Plan 2018-2028 of liveable, sustainable, productive and collaborative. Sustainable Hornsby 2040 forms the overarching Strategy that brings together the following supporting documents the Waste Matters Strategy, Biodiversity Conservation Strategy, Urban Forest Strategy, Water Sensitive Hornsby Strategy, Climate Wise Hornsby Plan and the Walking and Cycling Strategy. Additionally, Council is developing a draft Bushfire Risk Management Strategy and Coastal Management Program to inform preparedness and emergency response to Natural Hazards. In combination, this strategic work will provide the foundation on which we will work with our community on local responses that connect to global concerns.

In response to the challenges facing our natural environment and supported by our community, we are proud to develop this ambitious Strategy for enhancing environmental sustainability outcomes and increasing ecological, economic and social resilience within our Shire.

Sustainable Hornsby 2040 acknowledges the many challenges posed by climate change, population growth and urban intensification and provides a vision for a sustainable future.

## Vision

Our thinking and decision-making will be for the long-term, meeting the needs of the present without compromising the ability of future generations to meet their own needs. This means ensuring that the ways in which we live, work and play will not adversely affect our environment, but offer a more sustainable lifestyle for all members of our community.

## Themes and Goals

1. **Waste Matters**  
We will ensure the sustainability of our Shire through better waste management practices
2. **Biodiversity Conservation**  
We are equipped to ensure biodiversity is well-managed, resilient and adaptable to land-use change. The connection and conservation of natural assets will contribute to the community's health and well-being, maintain a sense of place and enhance biodiversity values in the Shire
3. **Urban Forest**  
We will have a healthy, thriving, diverse and valued urban forest that provides shade, cooling and adds colour and life to the Shire
4. **Water Sensitive**  
We will be a beautiful, green and thriving Shire whose management of water and the environment supports clean waterways, sustainable resource use, and a healthy lifestyle that is connected to nature
5. **Climate Wise**  
We will mitigate our actions and achieve zero net emissions by 2050. We will adapt to the changing climate
6. **Walking and Cycling / Active Transport**  
We will create an accessible, continuous and safe walking and cycling network that connects everyday destinations easily, quickly and logically
7. **Natural Hazards**  
We will assist our community and natural environment to develop a high level of resilience, be better able to withstand shocks and stresses and have an enhanced ability to recover from the residual impacts of natural hazards.



## Guiding Principles

The following principles guide the development of Sustainable Hornsby 2040 and its implementation (refer Figure 1)

**Delivering multiple benefits** – In ecological systems, everything is inter-connected. Delivering on one action can deliver and amplify multiple benefits to the community and make efficient use of finite resources. In addition, a healthy and sustainable environment is not only beneficial, but essential to the health, wellbeing and resilience of communities.

**Innovative and creative** – To be sustainable Council must drive innovation and creativity.

**Leadership** – Council has chosen to take a leadership role on sustainability because it embraces its responsibility to future generations of Hornsby residents. A part of leadership will be to advocate to higher levels of government for improvements in both policy and action on sustainability initiatives and climate change. Council's legacy should be a sustainable municipality supported by innovative policies and practices.

**Building partnerships** – Achieving our targets will require a new approach and there will be many challenges along the way for which we do not yet have all the answers. Council will partner and collaborate with the community and like-minded organisations, businesses and government locally, nationally and internationally to ensure best practice as we move towards a more sustainable future.

**Knowledge sharing** – Council will share our knowledge and learn from our Indigenous Australian community, scientists, technical experts and our community.



Figure 1 – Sustainable Hornsby Guiding Principles



## 2. Introduction

Council has a strong history of leading its community by example to progress sustainability. Several strategies and plans have been prepared to progress sustainability goals as part of the Local Strategic Planning Statement (LSPS) Future Hornsby 2040 to encourage the development of a sustainable and resilient Shire. This Strategy integrates these documents under the themes of waste, biodiversity conservation, urban forest, water sensitive, climate wise, walking and cycling / active transport and natural hazards. Summaries of each supporting document are provided in the following pages and include what Council is doing now and what Council will do in the future to deliver on the Sustainable Hornsby 2040 Vision.

As with other municipalities around the world, Hornsby faces challenges that call for innovation and decisive action, and every resident and business will play a crucial role in helping us, as a community, to reach our goals.

In response to the challenges facing our natural environment and supported by our community, we are proud to set an ambitious framework for managing environmental sustainability and increasing ecological, economic and social resilience within our Shire. Our Vision, Goals and Guiding Principles are based on the priorities expressed by the community through Future Hornsby 2040 and supported by evidence-based research, risk assessment, experience and best practice.

Climate change has already begun to have measurable impacts on our local communities. Recent bushfires and storm activities are indicators of this. Current climate projections for the Shire indicate overall average warmer and drier conditions with more frequent droughts, bushfires and extreme weather events such as storms, heavy rainfall and extreme heat days. Population growth, urban development and changing community attitudes and perceptions can pose risks for our natural environment.

“Sustainable Hornsby 2040 was developed to support Hornsby’s Local Strategic Planning Statement (LSPS) which provides the framework for the current planning context for the next 20 years. The planning priorities identified in the LSPS will help guide land use decisions and local land use plans, strategies and policies, including Sustainable Hornsby 2040.”

*Sustainability* is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs.

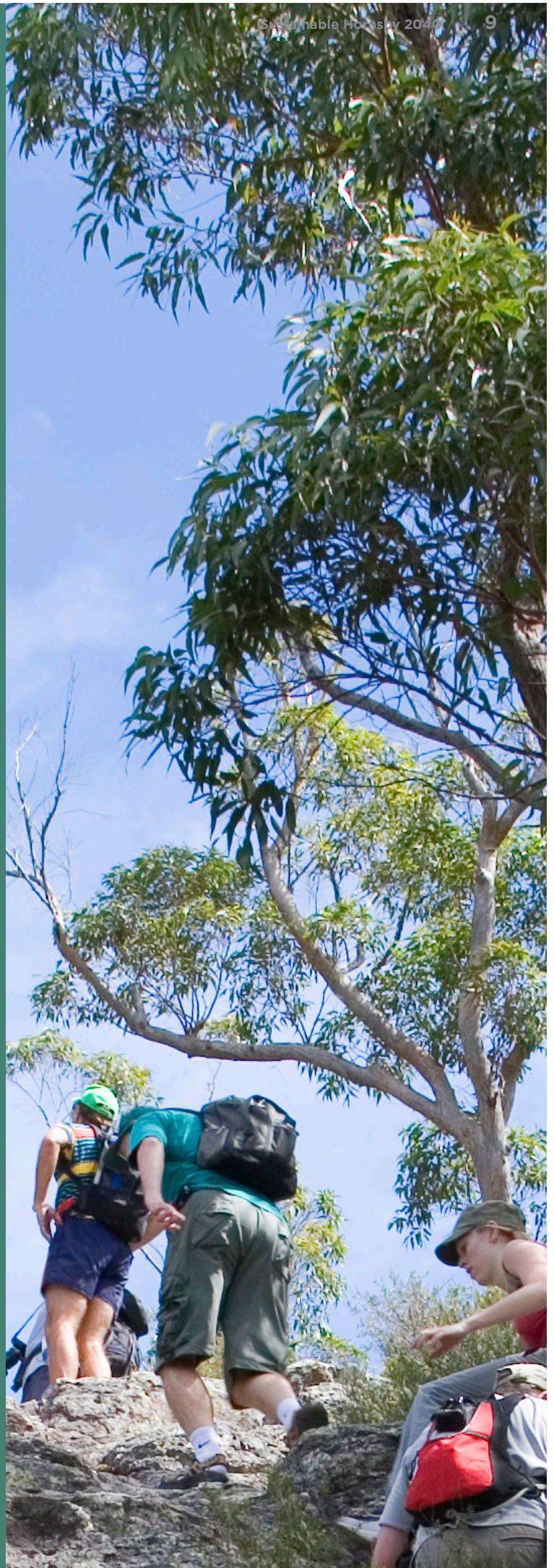
(United Nations World Commission on Environment and Development)



Extensive engagement was undertaken with our community for the development of the Local Strategic Planning Statement and as part of the development of Sustainable Hornsby 2040. The results illustrate that our community is supportive of sustainability initiatives and they want to ensure that our environment is protected and enhanced and that the Shire is working towards social, environmental and climate resilience. The community has a strong preference for maintaining and enhancing a clean, leafy, diverse environment and wants to work alongside Council to actively seek ways to improve environmental sustainability.

As an active member of the Resilient Cities program and a contributor to the development of 'Resilient Sydney', the first resilience strategy for Metropolitan Sydney, we are well positioned to develop Hornsby-specific strategies and actions that align with the call to work as one city to strengthen our ability to survive, adapt and thrive in the face of chronic and acute stresses.

Resilience is the capacity of individuals, communities, businesses and systems within a city to survive, adapt and thrive no matter what kinds of chronic stresses and acute shocks they experience (Resilient Sydney, 2018).





### 3 Hornsby's environmental snapshot



Table 1 – Hornsby's Environmental Snapshot

#### Area

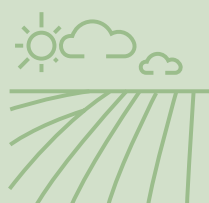
##### Area



**70%**  
of land area  
is bushland



**10%**  
of land area  
is urban



**15%**  
of land area  
is rural



**5%**  
of land area  
is open space



**1,328km**  
of rivers and creeks



# Population/Environment/Key issues

## Population growth



- Population expected to grow 1 percent per annum from 147,661 people in 2016 to 179,582 in 2036
- Bulk of development to 2036 will be medium to high density residential such as multi-level apartments
- Highest growth areas for residential development are Hornsby Town Centre increasing in population by 14.9 percent, Asquith increasing by 4.5 percent and Waitara increasing by 2.46 percent
- There will be a 26.5 percent increase in retirement aged people living in Hornsby by 2026.

## Environment



- Key waterways: Berowra Creek, Hornsby Creek, Cowan Creek, Lane Cove and Hawkesbury River catchments. More than 400 Stormwater Quality Improvement Devices currently protect waterways.
- Plants and Animals: 1,000 native plant species, 338 native vertebrate animal species, 26 threatened plant species and 42 threatened animal species
- Tree cover: 59 percent whole Municipality, 39 percent designated urban area
- Approximately 60,000 public urban street and park trees
- Households generated 62,893 tonnes of waste in 2019/20
- Our community GHG emissions profile for 2016/17 identified that we produce approximately 1.3 million tonnes CO<sub>2</sub>-e emissions each year.

## Key issues



- 45 percent of all municipal waste is recovered and diverted from landfill
- 26.4 percent of Local Government Area (LGA) has been cleared of forests
- Twelve Threatened Ecological Communities (TECs) exist within the Hornsby Shire
- Three critically endangered TECs are present, being Blue Gum High Forest in the Sydney Basin Bioregion, Sydney Turpentine-Ironbark Forest and Shale/Sandstone Transition Forest in the Sydney Basin Bioregion
- Stormwater flows continue to adversely affect the health and function of our creeks and waterways
- Climate change means that Hornsby will experience a greater number of extreme heat days, more bushfires and more extreme weather events such as storms
- There are 50 threatened fauna species listed to occur in the LGA
- Urban tree canopy is being lost at approximately 3 percent per year, predominantly on private residential land
- 35 percent of all Council's emissions come from street lighting and 35 percent from electricity
- 59 percent of all community emissions come from electricity and 27.7 percent from transport



## 4 Act locally but think globally

Sustainable Hornsby 2040 is guided by international, federal, state and local government environmental policies, legislation and initiatives that contribute to addressing global and national sustainability challenges facing Hornsby Shire.

### Global

- United Nations Sustainable Development Goals (Refer to Figure 2)
- Paris Agreement 2015
- UN Convention on Biological Diversity

### National

- Renewable Energy Target – ~23.5 percent electricity from renewable sources in 2020
- Australia's 2030 climate change target – 26-28 percent emissions reduction by 2030 on 2005 levels
- 2018 National Waste Policy: Less waste, more resources
- Australia's Biodiversity Conservation Strategy 2010-2030
- Commonwealth Environment Protection and Biodiversity Conservation Act 1999
- Creating Places for People – An Urban Design Protocol for Australian Cities
- National Climate Resilience and Adaptation Strategy 2015

### New South Wales

- Net Zero Plan Stage 1:2020-2030 and zero net emissions by 2050 target
- Biodiversity Conservation Act 2016
- State Environmental Planning Policy, Vegetation in Non-Rural Areas
- National Climate Resilience and Adaptation Strategy
- Threatened Ecological Communities Strategy 2017
- Biodiversity Conservation Investment Strategy 2018
- Rural Fires Act 1997
- Coastal Management Act 2018
- Marine Estate Management Act 2014 and the Marine Estate Management Strategy 2018-2028
- Greener Places
- Bushland and Waterways Guide 2018
- Future Transport 2056

### Regional

- Resilient Sydney
- Greater Sydney Commission North District Plan
- Sydney Water
- Northern Sydney Regional Organisation of Councils (NSROC)
- 2017 Metropolitan Water Plan – Water for a Liveable, Growing and Resilient Greater Sydney

### Local

- Community Strategic Plan 2018-2028
- Future Hornsby – Local Strategic Planning Statement
- Hornsby Local Environment Plan
- Hornsby Development Control Plan
- Waste Matters Strategy
- Urban Forest Strategy
- Water Sensitive Hornsby Strategy
- Biodiversity Conservation Strategy
- Walking and Cycling Strategy
- Climate Wise Hornsby Plan
- Natural Hazards planning (Bushfire Risk Management Strategy and Coastal Management Programs under development)



**United Nations Sustainable Development Goals (SDGs)** are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. The SDGs were agreed and adopted by the United Nations member states, including Australia, in September 2015 as part of the 2030 Agenda for Sustainable Development. (NSW DPIE, 2020)



The 17 Goals (shown above) are underpinned by 169 targets which guide efforts to increase global well-being through addressing some of society's key challenges.

The strategies encompassed by Sustainable Hornsby 2040 are helping to realise global targets through local action, this is shown in Figure 2.

Sustainable Hornsby strategy	Sustainable Development Goal		
WASTE MATTERS	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	
BIODIVERSITY CONSERVATION	14 LIFE BELOW WATER	15 LIFE ON LAND	
URBAN FOREST	11 SUSTAINABLE CITIES AND COMMUNITIES	13 CLIMATE ACTION	15 LIFE ON LAND
WATER SENSITIVE	3 GOOD HEALTH AND WELL-BEING	11 SUSTAINABLE CITIES AND COMMUNITIES	13 CLIMATE ACTION
	14 LIFE BELOW WATER	15 LIFE ON LAND	
CLIMATE WISE	7 AFFORDABLE AND CLEAN ENERGY	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
	13 CLIMATE ACTION	17 PARTNERSHIPS FOR THE GOALS	
WALKING AND CYCLING / ACTIVE TRANSPORT	3 GOOD HEALTH AND WELL-BEING	11 SUSTAINABLE CITIES AND COMMUNITIES	15 LIFE ON LAND
NATURAL HAZARDS	13 CLIMATE ACTION	17 PARTNERSHIPS FOR THE GOALS	

Figure 2 – Sustainable Hornsby 2040 mapped against the UN Sustainable Development Goals



## 5 What our Community told us

During the development of Council's Local Strategic Planning Statement Future Hornsby 2040, we extensively engaged our local community to determine their views on sustainability values and priorities through:

- A series of pop-up community kiosks. 180 people attended these sessions
- An online community survey via Have Your Say. We received 315 submissions during the 4-week engagement in April 2019
- A survey of residents' perceptions on Hornsby's trees. 319 people responded to the survey
- A telephone survey that was demographically representative of residents across the Shire. 618 people completed the survey during April 2019
- Individual stakeholder interviews with 10 community group representatives. The purpose of the interviews was to discuss local environmental sustainability challenges and considerations in greater depth with highly engaged and environmentally aware local community members
- An online interactive collaborative mapping tool via Social Pinpoint. We received 392 unique users to the site and 204 comments were received
- Three Biodiversity Conservation Management workshops where 321 people identified the local hazards and threats to biodiversity
- Three workshops on Visioning for a Water Sensitive Hornsby involving 24 specialists benchmarking and visioning Hornsby's water sensitive journey.

“

We are in the crucial decade to reduce warming. Now is the time to make significant reductions in emissions in order to stop catastrophic climate change. It needs to happen now. Tree canopy cover, waste, green spaces, reducing emissions are all interconnected.

- from Community Representative

”

Through extensive community engagement, the community prioritised their environmental goals as follows:

### 1. Climate change

- Take action to mitigate the effects of climate change

### 2. Biodiversity management

- Protect and enhance ecosystems
- Protect and enhance tree cover across the shire

### 3. Water

- Improve water quality in creeks and rivers
- Upgrade water infrastructure to meet the needs of our growing population

### 4. Waste

- Minimise waste and resource consumption to keep our environment clean

### 5. Walking and Cycling / Active Transport

- Increase walking and cycling participation
- Improve active transport connectivity

### 6. Natural Hazards

- Improve local resilience to extreme weather events

Of particular interest, the community want to see action on the following:

- Greater protection for our endangered and native species, as well as our urban forest
- New developments that are built with the highest regard to the environment and ongoing sustainability, particularly through the protection and/or appropriate replacement of trees
- Mitigation of the environmental effects of population growth (such as traffic congestion, overcrowded public transport, increased rubbish generation, degradation of walking tracks and parkland) and planning for adequate infrastructure
- Building a safe and connected walking and cycling network across the LGA. Including cycling infrastructure at railway stations such as dedicated bike racks and embracing new technologies such as e-bikes
- Educating the community around sustainable practices such as recycling and reduction in the use of single-use plastics
- Opportunities for the community to be involved in the protection of our natural environment.





Photos 1 and 2 – Residents attending pop up sessions in Hornsby Mall and Beecroft Shopping Centre

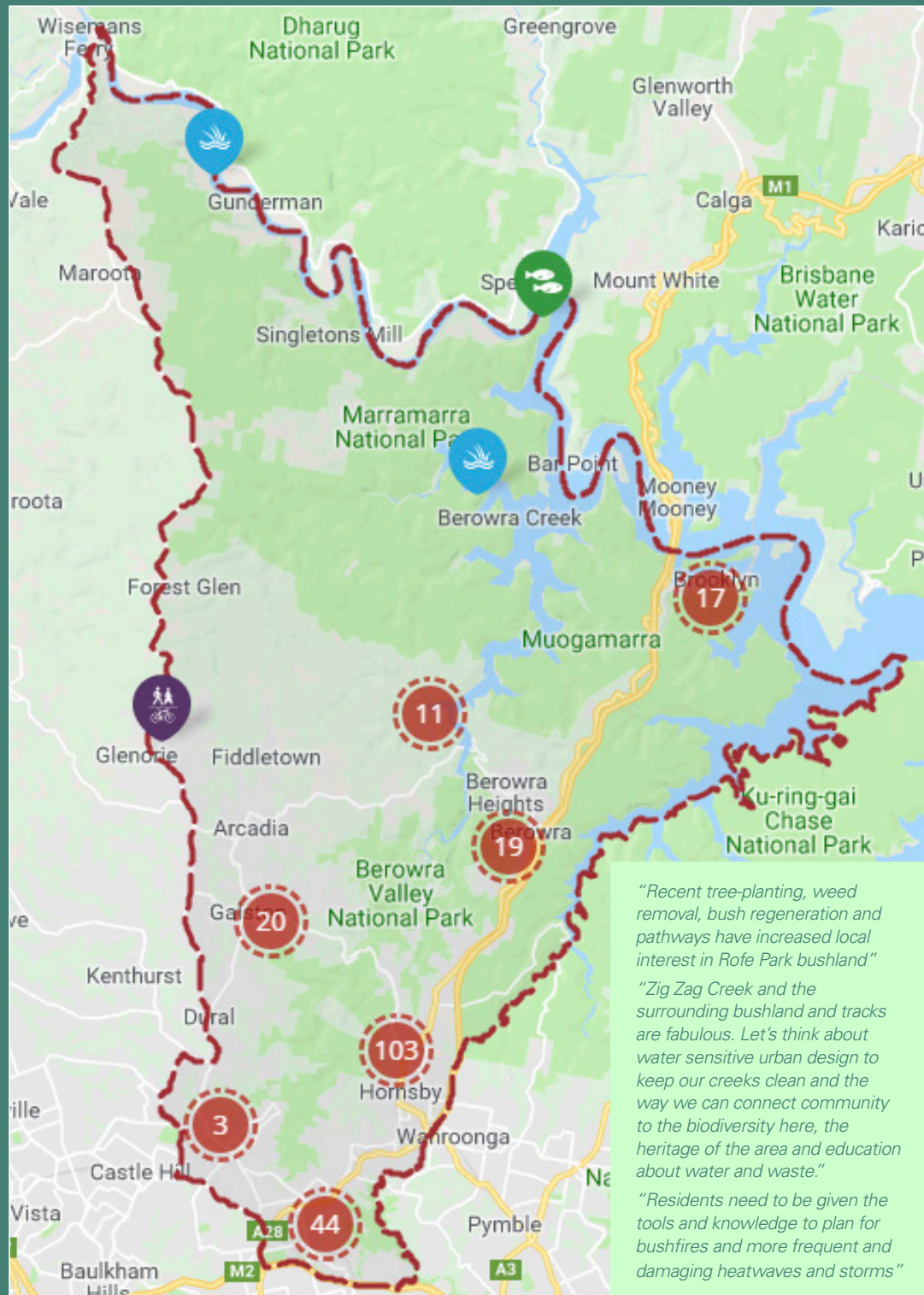


Figure 3 – Online collaborative mapping tool via Social pinpoint



## 6 Future challenges

### Climate change

Current climate projections for the Shire indicate warmer and drier conditions with more frequent droughts, bushfires and storms as seen in Figure 4. Extreme weather events, such as storms, heavier rainfall and more extreme heat days, are projected to become more severe each-year over the next 20 years. This will have significant impacts on our environment and our community's health and wellbeing. Council will need to work with both our community and other agencies to improve our environmental resilience.

### Major economic shocks

As we have seen historically from natural disasters and pandemics, and the associated economic downturn, our resources are vulnerable to major economic shocks. These events can reduce our resources and finances, which can impact our ability to care for the environment and prevent future economic shocks. It is imperative that our environmental management programs are supported by strong evidence and cost benefit analyses to improve the business case for continuity of resources during these types of shocks and stresses. Recently, the COVID-19 pandemic has demonstrated just how important our local environment is to our mental and physical wellbeing.

### Population Growth

The population of Hornsby Shire is forecast to increase by 1 percent per annum, from 147,661 people in 2016 to 179,582 in 2036, requiring an additional 14,879 homes. This growth will mean a greater use of resources within the Shire potentially resulting in higher greenhouse gas production. Population growth puts pressures on our environment with more waste production, traffic and utilisation of bushland and waterways for recreation. Sustainable ways of managing this growth are possible, so that our community emissions profile doesn't grow (as seen in Photo 3).

### Land Use Intensification

Population growth is driven predominantly by growth in dwelling stock. The main areas of growth in the short term are Asquith, Waitara and Hornsby (non-Town Centre area). By 2031, population growth is expected to focus in the Hornsby Town Centre in response to Council's commitment to revitalising Hornsby under the Hornsby Town Centre Review.

Urban intensification can have environmental impacts such as vegetation clearing, a reduction in permeability, increases in the urban heat island effect, increases in stormwater run-off into our waterways and further fragmentation of habitat for wildlife.

### Legislation and Policy

All councils must comply with legislation and policy, which is constantly under review and subject to change. With government funding being reduced and expectation being placed on councils to fill this gap, ensuring we can survive and thrive in a changing environment will require Council and the community to adapt and consider new ways of managing our natural environment and assets.

### Technology

As technology rapidly evolves, our community demands alternative methods for council service delivery. Although it is challenging to keep up with emergent technologies, it is also a great opportunity for innovation in Council. New technology, real-time data and connectivity can help us plan our public spaces to be cooler, water our parks only when needed and transition to a low carbon economy with solar panels and electric vehicle charging stations. As new technology arises, Council will endeavour to integrate this into our Smart Cities initiative.





Figure 4 – Effects of climate change



Photo 3 – Sustainable Design (eg stormwater harvesting and green roof)

## 6 Environmental sustainability in Hornsby to 2040

The Strategy proposes an innovative mix of leadership and collaboration, direct action and advocacy, education and partnerships. It determines Council's approach to enhancing the bushland shire character, improving local biodiversity, reducing greenhouse gas emissions and waste levels, improving sustainable transport, creating a water sensitive city and hazard mitigation by embedding sustainability into council processes.

Council has chosen to take a leadership role on sustainability because it embraces its responsibility to future generations of Hornsby residents. Council's legacy should be a sustainable municipality supported by innovative policies and practices. Sustainable Hornsby 2040 ensures a consistent and comprehensive approach to meeting these objectives.





# SUSTAINABLE HORNSBY 2040



## WASTE MATTERS

### We contribute to the sustainability of our shire through better waste management practices.

Waste is not simply a product we no longer want; it is a design flaw in the economy that is filled with unintended social and environmental consequences. Given that landfills are Australia's seventh largest source of greenhouse gases, this design flaw needs addressing. We all create waste at home, work and at play. When we throw items away, we not only add to landfill, but lose the value embedded in the materials, create demand to extract more finite natural resources from our planet and sacrifice jobs that would be created if the waste was recycled and processed.

In 2019/20, the Hornsby community generated around 65,708 tonnes of household waste – that included 30,492 tonnes residual waste (red bin), 11,354 tonnes recycling (yellow bin), 17,449 tonnes garden waste (green bin), 931 tonnes metals and 5,482 tonnes bulky clean up waste. We currently recycle around 29,734 tonnes and send the remaining 35,974 tonnes of residual waste to landfill. This means Hornsby Shire is recovering 45 percent of our waste and diverting it from landfill.

Of the waste going to landfill from our red bins it is estimated that up to 80 percent of it could be re-used or recycled. Refer Figure 5 – Hornsby LGA: all waste generation by type.

In a recent community survey, 79 percent of residents surveyed said they are supportive or very supportive of council investing more into improved resource recovery to divert waste from landfill.

However, recent changes have created a high level of uncertainty about where Council can make step changes to improve landfill performance. China's ban on accepting imported recyclables coupled with changes in NSW Government regulation around mixed waste processing plants has left the industry uncertain on where and how best to invest in new technologies and processing plants.

### What Council is doing now

Our current three bin collections service model has been proven to deliver the best value for money. Recycling in Hornsby is secure and delivering real diversion from landfill. Our contractor is the Australian market leader and has well developed domestic markets for recycled materials, only exporting what they cannot use onshore, thus reducing their exposure to changes in global commodity markets. Our garden waste is mulched

and composted here in Sydney and sold back to residents, nurseries and landscaping companies. Our red bin waste is bulked into shipping containers and sent to Woodlawn Bioreactor Landfill near Tarago, NSW where any landfill gas produced is converted into green electricity. Our bulky clean up waste goes through a resource recovery transfer station to have valuable resources recovered, including mattresses for recycling, before being landfilled in Western Sydney.

### What Council will do

Through our Waste Matters: Interim Waste Management and Resource Recovery Strategy, Council aims to:

- Provide effective, affordable and innovative waste services to reduce domestic waste disposal to landfill, increase resource recovery and protect the environment
- Respond to the community's expectations, needs and requirements within budgetary constraints
- Engage and educate our community on waste matters and desired behavioural changes.

Achieving the 70 percent Resource Recovery Target (as set by NSW Government) will be done through:

- Increasing diversion of organic waste from landfill
- Maximise resource recovery from all waste streams
- Build the capacity of residents to avoid waste and build a reuse culture
- Reduce illegal dumping and littering
- Improve waste management at business, schools and at events
- Support the circular economy
- Encourage development of overarching national and state policies that facilitate optimised waste management outcomes.

Due to a NSW Environment Protection Authority ruling in 2017/18, mixed waste processing (recovering organics and recyclables from the waste stream) is no longer a viable option. The organic materials recovered from this stream, known as Mixed Waste Organic Output (MWOO), can no longer be applied to land in most situations. Council will continue to examine other options for this waste stream.





For example Council has investigated the potential to implement food and garden organics (FOGO) collection systems for single-unit dwellings. This could potentially divert an extra 10 percent from the municipal waste stream, at a cost of \$5.1 million or around \$105 per household per annum. However, implementing a FOGO system also risks contaminating the existing garden organics stream (green bin) which currently has very minimal contamination. In addition, residents may not be receptive to a fortnightly waste (red bin) collection, as is the case in most FOGO systems in NSW.

Separate food organics (FO) collections in multi-unit dwellings remain problematic due to the complexity of sorting, storing and collecting materials while minimising contamination to levels acceptable to organics processors.



Figure 5 – Hornsby LGA: all waste generation by type for 2016/17 (Source: Adapted from Resilient Sydney, 2016/17)



Photos 4-9 – Organics through our community.



## BIODIVERSITY CONSERVATION

**We are equipped to ensure biodiversity is well-managed, resilient and adaptable to land-use change. The connection and conservation of natural assets will contribute to the community's health and well-being, maintain a sense of place and enhance biodiversity values in the Shire.**

Hornsby Shire hosts over 660 fauna species, 1,200 flora species and 90 fungi species, all of which are important contributors to our identity as the Bushland Shire. Hornsby is also home to 12 Ecological Communities that are all under threat from extinction. Hornsby's biodiversity plays a critical role in providing ecosystem services such as clean air, clean water and supporting our food systems. Biodiversity is also critical in supporting community health outcomes.

A high percentage of remnant vegetation occurs on private properties across both rural and urban lands. Increasing evidence suggests that vegetation in urban areas is also vital to maintaining biodiversity in a region. Urban wetlands, waterways, single native and exotic trees, backyard and verge gardens across Hornsby Shire can all support a range of fauna species such as Long-nosed Bandicoots (*Perameles nasuta*), Common Ringtail Possums (*Pseudocheirus peregrinus*), Swift Parrots (*Lathamus discolor*) and Grey Headed Flying Fox (*Pteropus poliocephalus*).

Considering the impacts of rapid land-use change, urban development, population growth and climate change locally and globally, the need to safeguard biodiversity has never been more critical than today. This presents a challenge for Council to carefully meet the needs of a growing community population as well as the protection of biodiversity values in the lands and waters under its management.

Community consultation revealed that the greatest threats to Hornsby's biodiversity are perceived as:

- A lack of clear management, policy, funding and resources to protect and enhance local biodiversity
- Development and land clearing (both regulated and illegal)
- Habitat fragmentation and loss of remnant trees/hollow bearing trees
- Lack of community knowledge, understanding and empathy for biodiversity.

### What Council is doing now

Council and its community are the custodians of our environment and seek to protect and enhance it. We do this by:

- Maintaining a connected network of natural areas
- Improving the current natural resource condition
- Minimising impacts on natural resource condition
- Rehabilitating priority habitats and vegetation communities through bushland restoration
- Applying environmental offsets to compensate for impacts on natural resources that cannot be avoided
- Monitoring catchment health and responding to environmental pollution, public health incidents and informing management priorities
- Undertaking well informed strategic planning activities to enable improved environmental outcomes.



*Photos 10 and 11 – Flora and fauna, the richness of the Shire's biodiversity.*





## What Council will do

Through our Biodiversity Conservation Strategy 2020, Council aims to:

- Protect and conserve ecological values
- Connect urban habitat
- Restore disturbed ecosystems to enhance ecological value and function
- Create new ecosystems
- Connect People to Nature.

By achieving the following outcomes:

- Implement a Green Infrastructure Framework and monitor its progress
- Develop comprehensive biodiversity baseline data and monitoring
- Develop appropriate planning controls and offset mechanisms to support the connection, protection, restoration, enhancement and creation of urban habitat
- Develop incentive mechanisms and implementation plans to prioritise biodiversity conservation
- Address threats and impacts to biodiversity including climate change impacts on vulnerable species
- Implement best practice weed and feral animal control, and management to improve the health of lands, creeks and waterways
- Capture, treat and reuse stormwater to create and improve habitats and waterway condition
- Coordinate community engagement and education programs to improve awareness of biodiversity values
- Forge successful community, agency and institutional partnerships to improve biodiversity outcomes e.g. citizen science engagement programs.



*Photo 12 – Sundew Drosera spp.*

*Source Alan Kwok (2019)*

## URBAN FOREST

**We will have a healthy, thriving, diverse and valued urban forest that provides shade, cooling and adds colour and life to the Shire.**

The urban forest, comprising of the trees within Hornsby's urban areas and on rural lands, contributes significantly to the liveability, natural environment and prosperity of the Shire. These trees provide a myriad of benefits from shading, carbon storage, air pollution reduction, stormwater interception, habitat and food for wildlife, as well as contributing to the landscape character that the community value so highly. Trees are a very valuable community asset, with large urban trees generating up to \$70,000 in structural and environmental values (Arboriculture Australia, 2020).

The urban forest is facing many challenges including urban densification, a changing climate, urban heat and canopy loss. It is estimated that Hornsby is losing between 2 – 3 percent of its tree canopy cover or approximately 12–15,000 trees each year. This loss is occurring primarily on private land and places increased pressure on the smaller area of public land to protect, grow and enhance the urban forest.

Climate change effects such as drought, extreme heat and bushfires also pose extreme threats to the urban forest. Such challenges require a new approach in how the forest is managed and how it interconnects with Sydney's Green Grid aspirations.

A community survey of residents showed that trees and concern for loss of tree canopy represent one of the most important current and future environmental priorities for the Hornsby LGA. Furthermore, there was a strong feeling of responsibility in providing a greener legacy for future generations and that both Council and the community should together be addressing the issue of canopy decline. However, there is little community support for increasing regulation to protect trees on private property.

### What Council is doing now

Council is currently responsible for:

- Implementing Hornsby's Greening our Shire program with 25,000 trees already planted. These trees were grown by volunteers and planted in over 81 community sites
- Actioning customer requests
- Tree removal and tree planting
- Maintenance works
- Reviewing development applications that impact on private and public trees
- Enforcing the Tree Preservation Order for private trees.

### What Council will do

Through the delivery of our Urban Forest Strategy 2020, Council aims to:

- Maintain and improve Hornsby Shire's unique character through the urban forest
- Increase community knowledge and connection with the urban forest
- Mitigate and adapt to climate change, including bushfires
- Protect, secure and create habitat
- Showcase integrated and sustainable design
- Provide strong leadership and good tree asset management.

By achieving the following outcomes:

- Maintain tree canopy cover on private land at 33 percent
- Increase tree canopy cover over streets from 39 percent to 50 percent
- Increase tree canopy cover over commercial zones from 11 percent to 15 percent
- Increase biodiversity corridors in streetscapes
- Improve species diversity
- Improve useful life expectancies of street trees.





Photo 13 – Native tree giveaway



Photo 14 – Mayor Philip Ruddock AO with residents planting the 25,000th tree

## WATER SENSITIVE

**We will be a beautiful, green, and thriving Shire whose management of water and the environment supports clean waterways, sustainable resource use, and a healthy lifestyle that is connected to nature.**

Hornsby Shire is known for its beautiful and accessible natural environment including its rivers and creeks, such as the Hawkesbury River, Berowra Creek, Cowan Creek and Lane Cove catchments. Feedback often received from the community is that people love living in Hornsby Shire because of its open spaces and the connection to the surrounding bushland and waterways.

However, as with all urban development, the associated land clearing, coupled with densification in urban areas, has and continues to significantly alter natural water flows, causing erosion and water quality impacts on local waterways. Furthermore, the location of Hornsby's urban footprint in the upper reaches of catchments means that these impacts are felt on high ecological-value waterways downstream.

Since the early 1990s, Hornsby Shire Council has led the way in the implementation of water sensitive urban design, largely through the catchment remediation program. Despite this proactive approach, challenges still exist, such as changing government priorities, impacts from existing and future development and increasing pressure on water systems from climate change. Hornsby Shire will need to plan wisely to adequately service a growing population in a warming and drying climate, while ensuring environmental and liveability outcomes for the region.

### What Council is doing now

- Removing pollutants from waterways via catchment remediation devices
- Constructing, maintaining and renewing stormwater cleaning and harvesting devices
- Monitoring catchment health and water quality
- Undertaking environmental education and supporting existing community programs, e.g., Bushcare
- Leading the regional development of a Coastal Management Program for the Hawkesbury River.

### What Council will do

Through the Water Sensitive Hornsby Strategy 2020, Council will implement strategies and actions to progress our transition to a water sensitive city. This will be done across emerging themes:

- Ensure good water sensitive governance
- Increase community capital
- Increase productivity and resource efficiency
- Improve ecological health
- Ensure quality urban space
- Promote adaptive infrastructure.

By achieving the following outcomes:

- Establish and progress an internal and cross-departmental working group to oversee implementation of the Water Sensitive Hornsby Strategy
- Ensure water sensitive city outcomes are embedded in policy and planning
- Develop new knowledge for the range of outcomes needed to deliver Hornsby Shire's water sensitive city vision, specifically community and Aboriginal engagement solutions
- Leverage partnerships and project opportunities to demonstrate and build the business case for multi-functional, water sensitive solutions
- Strengthen compliance for environmental and waterway health outcomes.





Figure 6 – Artistic impressions of emerging themes: Hornsby's natural environments are healthy and thriving with biodiversity, Hornsby Shire has engaged, empowered and active communities who value Aboriginal and multi-cultural connections to land and water (Source: Stephen Pym)



Figure 7-10 – Artistic representations of water sensitive city outcomes including urban greening, improved amenity, recreation, and social cohesion (Source: CRCWSC)

## CLIMATE WISE

### We will achieve net zero emissions by 2050, mitigate our impacts and adapt to the changing climate

Greenhouse gas (GHG) emissions in Hornsby are generated through electricity and gas usage, transport, purchases of materials and waste generation.

In 2019, Council reinforced its desire to take action on climate change by setting a target of net zero emissions by 2050. Becoming a net zero emissions Council and community is a significant task – one which we must work together to reduce our emissions and keep global heating below 2 degrees Celsius.

To understand our greenhouse gas emission profile, Council developed its inventory in line with the National Greenhouse and Energy Reporting Guidelines for corporate emissions reporting. Corporate emission profiles were also prepared in accordance with the international GHG Protocol Corporate Accounting and Reporting Standard, and the National Carbon Offset Standard (NCOS). NCOS allows an organisation, like Council, to measure, reduce, offset, report and audit emissions that occur as a result of its operations. Community carbon emissions have been calculated using the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories. All of these standards classify emissions into three scopes (illustrated in Figure 11).

Scope 1 – direct emissions from the activities of an organisation or under their control, including gas usage in buildings, fuel for vehicles and air-conditioning leaks.

Scope 2 – indirect emissions from electricity purchased and used by the organisation or in assets owned by it.

Scope 3 – all other indirect emissions from activities of the organisation, occurring from sources that they do not own or control, including emissions associated with streetlighting, procurement, waste and water.

During 2017/18, Council's annual emissions were 12,080 tonnes CO<sub>2</sub>-e. One third of Council's measured emissions comes from our corporate electricity consumption (35%), while another third comes from electricity consumption from public street lighting (35%). Other emissions of note were transport emissions, the majority of which come from Council fleet (11%), emissions from contractor fuels (9%), and emissions from natural gas consumption (7%). The contribution of emissions from all other sources were minor (3% collectively) as seen in Figure 12.

During 2016/17, community emissions generated 1.3 million tonnes CO<sub>2</sub>-e (Resilient Sydney, 2019). This profile figure was generated by the analysis of data on transport, waste and water practices in our municipality. Our community emission total represents 2.7 percent of Greater Sydney's emissions (Resilient Sydney, 2019). Electricity usage was the largest contributor (58.9 percent) at 763,605 tonnes CO<sub>2</sub>-e. On average, Hornsby Shire residents used 22kWh of electricity per day per dwelling (7.81 tonnes CO<sub>2</sub>-e per year and an average of 2.80 tonnes CO<sub>2</sub>-e / capita). Transport was the second largest contributor (25.7 percent), followed by waste (12.2 percent) and gas (3.2 percent) as seen in Figure 13.

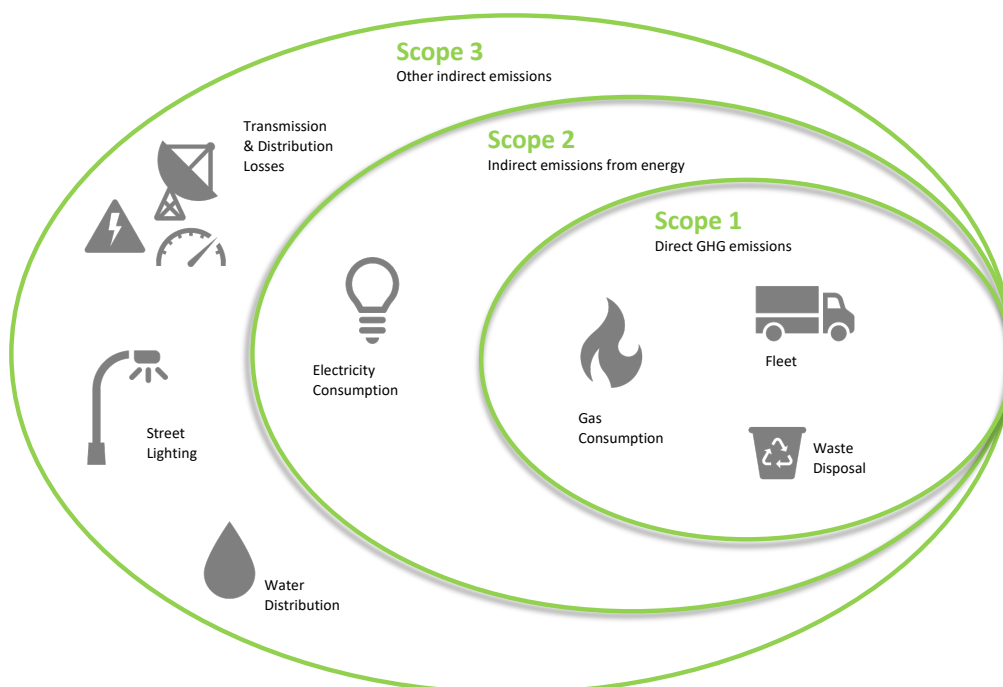


Figure 11 – GHG Emissions Scopes (Source: Adapted from Ironbark Sustainability, 2019)





## What Council is doing now

- Developing and promoting sustainable transport planning and travel modes across the Shire
- Participating in the Resilient Sydney Strategy with 33 other metropolitan Councils
- Installing energy efficiency measures e.g. solar panels and LED lighting
- Implementing our Car Share Policy
- Implementing the Streetlight Improvement Program
- Delivering sustainability education events
- Maintaining and renewing Council owned energy efficient assets
- Continually improving Council facilities to reduce energy use
- Facilitating an Environmental Sustainability Advisory Committee

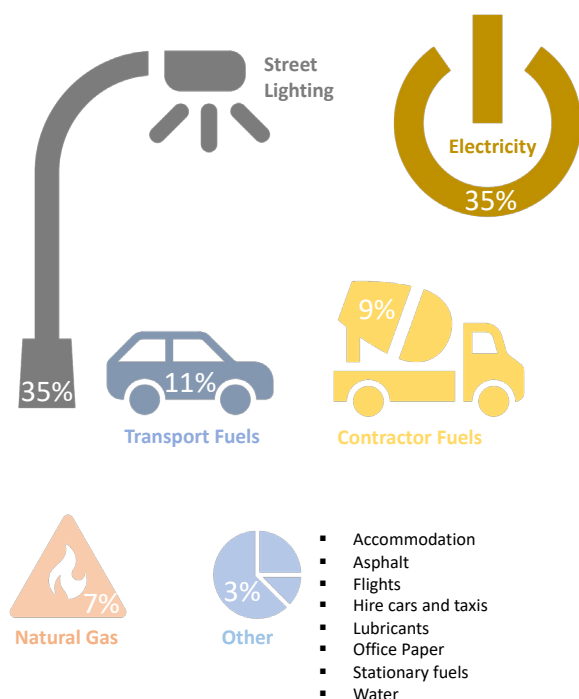


Figure 12 – Hornsby LGA: all Emission by Source for 16-17 2017/18 (Source: Adapted from Resilient Sydney, 2016/ 2017)

## What Council will do

Through our Climate Wise Hornsby Plan 2020, Council aims to:

- Reduce Council's corporate greenhouse gas emissions to 32 percent below 2018 levels by 2025, 53 percent below 2018 levels by 2030 and net zero by 2050
- Support the community in the goal of reaching net zero emissions by 2050 through the delivery of programs and initiatives that further community greenhouse gas emission reduction efforts
- Reduce Council's and the community's vulnerability to a changing climate and implement adaptation measures associated with temperature, hot days, average rainfall, wind, fire weather, sea-level rise and rain intensity.

This will be achieved by:

- Installing energy efficient LED street lighting
- Improving fleet performance and transitioning to low emission vehicles, electric vehicles and new technology hybrid vehicles
- Providing electric vehicle (EV) charging stations
- Improving energy efficiency of Council buildings
- Advocating for public transport
- Increasing diversion of waste from landfill
- Partnering to increase solar installations across the shire
- Advocating for low energy precincts and buildings
- Implementing actions from Council's Climate Change Risk Assessment
- Developing a community resilience program.

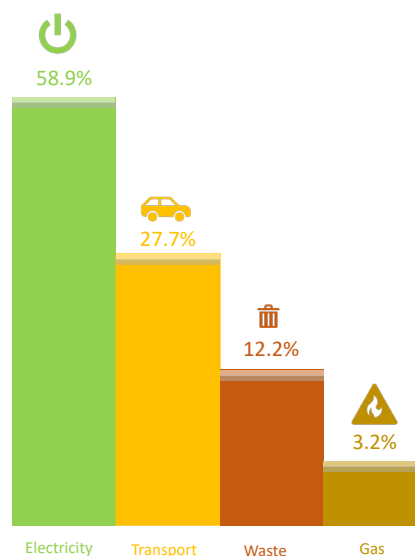


Figure 13 – Hornsby LGA: all Emission by Source for 16-17 2017/18 (Source: Adapted from Resilient Sydney, 2016/ 2017)

## WALKING AND CYCLING/ ACTIVE TRANSPORT

**We will create an accessible, continuous and safe walking and cycling network that connects everyday destinations easily, quickly and logically.**

Given that transport is the second largest contributor to Hornsby's greenhouse gas emissions, encouraging residents to reduce vehicle use by opting to walk and cycle is a priority for Council. This has the added benefits of both reducing traffic congestion, but more importantly, improving health and wellbeing outcomes within the community.

However, there is considerably more work to be done to provide attractive and safe options for people to leave their cars at home and travel by foot or bicycle. Convenience, amenity and safety are critical requirements, the latter greatly influencing children's ability to independently walk and cycle to school or for recreation.

### What Council is doing now

- Developing and promoting sustainable transport planning and travel modes across the Shire
- Park enhancements, including building and maintaining walking trails and paths
- Construction and maintenance of shared paths, including cycling paths and bushwalking tracks
- Construction of footpaths to connect existing facilities

### What Council will do

Through our Integrated Land Use and Transport Strategy 2004 and Walking and Cycling Strategy 2020, Council aims to:

- Promote the benefits of walking and cycling within the Shire
- Create streets and roads that are safe and conducive to walking and cycling
- Improve links to key destinations, including bush walking tracks
- Increase the priority for pedestrians and cyclists relative to vehicular traffic
- Ensure the recommendations of the Hornsby Shire Bike Plan and Pedestrian Access and Mobility Plan (PAMP) are implemented, reviewed periodically and revised
- Develop a formal pedestrian planning strategy for the whole Shire.

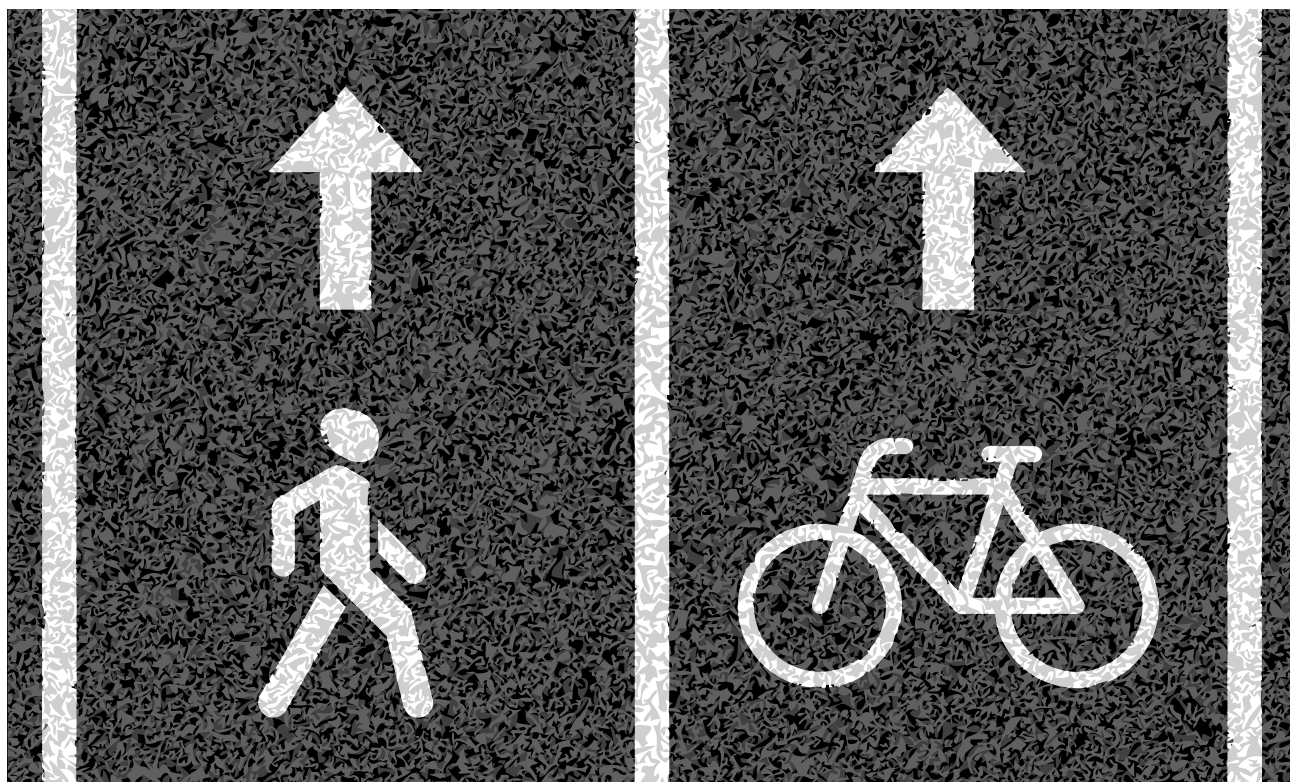
By achieving the following outcomes:

- Update the Integrated Land Use Transport Strategy
- Run publicity and promotional events
- Educate the community about the health and environmental benefits of active transport
- Integrate pedestrian and cycling planning priorities into all Council activities
- Establish links and connections between existing facilities
- Provide new facilities.



Photo 15 – Example of a shared pathway







# NATURAL HAZARDS

**We will assist our community and natural environment to develop a high level of resilience, be better able to withstand shocks and impacts and have an enhanced ability to recover from residual impacts of natural hazards.**

Hornsby is already being impacted by a range of natural hazards such as extreme storm events, bushfires, flooding, drought, urban heat island effect and coastal inundation. Climate change is likely to increase this risk over time causing damage to life and property. AdaptNSW climate data modelling indicates significant challenges for NSW in terms of scenarios for air temperature, rainfall, wind, bushfire incidence and sea level rise. The predictions for the Hornsby region can be seen in Table 2 below.

There is currently 68 percent of Hornsby Shire land classified as Bushfire Prone Land making bushfire the most significant potential natural hazard for the municipality. Many residents within Hornsby Shire live in close proximity to the bush, as it provides aesthetic and recreational opportunities, however such proximity increases the potential risk of bushfire impacting life and property. Over the past two years, Hornsby Shire has experienced several major storm events causing damage, social disruptions and financial costs.

Many low-lying properties in the Hornsby Shire are known to be vulnerable to flood and inundation. To protect property from this risk, restrictions on development consider a 100-year flood events and take into consideration predicted sea level rises.






	Scenario	Projected Future Change	
	Bushfire Incidence	Increase in severe fire weather. Forest Fire Danger Index (FFDI) is used in NSW to quantify fire weather. The FFDI combines temperature, humidity and wind speed. Fire weather is classified as severe when the FFDI is above 50.	
	Sea Level Rise	Decrease in East Coast Lows (ECLs) during winter and an increase in frequency and intensity of ECLs during the summer months. ECLs impact on dam filling cycles. Projections from 2007 indicate that there is an expected Sea Level Rise (SLR) of 0.4 metres by 2050 and 0.9 metres by 2100.	
		2030 Projection	2070 Projection
	Air Temperature	Maximum temperatures to increase by 0.7 <sup>o</sup> C Minimum temperatures to increase by 0.6 <sup>o</sup> C 4 more days above 35 <sup>o</sup> C / year	Maximum temperatures to increase by 1.9 <sup>o</sup> C Minimum temperatures to increase by 2.0 <sup>o</sup> C 11 more days above 35 <sup>o</sup> C / year
	Rainfall	Rainfall is projected to decrease in spring and winter.	Rainfall is projected to increase in summer and autumn.
	Wind	Change in average wind speed between -5% and +8%	Change in average wind speed between -16% and +24%

Table 2 – AdaptNSW climate change challenges for Metropolitan Sydney (Source: AdaptNSW, 2019 based on 2014 levels)



Photo 16 – Bureau of Meteorology storm cell radar

Coastal inundation and extreme water levels will also be exacerbated for properties adjacent to the Hawkesbury estuary, as mean sea levels continue to increase. While all risk cannot be eliminated, it is important for Council to undertake precautionary measures to maximise community safety, while also managing the ecological impacts of these events on our natural environment.





## What Council is doing now

- Monitor estuary condition to inform management priorities and actions
- Maintain asset protection zones and help coordinate fire reduction activities with RFS and the community
- Continue to improve our understanding of bushfire, flood and coastal inundation risk to guide appropriate development decisions
- Work collaboratively with combat agencies to improve approaches to emergency preparedness, management and response
- Developing and implementing effective, risk-based land management and planning arrangements and other mitigation activities
- Having effective arrangements in place to inform people about how to assess risks and reduce their exposure and vulnerability to hazards
- Working in a swift, compassionate and pragmatic way to help communities recover from devastation and to learn, innovate and adapt in the aftermath of disastrous events
- Working with our insurers to ensure climate change risks are identified and adaptation strategies developed.



Photo 17 – Bushfire clean up by RFS

## What Council will do

Through the implementation of our:

- Bushfire Management Strategies – Hornsby Ku-ring-gai Bushfire Risk Management Plan and Hornsby Bushfire Risk Management Strategy
- Coastal Management Programs – Hawkesbury / Nepean and Sydney Harbour Coastal Management programs
- Flood Plain Risk Management Plan
- Urban Forest Strategy
- Biodiversity Conservation Strategy
- Water Sensitive Hornsby Strategy, and
- Climate Wise Hornsby Plan.

Council aims to:

- Reduce the risk of natural hazards
- Advocate for the undergrounding of overhead power lines
- Maintain infrastructure
- Educate and engage with the community through a community resilience program
- Increase social and ecological resilience to impacts of natural hazards
- Support the community to become more prepared and resilient in living with natural hazards
- Increase our capacity to recover quickly from disruptions.

By achieving the following:

- Adopt best practice methodology to model and analyse natural hazards and risk to community assets
- Continually incorporate best available data
- Determine and prioritise mitigation, adaptation and management responses
- Communicate natural hazard risk to the community at the hazard interface e.g. bushfire, coastal, flooding zone.

## 6 Integration

Sustainable Hornsby 2040 is based on the interconnection and holistic linking of several key Council documents including:

- Waste Matters Strategy 2019
- Biodiversity Conservation Strategy 2020
- Urban Forest Strategy 2020
- Vision and Transition Strategy for a Water Sensitive Hornsby 2020,
- Climate Wise Plan 2020
- Walking and Cycling Strategy 2020
- Integrated Land Use and Transport Strategy 2004
- Bushfire Management Strategy
- Coastal Management Programs
- Flood Plain Risk Management Plan.

Many of the outcomes and actions of the supporting strategies and plans are complementary and synergistic. For instance: outcomes from the Waste Matters Strategy of reducing illegal dumping and littering and protecting the environment, will strengthen the objectives of the Water Sensitive Hornsby and Biodiversity Conservation Strategies by further protecting the environment and restoring disturbed ecosystems.

The outcomes of the activities of the Coastal and Floodplain Management strategies will result in improved treatment and reuse of stormwater, which will further create and improve habitats and waterway conditions. Both will ensure quality urban space, as will implementation of the actions of the Urban Forest Strategy. Together with the Urban Forest Strategy, Hornsby Shire will see an increase in biodiversity corridors and tree canopy. These strategies also interconnect with the Integrated Land Use and Transport Strategy 2004 and Walking and Cycling Strategy 2020 which plans to establish connections between existing facilities and improve streetscapes to be safe and conducive to walking/cycling. That strategy aims to educate residents of the health and environmental benefits of walking and cycling within the Shire, which aligns well with the Biodiversity Conservation Strategy aim of connecting people to nature and the Climate Wise Hornsby 2020 strategy of reducing greenhouse emissions.

In train, the Climate Wise Hornsby objective of reducing greenhouse gas emissions, will be amplified by the results of the Waste Matters Strategy of reducing domestic waste disposal to landfill, reduced car usage ensuing from the Integrated Land Use Transport Strategy, and reduction of urban heat effects due to the Urban Forest Strategy.

Through the implementation of our Urban Forest Strategy, Water Sensitive Hornsby Strategy, and Climate Wise Hornsby Plan, Council aims to reduce the risk of natural hazards. Council is developing a draft Bushfire Risk Management Strategy and Coastal Management Programs to inform preparedness and emergency response to natural hazards. In combination, this strategic work will provide the foundation (actions and project outcomes) on which we will work with our community.



*Photo 18 – Macro and micro the world in every dewdrop.*



*Photo 19 – Community Collaboration on the Strategy.*



## 7. Collaboration

We will seek opportunities to leverage external funding sources where possible. We will also leverage our strong and productive relationships with state and local governments, not-for-profit organisations, research organisations and community groups to maximise our combined impact. As shown in Figure 14 we will work with the following agencies on our priorities.

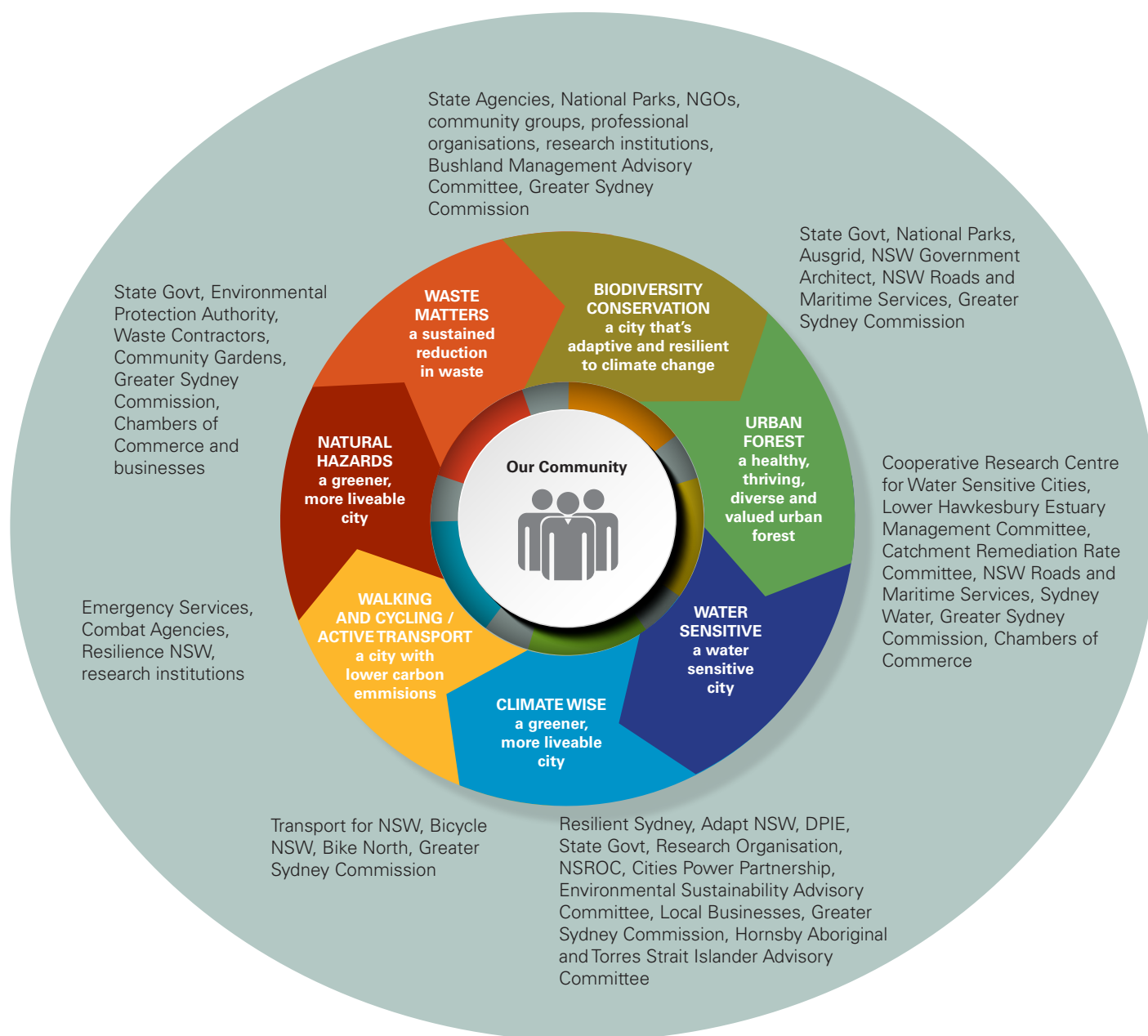


Figure 14 – Collaborators on Sustainable Hornsby 2040 with our community always at the centre.

## 8. Monitoring and Reporting

Continual monitoring will be undertaken on each theme to report on progress against the delivery of its goals. Every four years, Council will revise this Strategy and the supporting documents and provide appropriate updates.

Updates will be provided through Council's annual reporting process to ensure we adapt to the fast-paced changes in technology, science and the political environment. The implementation of actions/tasks will be subject to the prioritisation and availability of Council staff and financial resources.

The following monitoring will be undertaken at various timepoints to track our progress:

- CRC for Water Sensitive Cities benchmarking
- Public tree audits and tree canopy cover data acquisitions
- Waste audits for the amount of waste collected and recovered
- Greenhouse gas emissions for corporate and community and percent reduction achieved
- Number of actions implemented in the Biodiversity Conservation Strategy
- Establish baseline biodiversity and natural resources monitoring program
- Benchmarking against ICLEI International Covenant of Mayors
- Preparation and delivery of Natural Resource Education, Engagement and Communications Strategy
- Reporting on implementation will also occur through Council's advisory groups.
- A list of key actions and tasks from each strategy can be found in Appendix 1.

### Advisory Committees

Council has a number of advisory committees that assist Council with environmental and sustainability matters. These committees include:

#### Environmental Sustainability Advisory Committee (ESAC)

The purpose of the Environmental Sustainability Advisory Committee is to advise Council on environmental sustainability related issues and be a conduit to the community for engagement on environmental sustainability matters. The Committee particularly advises and participates in the implementation, monitoring and review of Sustainable Hornsby 2040.

The membership of the committee comprises:

- Up to five Councillors
- One senior representative of the Strategy and Place Unit
- Up to seven community representatives as approved by Council that are demographically representative of the Shire
- Membership is also to be offered to relevant government agencies.

#### Bushland Management Advisory Committee (BMAC)

The purpose of the Bushland Management Advisory Committee is to advise Council on implementation of best practice bushland management, help promote bushland programs and assist in the community engagement of implementation of bushland programs.

The membership of the committee comprises:

- Up to four Councillors
- One senior representative of the Natural Resources Branch
- Up to seven community representatives as approved by Council
- Up to 3 representatives from an organisation related to care or maintenance of bushland
- Membership is also to be offered to relevant government agencies.

#### Lower Hawkesbury Estuary Management Committee (LHEMC)

The purpose of the Lower Hawkesbury Estuary Management Committee is to oversee the implementation of actions and strategies as contained within the Lower Hawkesbury Estuary Management Plan.



The membership of the committee comprises:

- Up to three Councillors
- Relevant NSW State Government agencies and authorities
- Community representatives (individuals, boating associations, recreational groups, resident progress associations, fishing clubs, etc.)
- Commercial representatives (tourism, fishing, oyster farming, marinas, etc.)
- Central Coast Council.

#### **Hornsby Aboriginal and Torres Strait Islander Consultative Committee (HATSICC)**

The purpose of the Hornsby Aboriginal and Torres Strait Island Consultative Committee is provide a vital link between Hornsby Shire Council and the Aboriginal and Torres Strait Islander peoples in the Hornsby LGA, respecting Aboriginal and Torres Strait Islander peoples' right to self-determination and community empowerment. The committee provides advice, input and feedback in Hornsby Shire Council's business and affairs relating to Aboriginal and Torres Strait Islander people within the LGA including appropriate approaches for consultation with the Aboriginal and Torres Strait Islander communities. The committee also provides advice, input and feedback to Council's work to promote an increased knowledge and understanding of Aboriginal and Torres Strait Islander culture and society in the wider community.

The membership of the committee comprises:

- Up to 6 Councillors
- A maximum of 12 community members, and applicants must be:
  - a representative of the Traditional Owners in the Hornsby LGA, that is the Durug and Guringai peoples; or
  - Aboriginal or Torres Strait Islander peoples who live, work, study or have a strong commitment to the Hornsby LGA; or
  - An individual or representative of a local community organisation with a demonstrated commitment, sensitivity to and understanding of issues relating to the local Aboriginal & Torres Strait Islander people.

Council looks forward to working with our community on this integrative and ambitious strategy and to the positive future we can co-create together one step at a time.





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## Appendix 1 – Actions /Tasks

Waste Matters Strategy		
ID	Actions / Tasks	Priority High, Medium, Low or Ongoing
WA1	Education on how to effectively use available waste services	Ongoing
WA2	Ensure kerbside recycling services remain viable and strong in the face of global recycling crisis	Ongoing
WA3	Monitor alternative processing options for organic waste recycling	Medium
WA4	Explore options to divert bulky waste into waste to energy processing	Medium
WA5	Ban accepting E -waste in bulky clean up service and promote drop off at Thornleigh CRC	High
WA6	Consider expanding bulky clean up services for 5 storeys and apartments	High
WA7	Consider options to recycle mattresses	High
WA8	Monitor alternative processing options to recover organics and recyclables from public place bins	Low
WA9	Investigate expanding problem household waste materials accepted at Thornleigh CRC	High
WA10	Seek expansion to the Return and Earn network for container returns for State Government	High
WA11	Seek EPA Annual Chemical CleanOut service within the Shire	High
WA12	Investigate annual e-waste drop-off event for rural residents	High
WB1	Use multiple communication channels and programs to promote desired waste	Ongoing
WB2	Develop initiatives to promote the re-use, repair and repurposing of household items	Medium
WB3	Deliver a targeted units and apartments waste reduction program	High
WB4	Support home composting and worm farming	Ongoing
WB5	Develop a program to help the community reduce plastics consumption and recycle plastics	High
WB6	Provide and promote tenant information packs for renters and new property owners	High

WB7	Promote our local waste champions and help give them a voice to encourage others	Ongoing
WB8	Deter illegal dumping and littering through an integrated approach of infrastructure, education and compliance.	Ongoing
WB9	Investigate a waste volunteers program	High
WC1	Promote improved waste management and increased uptake of recycling at businesses and schools	Medium
WC2	Encourage businesses to use the NSW EPA's free BinTrim waste audit program	Medium
WC3	Support local community organisations promoting waste messages such as home composting, community gardens and the like	Ongoing
WC4	Develop special events waste management guidelines and promote better event waste management	High
WC5	Review Council's sustainable procurement policy to support the purchase of products and materials with recycled content	High
WC6	Ensure Council buildings, operations and activities have best practice waste management	Ongoing
WC7	Develop a Council single use plastics policy	High
WD1	Lobbying and advocacy for policy, regulatory and other reforms to enable whole-of-system action on challenging waste problems including circular economy, responding to the Global Recycling Crisis, regulatory impacts on waste processing options and packaging issues	Ongoing
WD2	Lobby the NSW government to return waste levy funds to support local resource recovery programs	Ongoing
WD3	Actively participate in regional local government forums to identify and implement regional solutions for North Sydney Region	Ongoing
WD4	Actively explore opportunities to secure improved waste infrastructure and services for the Northern Sydney Region	Ongoing

## Biodiversity Conservation

ID	Actions / Tasks	Priority High, Medium, Low or Ongoing
B1.1.1	Assess and update the 'terrestrial biodiversity' lands coverage to ensure consistency with existing Council biodiversity policies	High
B1.1.2	Implement the revised HLEP 2013 Terrestrial Biodiversity Map	High



B1.1.3	Assess the capacity of local strategic planning instruments (e.g. LEPs, DCPs) and land management documents to support the implementation of a Green Infrastructure Framework	High
B1.1.4	Review current biodiversity conservation management within the HDCP	Medium
B1.2.1	Assess Plans of Management for Natural Areas to enhance biodiversity conservation outcomes	High
B1.2.2	Assess opportunities for the establishment and preservation of buffer zones around TECs, threatened species, remnant vegetation and riparian zones across the Shire	High
B1.2.3	Identify mechanisms to inform residents of significant biodiversity features and remnant vegetation on their land	High
B1.2.4	Assess potential new standards for bird safe buildings, including information material, guidelines for retrofitting and DA assessment	Medium
B1.2.5	Prepare/review guidelines for vegetation management and compliance	High
B1.2.6	Maintain policy position on companion animal management and strengthen delivery if required	Ongoing
B1.2.7	Promote and support Wildlife Protection Areas, Wildlife Refuges and Conservation Covenants on private lands	Ongoing
B1.2.8	Prepare strategies, policies and guidelines that support best practice management of stormwater on Council managed lands	Ongoing
B1.2.9	Maintain green wall and roof provisions for new developments/ retrofits	High
B1.2.10	Assess opportunities to maximise biodiversity on private and public lands	Ongoing
B1.3.1	Identify, promote and implement conservation incentive schemes offered through governments, research institutions and private sector	Ongoing
B1.3.2	Prepare guidelines and identify special incentives to prioritise biodiversity on private lands	Medium
B1.4.1	Assess core, transition and key corridor areas to target management actions that reduces edge effects, and supports biodiversity enhancement	High
B1.4.2	Prepare strategies that reduce edge effect impacts for biodiversity and wildlife	High

B1.4.3	Assess 'dark sky' policies and develop measures to limit light pollution disturbance to wildlife	Medium
B1.5.1	Prepare a vulnerability assessment to determine future impact of climate change on biodiversity values	High
B1.5.2	Prepare biodiversity adaptation strategy to minimise climate impacts through policy, planning instruments and operational activities	High
B1.5.3	Maintain seed banking program	Ongoing
B1.6.1	Prepare biodiversity monitoring program for council managed lands (as part of a wider Natural Resources Monitoring Program)	High
B1.6.2	Implement monitoring program for council managed lands	Ongoing
B1.6.3	Implement surveys to measure community awareness of local biodiversity values and issues	Ongoing
B1.6.4	Prepare and implement private property surveys to benchmark existing site conditions and gather new data on biodiversity	Ongoing
B1.6.5	Assess and update vegetation mapping (including GIF corridors)	Ongoing
B1.6.6	Establish a monitoring program for fire related activities	High
B1.6.7	Assess the condition and biodiversity value of roadside vegetation	High
B1.6.8	Identify keystone species distribution to guide bushland management prioritisation	Medium
B1.6.9	Assess presence of migratory species and manage potential habitat accordingly	Medium
B2.1.1	Identify a GIF which includes core, transition, and corridor areas	High
B2.1.2	Assess mechanisms to link and identify GIF and conservation values to land title	Ongoing
B2.1.3	Assess the application of the GIF within public domain and precinct planning	Ongoing
B2.1.4	Assess benefits and impacts of GIF on biodiversity	Ongoing
B2.2.1	Review and implement a biodiversity offsets policy to support conservation on private and public land	High
B2.3.1	Assess opportunities for large-scale planning and joint initiatives to link the GIF with protected areas and corridors beyond Council boundaries	Ongoing
B2.3.2	Maintain collaboration with partner land managers and fire agencies to facilitate best practice bushfire management on a landscape scale	Ongoing
B2.3.3	Assess opportunities for reserve network expansion on council managed, other public lands and adjacent estuarine areas	High



B2.4.1	Prepare a Natural Areas Recreational Strategy	High
B3.1.1	Implement best practice in the application of chemical use in the maintenance of public open space	Ongoing
B3.1.2	Prepare and implement a guide for on ground environmental works	Medium
B3.1.3	Maintain the Bush Regeneration Program on Council-managed lands	High
B3.1.4	Maintain HSC Community Nursery programs and support Native Plant sales and giveaways	Ongoing
B3.1.5	Identify barriers to fauna movement and implement appropriate design solutions	Medium
B3.1.6	Assess and prioritise ecological restoration activities associated with bushfire incidents and mitigation activities	Ongoing
B3.1.7	Maintain a council On Site Sewage Management System inspection program	Ongoing
B3.2.1	Prepare and implement Biosecurity Management policies and plans	High
B3.2.2	Maintain council operations in line with obligations under the NSW Biosecurity Act 2015	Ongoing
B3.2.3	Represent Council at relevant biosecurity related forums, workshops, conventions	Ongoing
B3.2.4	Perform Council's functions under the NSW Biosecurity Act 2015 as the delegated local control authority for weed biosecurity within the Hornsby LGA	Ongoing
B3.2.5	Maintain and improve management of high priority weed species on Council managed lands	Ongoing
B3.2.6	Maintain council membership in the Sydney Weeds Committee and other relevant committees	Ongoing
B3.2.7	Identify opportunities to work with private landholders to control weed species	Ongoing
B3.2.8	Support the implementation of Regional Strategic Pest Animal planning	Ongoing
B3.3.1	Assess feasibility of placing all new infrastructure underground to enable streetscape planting	Ongoing
B3.3.2	Implement guidelines for species selection for public spaces and street tree plantings (i.e. parks, verges & streetscapes) to improve biodiversity on council managed lands	Ongoing

B4.1.1	Prepare Green corridors schematics to demonstrate planning principles in wildlife corridors	High
B4.1.2	Assess potential buy-back arrangements and other enduring protection mechanisms for areas recognised as critical linkages in	Ongoing
B4.2.1	Implement and enforce requirements to include appropriate stormwater treatment, re-use, retention and detention systems on new public domain projects	Ongoing
B4.2.2	Assess adequacy of onsite rain and grey water treatment/reuse devices for existing and new development	Ongoing
B4.2.3	Identify mechanisms and prepare strategy to improve water quality in dams across rural areas	Ongoing
B4.2.4	Maintain monitoring data to inform and prioritise infrastructure renewal for wastewater systems	Ongoing
B5.1.1	Prepare a Natural Resources communication, engagement and education strategy	High
B5.1.2	Assess opportunities for eco-tourism and passive recreation surrounding both aquatic and terrestrial ecosystems	Ongoing
B5.1.3	Prepare interactive mapping/citizen science interface	Ongoing
B5.1.4	Identify regular networking opportunities through program of themed events, film nights, guest speakers and site visits	Ongoing
B5.2.1	Implement staff, contractor and volunteer training as appropriate to increase awareness of biodiversity and conservation values	Ongoing
B5.2.2	Implement community education program in support of natural resources strategic themes	Ongoing
B5.2.3	Identify and expand community and group planting days	Ongoing
B5.2.4	Identify opportunities to partner with NSW Government to deliver workshops for sustainable management of rural land	Ongoing
B5.2.5	Identify opportunities to attract high profile media personalities to workshops	Ongoing
B5.3.1	Identify opportunities to recognise and support individuals, community groups, businesses and schools' efforts and achievements in biodiversity conservation	Ongoing
B5.3.2	Maintain Council's Bushcare programs and related initiatives	Ongoing



B5.3.3	Identify education/monitoring/compliance avenues, for example: campaign for tree protection <i>'Don't be a Lopper/Dob in a Chopper'</i>	Medium
B5.3.4	Identify suite of citizen science tools with a clear presence on Council's website and Council events which incorporate community partnerships (i.e. Streamwatch, Men's Sheds, Scout groups, etc)	Ongoing
B5.3.5	Identify opportunities for collaboration with local Indigenous communities and consultative bodies	Ongoing
B5.3.6	Identify opportunities to collaborate with tertiary institutions	Ongoing
B5.4.1	Identify opportunities to promote HSC's ecological research and biodiversity through publishing and conferences	Ongoing
B5.4.2	Maintain communications around Council's biodiversity priorities and action to community and stakeholders	Ongoing

Urban Forest Strategy		
ID	Actions / Tasks	Priority High, Medium, Low or Ongoing
U1.01	Collect current qualitative and quantitative data regarding Hornsby's public urban tree assets, including street trees and trees within community land classified as Community Parkland or Sports field	High
U1.02	Incorporate data from tree inventory into Council's asset management system	High
U1.03	Implement tree management in line with best practice asset management	High
U1.04	Collect and assess knowledge and data from existing and proposed programs to inform the masterplan preparation	High
U1.05	Prepare a Street Tree Master Plan to inform the strategic and operational management of these assets.	High
U1.06	Engage all relevant sections of Council to ensure the Street Tree Master Plan is supported through other works programs.	High
U1.07	Capital and operational expenditure need to be informed by the Masterplan and integrated within Council's community strategic planning process.	High
U1.08	Develop a urban tree management policy that standardises decision making processes against a clear Council objectives all elements of street and park tree management	High

U1.09	Prepare a policy that aligns with the Biodiversity Conservation Strategy 2020 to manage the protection of trees and provide guidance for other practices along rural roads.	High
U1.10	Prepare a yearly schedule of maintenance and management works, based on the results from the street tree data collection, to improve the overall health and amenity of street trees.	High
U1.11	Prepare guidelines that incorporate the working processes, supporting standards, guidelines and preferred species selection list for staff to make daily decisions regarding tree management.	High
U1.12	Update the guidelines regularly to reflect best practice tree management, new evidence and research, Australian standards and other asset guidelines such as water sensitive urban design protocols.	Low
U1.13	Audit all tree management decision making and procedures to identify areas to improve efficiencies and remove duplication and inconsistencies.	Medium
U1.14	Implement changes and solutions to streamline procedures e.g. customer requests, procurement and data management.	Medium
U1.15	Support staff to implement changes and solutions through education and building capacity	Medium
U1.16	Develop a tree valuation methodology, using data captured from the tree inventory, for Hornsby's public trees, including environmental, social and economic benefits of trees.	High
U1.17	Investigate using valuations to implement bonds	High
U1.18	Use valuations to improve education and awareness within Council and the community about the benefits of trees in urban and bushland settings.	High
U1.19	Investigate an appropriate process, using the valuation method, to implement and enforce public tree protection bonds as condition of consent for private development that may impact on public trees.	High
U1.20	Develop a clear and efficient system for real time data updates to the tree database when any staff or contractor complete work on a public street tree.	Medium
U1.21	Incorporate relevant urban forest objectives and make reference to the Urban Forest Strategy when Plans of Management are reviewed and updated.	Medium
U1.22	Continue to work closely with Ausgrid, Sydney Trains and Sydney Water regarding better outcomes for the urban forest in the planning and management of their assets.	Medium



U1.23	Align with NSW Roads and Maritime Services Landscape Design Guidelines 2019: Design guideline to improve the quality, safety and cost effectiveness of green infrastructure in road corridors.	Medium, Low
U1.24	Advocate for aerial cable bundling or undergrounding of powerlines where possible and feasible.	Medium, Low
U1.25	Measure canopy cover every five tree years and evaluate against baseline and intended targets for canopy and diversity	High
U1.26	Review Council's Community Nursery tree production program to ensure it is informed by future street tree masterplans and preferred street and park tree planting lists.	High
U1.27	Explore options where existing and proposed street trees can be provided in conjunction with expanded pathways.	High
U2.01	Measure and identify the change in tree canopy at lot scale across Hornsby's residential zones. Identify where on lots canopy trees are being removed (front, side, rear) and the relationship to other canopy trees in the public and private realm.	High
U2.02	Measure every 2-5 years given the rate of development and tree loss across the Shire.	High
U2.03	Investigate and measure the effectiveness of DCP controls using updated data	High
U2.04	Lobby with other local governments to the State Government to commit to collecting high resolution vegetation mapping for Greater Sydney on a regular basis e.g. every two or five years to provide temporal data set	Medium
U2.05	Engage with local developers to educate them on the importance and benefits of the urban forest, particularly in residential and mixed-use development	Medium
U2.06	Investigate trials or pilot projects, including possible incentives, for those developers interested in seeking better urban greening outcomes.	Medium
U2.07	Review current LEP and DCP controls, with a particular focus on setbacks to enable canopy retention and planting, for exempt and complying development.	High

U2.08	Prepare guidelines for developers for exempt and complying development to support Council's local strategic planning strategy and character statements across the LGA. Controls must be consistent with LEP outcomes and DCP controls.	High
U2.09	Using mapping data review existing canopy cover and explore opportunities to establish a target for rural lands that takes into account rural land use and biodiversity needs. This should include incentive programs for increasing canopy.	High
U2.10	Develop relevant LEP standards (Part 4 of the standard LEP template) to support the protection and management of existing canopy trees and future canopy planting within relevant land use zones and consistent with local character statements	High
U2.11	Review current DCP provisions and consider the hierarchy of protecting, restoring and creating canopy across the local government area consistent with local character statements, tree canopy targets and district planning directions.	High
U2.12	Review and identify state policies and planning instruments that provide significant hurdles to delivering better urban forest outcomes on the ground. These include, but are not limited to: State Environmental Planning Policy, 10/50 Bushfire Clearance Entitlements, Housing targets, Electrical Line Clearance Regulation	High
U2.13	Engage with relevant state government agencies to lobby for policy and planning instrument change because of inconsistencies with greener city objectives as stated in the District Plans and Council strategies.	High
U2.14	Review the future scope of the Green Offset Policy to determine whether it looks to deliver both biodiversity and tree canopy outcomes	High
U2.15	Develop a tree canopy policy to support the LEP and DCP if its determined that the focus of that Green Offset Policy remains primarily biodiversity	High
U2.16	Review compliance procedures in a wholistic manner across the Organisation, to support statutory planners and compliance officers in their ability to audit, enforce conditions of consent and seek prosecution for breaches	High
U2.17	Identify species for private landscaping with consideration for public/private habitat and amenity linkages, locational characteristics, tree growth and canopy spread and maintenance.	High
U2.18	Prepare planting and establishment technical advice for landowners replacing trees, for developers/homeowners planting new trees and people moving into new developments.	High



U2.19	Develop a set of guidelines and Community Nursery-located examples for high rise residential and/or commercial development to encourage take up and implementation of alternative elements of greening.	High
U2.20	Develop education and awareness campaigns about how individual trees are equally important for the whole forest	Medium
U2.21	Develop recommended tree planting guides and continue free tree giveaways for species of trees less likely to cause future issues	Medium
U2.22	Investigate options to encourage new trees to be planted as part of new developments and explore other greening options for high rise development e.g. green roofs	Medium
U2.23	Develop development guidelines that include lot scale green infrastructure outcomes.	High
U2.24	Lobby with local government groups to develop industry wide housing development guidelines that include lot scale green infrastructure outcomes.	Medium
U2.25	Actively promote and implement Council's free tree giveaway program	High
U2.26	Develop ongoing media and communications pieces talking to the issue of tree canopy loss on private property and what community member can do about it.	High
U2.27	Develop case studies and education collateral	Medium
U2.28	Implement interactive community workshops and forums on trees for wildlife, bushfire and trees, Hornsby's Tall trees, Hornsby's remnant vegetation and green corridors.	Medium
U3.1	Incorporate the Urban forest Strategy targets into Council's operational and delivery plan programs and projects .	High
U3.2	Identify the role that urban trees play within the development of a strategic urban biodiversity framework which includes core, transition, and corridor areas and prioritise these areas for planning	Medium
U3.3	Prepare WSUD policy incorporating guidelines for all stormwater treatment and consistent with urban forest outcomes	Medium
U3.4	Align with Water Sensitive Hornsby project.	Medium
U3.5	Prepare green wall and green roof policy for new developments and retrofits	Medium
U3.6	Engage across the organisation. The group should be multi-disciplinary, have executive support and meet on regular basis to share knowledge and build internal capacity with a focus on integrated design and resilient landscapes.	Medium

U3.7	Develop objectives for the group, including supporting the statutory planners and practitioners with tools and evidence to inform their decision making.	Medium
U3.8	Continue to implement tree planting days on Council managed land.	Medium
U3.9	Deliver planting days specific to demographic groups, including culturally sensitive days to encourage greater participation and stewardship from local migrant groups, and youth-specific specific planting days.	Medium
U3.10	Engage and partner with the Guringai and Darug people to raise knowledge and awareness surrounding the cultural value of Hornsby's trees.	High
U3.11	Explore partnerships to develop an indigenous history of Hornsby's trees identify culturally significant trees.	High
U3.12	Develop a suite of engagement tools articles, community workshops, stories, competitions annually to reach out to the broader Hornsby community.	Medium
U3.13	Identify and target particular audiences, including migrant groups, youth, schools, tertiary students	Medium
U3.14	Notify and engage with residents regarding annual tree planting program including renewals.	Medium
U3.15	Explore the use of developing infographic style communications with landowners to demonstrate the importance of their street tree to the whole urban forest.	High
U3.16	Explore issues and confirm policy position regarding trees (existing and proposed) with solar panels	High



Water Sensitive Hornsby Strategy		
ID	Actions / Tasks	Priority High, Medium, Low or Ongoing
WS1.1.1	Develop an online mapping tool and submission form to collect data on local environmental values and conditions	High
WS1.1.2	Create an integrated database of local, state and federal environmental and biodiversity data	Medium
WS1.1.3	Develop and implement a program to assess condition of natural areas and gather baseline data	High
WS1.1.4	Encourage knowledge-sharing between Hornsby, Ku-ring-gai, and other councils with best practice environmental practices	Medium
WS1.2.1	Review compliance procedures and improve internal capacity to take a stricter and more consistent approach	High
WS1.2.2	Review preventative measures through planning controls	High
WS1.2.3	Lobby State Government for stronger biodiversity protection laws through coalition with other councils, industry and community groups	High
WS1.2.4	Engage and lobby State Government for stronger biodiversity protection laws through coalition with other councils, industry and community groups	Medium
WS1.3.1	Develop and implement proactive education programs targeting private landholders about the importance of their local waterway assets, how to protect them and what the compliance measures are	Medium
WS1.3.2	Develop targeted awareness campaigns for developers, business and residents that showcase the benefits of protecting the health of the environment (e.g. property values, business opportunities, health benefits)	Medium
WS1.3.3	Develop and assess incentive programs for enhancing ecological value	High
WS2.1.1	Develop place-based plans that incorporate a strong narrative around the local environmental, historical and indigenous heritage (informed through community engagement) and highlight linkages to other valuable networks	High
WS2.1.2	Examine different mediums to communicate the place-based narrative on-the-ground	High
WS2.1.3	Promote business opportunities in relation to recreational water activities and tourism	Low
WS2.1.4	Develop promotional material on the unique environmental and historical values within Hornsby	High

WS2.1.5	Develop a supporting business case to articulate the economic benefit of water sensitive outcomes (e.g. urban cooling and amenity)	High
WS2.2.1	Assess strategic routes for green and blue corridors	High
WS2.2.2	Capture and communicate lessons from demonstration projects to showcase advantages of place-based planning	High
WS2.3.1	Ensure integration across relevant LSPS strategies	High
WS2.3.2	Review and update existing public domain guidelines and town centre plans	Medium
WS2.3.3	Incorporate green and blue infrastructure targets into review of Development Control Plan and Local Environmental Plan	Medium
WS2.3.4.	Incorporate of natural asset within Council's strategic asset management system	High
WS2.3.5	Investigate the development of catchment specific environmental values and targets to inform the Development Control Plan and Local Environmental Plan	Medium
WS3.1.1	Influence current development of Council's engagement plan to ensure it covers water engagement needs	High
WS3.1.2	Review Hornsby Shire Council website to ensure resources are available and accessible	High
WS3.1.3	Map current community engagement initiatives and who is leading them in order to identify gaps in engagement	Medium
WS3.1.4	Investigate innovative engagement methods and principles through behaviour change research or engagement projects from elsewhere	High
WS3.1.5	Investigate and trial methods to build peoples' connection to water	High
WS3.2.1	Reinstate the education project control group with a clear charter and goal of providing consistent messaging and resources to community	Medium
WS3.2.2	Undertake engagement professional development training internally	Low/Medium
WS3.2.3	Ensure water is in the charter of the Environmental Sustainability Committee (which includes community members)	Low/Medium
WS3.2.4	Develop an Environmental Sustainability Engagement Plan to support Council's broad engagement plan	Medium
WS3.2.5	Consolidate and evaluate lessons from existing community engagement projects to inform future projects and to encourage innovation	High

WS3.3.1	Identify who to engage within the Aboriginal communities (beyond HATSIC) to initiate the conversation around what needs to be done	Medium
WS3.3.2	Expand and progress existing internal commitments around Aboriginal engagement	Low/Medium
WS3.3.3	Undertake aboriginal cultural awareness training for staff	Low/Medium
WS4.1.1	Understand and map existing behaviours among community, business and developers related to water quality	High
WS4.1.2	Identify how council staff and operations can influence behaviours	High
WS4.1.3	Develop a community engagement plan on natural resources management (incorporate into water management)	High
WS4.2.1	Develop catchment models to assess policy settings and development scenarios	High
WS4.2.2	Articulate and refine waterway objectives and values	High
WS4.2.3	Collate monitoring data to support catchment models	High
WS4.2.4	Develop visualisations from catchment models to assist communications and decision-making	High
WS4.3.1	Audit efficiency of planning instruments to restore and protect waterways	High
WS4.3.2	Review and compile lessons learnt from existing Water Sensitive Urban Design projects	High
WS4.3.3	Build expert community of practice to share knowledge and perspectives on water management and to co-create pathways and solutions to improve practices	High
WS4.4.1	Proactive compliance based on best evidence based compliance approaches	High
WS4.4.2	Provide information on Council's website on minimum acceptable practices by industry type	Low
WS4.4.3	Assess Council projects and external proposals for compliance with water sensitive urban design requirements	High
WS4.5.1	Council adopt planning policy to elevate water management in planning	High
WS4.5.2	Outcomes from catchment modelling influences planning	High
WS4.5.3	Develop council systems and processes to ensure integration of Council water strategies and policies outside of LSPS process (e.g. catchment plans)	High
WS5.1.1	Identify appropriate platforms to implement a place-based approach	High



WS5.1.2	Utilise new tools to quantify multiple benefits and develop business cases for water sensitive solutions, including the investigation of alternative water sources	High
WS5.1.3	Advocate for a review of BASIX to include broader planning issues	High
WS5.1.4	Develop precinct plans to deliver multifunctional water infrastructure to highest design standard	High
WS5.1.5	Develop incentives for integrated outcomes	High
WS5.2.1	Explore ideas for how Hornsby Town Centre and other priority planning areas can demonstrate water sensitive city outcomes through a design charrette or similar co-design process	High
WS5.2.2	Identify and implement opportunities through council works projects at the street, park and sub-catchment scale	High
WS5.2.3	Implement asset maintenance and renewal of water sensitive projects to ensure ongoing performance and effectiveness	High
WS6.1.1	Hold internal capacity-building activities to build breadth of knowledge within Council staff	Medium/High
WS6.1.2	Review development approvals process to determine why some elements are ineffective	Medium/High
WS6.1.3	Evaluate the effectiveness of existing collaborative governance solutions and approaches to inform future solutions	Medium
WS6.1.4	Deliver water sensitive city messaging to senior and executive staff	Medium
WS6.1.5	Ensure water is at the forefront of decision-making by making it an agenda item project control groups	Medium/High
WS6.1.6	Establish an informal regional water sensitive cities group that utilises online tools and forums to share knowledge and ideas	Medium
WS6.2.1	Develop theme-based control groups (e.g. water or environmental sustainability) that include officer and senior level staff	Medium/High

Climate Wise Hornsby Plan		
ID	Action / Task	Priority High, Medium, Low or Ongoing
C1.1	Complete the accelerated roll out of LED lighting on residential roads. Work with Ausgrid to install 4267 LED lights	High
C1.2	Complete the accelerated roll out of LED lighting on residential roads. Work with Endeavour Energy to install 50 LED lights	High
C1.3	Undertake roll out of LED lighting on main roads in partnership with Ausgrid	High -Medium
C1.4	Upgrade all parks decorative lighting with LEDs	Low
C1.5	Installation of solar at: Hornsby Aquatic Centre, Admin building, Galston Aquatic, Works depot, Pennant Hills Library, Fire Control, Overhead Bridge, Cherrybrook Community Centre, Recycling Centre, Berowra Library, Beecroft Community Centre, Berowra District Hall, Brooklyn Leisure and Learning, Arcadia Community Hall, Glenorie Community Centre, Hornsby Heights Community Centre, Mount Colah Community Centre, Thornleigh Community Centre and Wisemans Ferry Community Centre	High
C1.6	Replace all old globes with LED	High
C1.7	Purchase of green power or renewable energy through electricity contract 20%, 50%, 100%	High
C1.8	Purchase green offsets when flying	High
C1.9	Investigate installation of Building Management System at Pennant Hills Library, Administration Building and Hornsby Library Ensure appropriate temperature set points	High
C1.1	Undertake energy audit at Hornsby Aquatic Centre Monitor and manage Hornsby Aquatic Centre to optimise consumption utilising the existing Building Management System	High
C1.11	Report target vs actual for energy use for facilities that have +/- 20% variation on contract Active management of high-end electricity users Increase awareness of operators and users of buildings	High
C1.12	Plant trees where feasible to reduce heat load on buildings, winter winds and noise	Medium-low

C1.13	<p>Develop and deliver an education program for fleet drivers to:</p> <p>Ensure that appropriately sized vehicles are used for each load or trip to minimise fuel consumption ensure optimal use of vehicles</p> <p>Regular maintenance ensure vehicle is fit for purpose and utilise more renewable fuels</p> <p>Optimise tyre performance to reduce fuel consumption by selecting lighter wheel and tyre systems and tyres that lower rolling resistance</p> <p>Check tyre wear at least monthly and keep tyres inflated at, or 10% above the recommended level</p> <p>Monitor fuel consumption for each vehicle (e.g. via fuel cards) to identify vehicles with unusually high fuel consumption. High fuel consumption is indicative of possible need for maintenance</p>	Medium
C1.14	Conduct fleet review to optimise and reduce emissions by changing over to hybrid and/ or electric vehicles for Council owned vehicles, where financially feasible.	High
C1.15	<p>For new and old Council owned buildings, augment building envelope where possible:</p> <p>Through proper insulation</p> <p>Reduce heat loss / infiltration through buildings' exteriors</p> <p>Optimise window / blind operation</p> <p>Use double glazing</p> <p>Reduce summer heat with cool roofs</p> <p>Plant a green roof or green wall where feasible</p>	Low
C1.16	Investigate the establishment of a carbon offset program through the planting of 25,000 trees	Medium-low
C1.17	Implement Council's Waste Matters Strategy	High
C1.18	Review, update and implement Council's Sustainable Procurement Determination	High
C1.19	Work with Council's contractors to minimise their carbon emissions and report accurately	High
C2.1	Implement Electric Vehicle (EV) Charging Stations on Public Land Policy	High
C2.2	Support the uptake of electric vehicles, including installation of public charging stations and investigation of planning controls to require charging infrastructure in new developments	Medium
C2.3	Implement Car Share Parking Policy	High
C2.4	Advocate for the reduction in use of private vehicles and increased use of public transport	High – Medium
C2.5	Work with partners to develop a program for Environmental Upgrade Agreements	Medium



C2.6	Work with the community to determine the viability of a community solar farm	High
C2.7	Deliver behaviour change and community education programs on sustainability	High
C2.8	Seek a partnership to test and increase uptake of solar retrofit	Medium
C2.9	Produce a GIS layer of houses within the Shire with rooves unaffected by trees and target solar information to these households	High
C2.10	Advocate to developers for buildings designed to achieve low energy properties and precincts above planning policy regulations	High
C2.11	Lobby State Government to increase BASIX requirements	High
C2.12	Investigate Solar My Schools program or other large-scale community solar roll out	Medium – low
C2.12	Incorporate carbon zero processes into the design, development and ongoing use of town centres i.e. Hornsby Town Centre e.g. building materials, waste generation & disposal, energy production on scale	High
C2.13	Implement the Waste Matters Strategy to increase diversion of waste from landfill	High – Medium
C2.14	Investigate combined solar farm and car parking with EV charging	Medium-Low
C2.15	Advocate to Transport for NSW for the provision of adequate commuter car parking and cycling facilities for customers of the public transport network – rail and ferry	High – Medium

### Walking and Cycling Strategy

ID	Action / Task	Priority High, Medium, Low or Ongoing
	To be added following finalisation of draft Walking and Cycling Strategy	

### Natural Hazards

ID	Action / Task	Priority High, Medium, Low or Ongoing
	To be added following finalisation of draft Bushfire Risk Management Strategy and Coastal Management Program	

# NEED HELP?

This document contains important information. If you do not understand it, please call the Translating and Interpreting Service on 131 450. Ask them to phone 9847 6666 on your behalf to contact Hornsby Shire Council. Council's business hours are Monday to Friday, 8.30am-5pm.

## Chinese Simplified

需要帮助吗？

本文件包含了重要的信息。如果您有不理解之处，请致电131 450联系翻译与传译服务中心。请他们代您致电9847 6666联系Hornsby郡议会。郡议会工作时间为周一至周五，早上8:30 - 下午5点。

## Chinese Traditional

需要幫助嗎？

本文件包含了重要的信息。如果您有不理解之處，請致電131 450聯繫翻譯與傳譯服務中心。請他們代您致電9847 6666聯繫Hornsby郡議會。郡議會工作時間為周一至周五，早上8:30 - 下午5點。

## German

Brauchen Sie Hilfe?

Dieses Dokument enthält wichtige Informationen. Wenn Sie es nicht verstehen, rufen Sie bitte den Übersetzer- und Dolmetscherdienst unter 131 450 an. Bitten Sie ihn darum, für Sie den Hornsby Shire Council unter der Nummer 9847 6666 zu kontaktieren. Die Geschäftszeiten der Stadtverwaltung sind Montag bis Freitag, 8.30-17 Uhr.

## Hindi

क्या आपको सहायता की आवश्यकता है?

इस दस्तावेज़ में महत्वपूर्ण जानकारी दी गई है। यदि आप इसे समझ न पाएँ, तो कृपया 131 450 पर अनुवाद और दुभाषिया सेवा को कॉल करें। उनसे हॉर्न्सबी शायर काउंसिल से संपर्क करने के लिए आपकी ओर से 9847 6666 पर फोन करने का निवेदन करें। काउंसिल के कार्यकाल का समय सोमवार से शुक्रवार, सुबह 8.30 बजे-शाम 5 बजे तक है।

## Korean

도움이 필요하십니까?

본 문서에는 중요한 정보가 포함되어 있습니다. 이해가 되지 않는 내용이 있으시면, 통역번역서비스(Translating and Interpreting Service)로 전화하셔서(131 450번) 귀하를 대신하여 혼즈비 셔 카운슬에 전화(9847 6666번)를 걸어 달라고 요청하십시오. 카운슬의 업무시간은 월요일~금요일 오전 8시 30분~오후 5시입니다.

## Tagalog

Kailangan ng tulong?

Itong dokumento ay naglalaman ng mahalagang impormasyon. Kung hindi ninyo naiintindihan, pakitawagan ang Serbisyo sa Pagsasalinwika at Pag-iinterpretar (Translating and Interpreting Service) sa 131 450. Hilingin sa kanilang tawagan ang 9847 6666 para sa inyo upang kontakin ang Hornsby Shire Council. Ang oras ng opisina ng Council ay Lunes hanggang Biyernes, 8.30n.u.-5n.h.



**Hornsby Shire Council**

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**Visit us**

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**Office hours:** Please check the website for the latest opening hours for the Customer Service Centre and Duty Officer.

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