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OVERVIEW

Message from the Mayor

We are lucky to have a community in Waverley that is passionate and motivated to help protect our environment. We have been ambitious in doing our bit for climate change, and as a coastal Council are acutely aware of the potential impacts of climate change, particularly sea level rise.

Waverley Council has demonstrated an ongoing commitment to positive environmental change. Back in 2009, we were one of the first Councils in Australia to develop a consolidated environmental strategy which set a strong community vision and ambitious targets. In the time since, and despite population growth, we continue to reduce greenhouse gas emissions and potable water use. We have developed stormwater harvesting at all of our beaches, installed solar power at our major sites, restored our bushland and continue to increase the waste diverted from landfill.

I am happy to report that we have recently met our organisational greenhouse gas emissions target almost two years early. This not only reflects the effort undertaken by Council, but also the potential for the Waverley community to reduce our environmental impact overall.

There is still much to do to achieve a resilient and sustainable community in Waverley. We know the technology and the community will is there to support us in reaching this vision.

This plan, the Environmental Action Plan (2018-2030) outlines our targets beyond 2020 and where Waverley wants to be in the future. It is our roadmap for how we can get there.

We will continue to advocate, support, enable, collaborate, innovate and share knowledge as we move along this pathway to a better future.

Council looks forward to working closely with residents, businesses and visitors to continue to make our area a sustainable place to live, work and play.

John Wakefield
Mayor of Waverley

Introduction

Waverley is home to over 72,000 residents and a thriving business community. We live and work in a unique and beautiful corner of Sydney that is a stone’s throw from the city, while also enjoying world-class beaches, coastal bushland and urban pockets, green spaces and café precincts. We are committed to keeping it this way and improving it for future generations, whilst also contributing to the wider sustainability challenges facing the world today.

This is our Plan for how we will achieve positive environmental outcomes with, and for our community. Based on detailed research and best-practice considerations, the Environmental Action Plan outlines the approach and steps we are taking to address the following key focus areas:

- Reducing greenhouse gas emissions and preparing for climate change
- Improving sustainable waste management and recycling
- Conserving water and improving water quality
- Protecting and enhancing biodiversity
- Capacity-building and behaviour change: understanding the factors that inhibit change in the community and strengthening skills, competencies and abilities in order to enable long term change
- Collaboration and partnerships: Partnering with the local community, stakeholders and other change-makers to enhance our collective impact
- Leadership by example: Embedding sustainability in our own business practices, setting high expectations and delivering results whilst continually valuing and nurturing our critical relationships.

We aim to work in-house and together with the community to embed sustainability into our everyday and make it second nature in the way we use, reuse and dispose of resources, purchase, design and build, and care for nature.

We will continue to advocate, support, enable, collaborate, innovate and share knowledge as we move along this pathway to a better future.

Council looks forward to working closely with residents, businesses and visitors to continue to make our area a sustainable place to live, work and play.

John Wakefield
Mayor of Waverley
Advocacy and Policy

Council actively works to improve Policy both within and beyond our boundaries. Ensuring that Policies maximise environmental performance at all levels of Government is key to achieving our environmental targets. Our Plan supports and contributes to a number of global, Federal and State strategies and goals.

Global

- It also supports the Australian Federal Government’s commitments to the environment as a signatory of the historic global climate agreement arising from the 21st Conference of the Parties (COP21) in Paris, 2015. This commitment requires all signatories to “hold average temperature increase to well below 2 degrees and pursue efforts to keep warming below 1.5 degrees above pre-industrial levels”.

Federal

- The updated Federal Renewable Energy Target seeks to secure 23.5% of Australia’s electrical generation from renewable sources by 2020.

State

- The NSW Climate Change Policy Framework sets a target of Net Zero emissions by 2050.
- The NSW Climate Change Action and Recovery Strategy sets a clear target of 70% diversion of residential, commercial, and industrial waste to 75% by 2020/21.

Local

- Council advocates sound environmental protection through a number of plans and policies, including:
  - The Waverley Development Control Plan specifies detailed guidelines and development standards, which need to be considered in all new developments.
  - The Waverley Local Environmental Plan (LEP) regulates land use including building controls and provides guidance as to how we use our land.

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.

- Community members pledging their support

Partnerships & Collaboration

Council recognises the essential role that cross-collaboration and partnerships play in creating long-lasting environmental impact, through unleashing innovative thinking, overcoming challenges and mobilising resources.

- As such, Waverley Council has been fostering long-term reciprocal partnerships with local community groups and community members and actively working to increase their capability to successfully deliver their own environmental projects, by providing networking, knowledge-sharing and capacity-building opportunities.
- As a result, we have collectively delivered initiatives that are more innovative and focused leading to positive environmental outcomes and higher engagement rates.
- We will continue to work together with residents, local community groups and businesses to make sustainability in our area second nature.

We aspire to lead by example and ensure environmental sustainability is systemic and embedded across Council’s day-to-day business, services and operations.

The drive for environmental sustainability is changing the way local governments around Australia and the world operate, and we are no exception. We play an increasingly pivotal role in showcasing leadership and delivering positive outcomes in this space, in response to our local community expectations, current legislation and according to Australia’s National Principles for Sustainable Development.

In the short-term we are focusing efforts on:

- Nurturing and enabling a supportive internal culture;
- Refining our procurement processes to positively influence the supply chain;
- Ensuring our projects are designed and delivered to high sustainability standards, and
- Implementing staff behaviour change programs to reduce resource use and increase recycling.

We are committed to embedding sustainability as a way of working through: 

- Nurturing and enabling a supportive internal culture;
- Refining our procurement processes to positively influence the supply chain;
- Ensuring our projects are designed and delivered to high sustainability standards, and
- Implementing staff behaviour change programs to reduce resource use and increase recycling.

Our integrated planning and reporting framework

The Waverley Environment Action Plan is part of Waverley Council’s Integrated Planning and Reporting Framework. It is one of a suite of tools that inform Waverley Council’s Resourcing Strategy, Delivery Program and Operation Program.
Capacity-building and Behaviour change

Effective education, knowledge-building and behaviour change programs are key to us achieving our environmental goals at an organisation and community level.

We strive to deliver such change initiatives according to international best practice, which recognises:

- Understanding community’s needs and values;
- Considering best practice theory;
- Employing traditional and innovative methodologies;
- Undertaking extensive social and environmental research, and
- Careful monitoring and evaluation.

What the community told us:

Tools, theory and approaches we use for engagement and program design include: Theory of Change, IAP2 Public Participation model, co-design and participatory practices (face-to-face and online), Changeology, Community-Based Social Marketing, as well as capitalising on emerging trends in the digital space.

PROGRESS AGAINST TARGETS

Waste

No net increase in waste generation from 2004/05 levels

<table>
<thead>
<tr>
<th>Year</th>
<th>2004/05</th>
<th>2017/2018</th>
<th>Target for 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29,877</td>
<td>29,877</td>
<td>Good</td>
</tr>
</tbody>
</table>

Water Quality

75% resource recovery of residential and commercial waste by 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>2005/06</th>
<th>2017/2018</th>
<th>Target for 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28%</td>
<td>61%</td>
<td>75%</td>
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</table>

Transport

40% of total daily distance traveled by Waverley residents to be by public transport, cycling or walking by 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>2005/06</th>
<th>2017/2018</th>
<th>Target for 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11km</td>
<td>10.8km</td>
<td>9.35km</td>
</tr>
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</table>
Biodiversity

Ensure no loss of remnant vegetation based on 2009/10 numbers

- 2004/05: 59,347 m²
- 2014/15: 59,921 m²

40% of remnant vegetation in good condition by 2020

- 2009/06: 4%
- 2014/15: 4%
- Target for 2020: 40%

Council Greenhouse Gas Emissions

30% reduction of 2003/04 Council generated greenhouse gas emissions levels by 2020

- 2005/06: 7,612 tonnes CO₂-e
- 2017/2018: 5,594 tonnes CO₂-e
- Target for 2020: 5,328 tonnes CO₂-e

Community Greenhouse Gas Emissions

30% reduction of 2003/04 greenhouse gas emissions levels by 2020

- 2005/06: 5,328 tonnes CO₂-e
- 2017/2018: 5,328 tonnes CO₂-e
- Target for 2020: 5,328 tonnes CO₂-e

Council Water Use

50% reduction of 2005/06 levels of mains water consumption by 2020

- 2005/06: 6,208,951 kL
- 2017/2018: 6,564,106 kL
- Target for 2020: 6,208,951 kL

Community Water Use

Zero increase of 2005/06 levels of mains water consumption by 2020

- 2005/06: 6,208,951 kL
- 2017/2018: 6,208,951 kL
- Target for 2020: 6,208,951 kL

40% of remnant vegetation in good condition by 2020

- 2004/05: 4%
- 2014/15: 4%
- Target for 2020: 40%

2005/06

2017/2018

Target for 2020

478,725

475,763

335,126

10%

40%

100%

10%

40%

100%

2005/06

2017/2018

Target for 2020

6,208,951 kL

6,208,951 kL

6,208,951 kL
Protecting and increasing our local bushland, parks, trees and habitat areas

Despite Waverley LGA being densely populated, it has a range of biodiversity such as coastal heath bushland. Our parks and bushland protect our local animals, prevents erosion, absorbs carbon dioxide and reduce the urban heat island effect. Our green spaces are well loved and provide peace, beauty and solace to our residents and visitors.

Our bushland includes the critically threatened ecological community of Eastern Suburbs Banksia Scrub at Queens Park, and non-remnant parkland such as at Bronte Gully, Tamarama Gully, Thomas Hogan Reserve and Waverley Park. Planted native vegetation and wildlife habitat is also found throughout Waverley on private property, in street trees, nature strips and in our parks and pocket parks.

In our most recent fauna survey, 66 native terrestrial vertebrate species including 4 frog species, 11 reptile species, 38 native bird species and 4 mammal species were recorded. One threatened animal species, the Grey-headed Flying Fox, Pteropus poliocephalus, and one regionally significant bird, the Yellow-rumped Thornbill, Acanthiza lineata, were also recorded.

What are our goals?

40% of remnant vegetation in good condition by 2030

Remnant bushland protection and improvement

Ensure no loss of remnant vegetation based on 2009/10 numbers

Native Species Protection

There are 123 native plant species indigenous to the local area still present in the area. This represents around 8% of plant species from the Sydney basin. There is a small population of the threatened species Sunshine Wattle Acacia terminalis subsp. terminalis remaining at Loombah Cliffs in Dover Heights. A changing climate is also likely to increase pressures on our local plants due to potential changes in rainfall and temperature.

Waverley supports a wide range of birds, insects, reptiles and mammals such as possums and bats. These rely on trees and vegetation as both a food resource and as habitat. Our coast supports a thriving marine biodiversity that relies on us to maintain as pollution free.

What are our key deliverables?

- Continue Implementation of the Biodiversity Action Plan
- Undertake Flora Survey 2020
Coastal bushland restoration

Waverley, with the local community, has undertaken significant works to restore native bushland to Bronte Gully, Tamarama Gully and adjacent to our remnants. These works have created habitat for our birds and animals and brought back green space to our urban environment. Council has mapped an additional 12 ha of steep slopes and difficult to access sites where coastal bushland could be restored with coastal heath vegetation.

Improved habitat across Waverley

Vegetation on private properties, street trees, verges and nature strips play a key role in supporting our biodiversity. As well as cooling our streets, these plants provide the linkages for animals to travel through the area and maintain Waverley’s connection to nature. Our main habitat corridor is all along the coast with further links at Tamarama and Bronte.

Key deliverables

- Develop and implement Urban Forestry/Canopy Strategy
- Identify additional locations for habitat improvement on Council land
- Engage the local community in the Habitat Stepping Stones and Living Connections program to create wildlife habitat in their gardens

Prepare and implement a ‘Healthy Coastal Bush’ plan to increase coastal bushland in Waverley.

- Continue implementing Bronte and Tamarama ERAP* and commence Thomas Hogan ERAP*

- Undertake the second Biodiversity Survey of the LGA 2019

Waverley has undertaken significant works to restore native bushland to Bronte Gully, Tamarama Gully and adjacent to our remnants. These works have created habitat for our birds and animals and brought back green space to our urban environment. The council has identified 12 new sites where coastal bushland could be restored with coastal heath vegetation.

Vegetation on private properties, street trees, verges and nature strips play a key role in supporting our biodiversity. As well as cooling our streets, these plants provide the linkages for animals to travel through the area and maintain Waverley’s connection to nature. Our main habitat corridor is all along the coast with further links at Tamarama and Bronte.

Key deliverables

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Prepare and implement a ‘Healthy Coastal Bush’ plan to increase coastal bushland in Waverley.

- Continue implementing Bronte and Tamarama ERAP* and commence Thomas Hogan ERAP*

- Undertake the second Biodiversity Survey of the LGA 2019

* Ecological Restoration Framework And Action Plan

* ‘Southern Sydney Regional Organisation of Councils’ and ‘Sydney Coastal Councils Group’

^ ‘Centennial Park and Moore Park Trust’
Conserving our water use and improving our water quality

Waverley is known for beautiful beaches and coastline. Preserving our water resources and ensuring our coasts and beaches are clean whilst keeping our area green and cool.

Despite very large population increases, total water consumption in Sydney has remained stable for almost 50 years. This is due to water being treated as the precious resource that it is. In Waverley, many of our residents now use water saving appliances and toilets, and have installed rainwater tanks to reduce their mains water use and reliance. At Council we use non-potable (not drinking) water to keep our turf pristine, our toilets flushing clean and our plants green. We use pollution traps, raingardens and street cleaning to minimise pollution into our coast, beaches and the ponds in Centennial Park.

Recycled water from our stormwater, ground water and rainwater harvesting and reuse systems is treated (to a fit for purpose standard i.e. not potable standard for drinking) and used where possible for irrigation, toilet flushing and public cleansing.

Key Issues

Water Scarcity

Water is a scarce resource in Sydney. While the greater Sydney catchment of rivers, creeks and storage is large, it is sensitive to Australia’s drought and flood cycle. Our water supply can also be impacted by bushfires and pollution. This cycle and its affect of unpredictable rainfall are likely to be further exacerbated by climate change into the future.

Waverley’s sports fields, beachside parks and amenities are very popular but require significant amounts of water. Irrigating our parks and turf is important as it allows people to enjoy the open spaces experiences in our area. However it does increase pressure on our water supplies.

The majority of the Waverley area’s water use is from local residences, which includes household gardens. Around 3% is from open space activities such as irrigation of parks and golf courses¹. Ongoing recycled water and water efficiency programs on Council assets ensures that potable mains water use in Council operations represents a small proportion of community mains water use (3.18% in 2016/17).

¹Kinesis, 2017, ‘CCAP City based on Sydney Water community water use data’
Urban run-off, construction sites and sewer overflows can all result in pollution in our stormwater system that ends up in our coasts. Urban run-off includes litter, viruses, bacteria and nutrients from pet waste, green waste, oil and toxic chemicals from vehicles, heavy metals and sediment. Construction sites can be a major source of sediment pollution through soil running off sites into stormwater drains. Heavy rainfall can cause sewer systems to overflow, causing untreated or partially treated human and industrial waste to flow into our coastal waters.

A major source of pollution are Sydney Water’s sewer outfalls at Diamond Bay and Vaucluse which discharge untreated wastewater.

**Key Issues**

Our previous Council target to reduce water use by 30% was highly ambitious and unrealistic due to our requirement to maintain parks and greenspace. An updated target of no net increase in use from 2003/04 levels - despite population growth - is ambitious and will contribute to an overall reduction in water use per capita.

**Key deliverables**

- Deliver a water leak detection program to increase water efficiencies on all Council’s buildings.
- Facilitate water efficiency and recycled water use in new developments.
- Deliver a program to support energy and water efficiencies in apartment buildings.

**Key Issues**

Our previous Council target to reduce water use by 30% was highly ambitious and unrealistic due to our requirement to maintain parks and greenspace. An updated target of no net increase in use from 2003/04 levels - despite population growth - is ambitious and will contribute to an overall reduction in water use per capita.

**Key deliverables**

- Deliver a water leak detection program to increase water efficiencies on all Council’s buildings.
- Deliver a program to support energy and water efficiencies in apartment buildings.

### Increase water harvesting through stormwater harvesting schemes and rainwater capture

Stormwater harvesting infrastructure at Bronte and Tamarama will continue to provide water for irrigation, cleaning and for our amenities. Council will expand water harvesting schemes to increase the availability of recycled water. The Bondi stormwater harvesting system will be extended to supply water for irrigation and amenities at North Bondi. This will also contribute to improved ocean water quality as stormwater is filtered and discharged to the beach.

We will work with our community to reduce its reliance on the mains water through smart leak detection efficient use of water and, increasing access to recycled water (from our stormwater, groundwater and rainwater systems).

As well as promoting best practice water efficiency in new developments, Council is developing a residential water saving assessment program for high water users. The pilot program is to be trialled in Bondi Junction, and expanded if successful. Council will also install a smart leak detection monitoring across 40 Council sites, so that we can reduce our own water consumption.

### Key deliverables

- Deliver a water leak detection program to increase water efficiencies on all Council’s buildings.
- Deliver a program to support energy and water efficiencies in apartment buildings.

### Improve water efficiency of new and existing buildings

We will work with our community to reduce its reliance on the mains water through smart leak detection efficient use of water and, increasing access to recycled water (from our stormwater, groundwater and rainwater systems).

As well as promoting best practice water efficiency in new developments, Council is developing a residential water saving assessment program for high water users. The pilot program is to be trialled in Bondi Junction, and expanded if successful. Council will also install a smart leak detection monitoring across 40 Council sites, so that we can reduce our own water consumption.

### Key deliverables

- Deliver a water leak detection program to increase water efficiencies on all Council’s buildings.
- Deliver a program to support energy and water efficiencies in apartment buildings.

### Water Quality and Solutions

**What are our goals?**

**Minimise sediments and suspended soils, in stormwater discharged into waterways by 2030**

- Council and Community
  - Zero increase of 2005/06 levels of mains water consumption by 2030
  - Beach Watch Ratings: 2005/06: Good, 2017/2018: Good, Target for 2030: Good

**Minimise bacterial pollution in stormwater discharged into waterways by 2030**

- Beach Watch Ratings: 2005/06: Good, 2017/2018: Good, Target for 2030: Good

**Key Issues**

Our previous Council target to reduce water use by 30% was highly ambitious and unrealistic due to our requirement to maintain parks and greenspace. An updated target of no net increase in use from 2003/04 levels - despite population growth - is ambitious and will contribute to an overall reduction in water use per capita.

**Key deliverables**

- Continue water harvesting across our beaches and Council sites
- Deliver the Bondi stormwater harvesting system

### Key deliverables

- Continue water harvesting across our beaches and Council sites
- Deliver the Bondi stormwater harvesting system

### Key deliverables

- Deliver a water leak detection program to increase water efficiencies on all Council’s buildings.
- Deliver a program to support energy and water efficiencies in apartment buildings.
WATER

Reduce or minimise the pollutants entering into waterways

Council has identified 10 sites for additional stormwater improvement devices throughout Waverley. Additional stormwater improvement devices such as raingardens, and other pollution traps will be installed in order to continue to improve our ocean water quality.

Key deliverables

- Construct additional stormwater quality improvement devices (SQIDs) in parks and locations to remove sediment and pollutants
- Remove pollutants to improve stormwater quality from Council infrastructure into waterways
- Work in collaboration with Sydney Water to minimise risks to users and pollution from the Diamond Bay and Vaucluse Cliffside outfalls

The discharge of approximately 4 megalitres daily of untreated wastewater from cliffside outfalls at Diamond Bay and Vaucluse is unacceptable. Sydney Water has identified risks from this legacy infrastructure to local users such as fishermen, swimmers and scuba divers. Waverley Council will work in collaboration with Sydney Water to minimise risks to users in the short term and rectify this problem in the medium and long term, reducing the pollution on our coast.

Partners

- Sydney Water
- Centennial Parklands
- Office of Environment and Heritage (Beachwatch)
- Sydney Coastal Councils Group
WASTE

Council collects and manages several waste and recycling streams within the Waverley local government area, including household and commercial waste and recycling, a selection of problem wastes, and litter and dumping from our public places.

The rate at which waste and recycling are generated is influenced by population growth, housing density and purchasing behaviour, amongst others. The Sustainable Waste Strategy - 2015 to 2020, demonstrates Council’s commitment to manage waste sustainably. This strategy details Council’s vision for reducing waste generation and increasing diversion to landfill through a set of targets and actions to achieve them.

Council aims to transition toward a zero waste community. Through waste avoidance, reuse, and recycling the Waverley community can further reduce their reliance on raw materials and minimise waste sent to landfill. Composting and other processing and treatment methods are equally important to ensure Council is on the forefront of technologies that minimise the impact on our environment.

Presently, waste from residential, commercial and public places is sent to an Alternative Waste Facility (AWF) located at the Woodlawn Facility in Goulburn. On arrival, waste is sorted to remove and recycle items such as plastic containers, glass bottles, and any contaminants. The remaining waste enters a mechanical and biological processing system and is turned into compost. This compost can then be used for mine site rehabilitation and other uses. This process is expected to help Waverley achieve almost 60% diversion of waste from landfill (when added to recycling and other forms of recovery). Paper, cardboard, glass, aluminium, and plastic containers from residential, commercial and public places are sent to a Materials Recycling Facility (MRF) where the materials are sorted by type (paper and cardboard, plastics, glass and metals), ready for further processing. Residential and parks garden waste is also recovered and sent to a facility for mulching.

Council continues to research and implement the optimal processes for meeting our waste and recycling targets to ensure the best result for our community.

SUSTAINABLE WASTE

A Zero Waste Community
Target for 2030
90%
Waverley Council
Environmental Action Plan
SUSTAINABLE WASTE
Waste Generation and Recycling

Waste generation in Australia and around the world is strongly coupled to economic growth. Products are frequently purchased that can’t be recycled or reused. There is an opportunity to minimise Waverley’s own waste footprint by embedding sustainable purchasing and the use of sustainable materials into Council operations, as well as to influence and build capacity in the community to do the same.

Keeping it Clean

Waverley’s beaches and commercial centres attract large numbers of local residents and visitors. This puts pressure on our waste and cleaning services and it is an ongoing challenge to prevent overflowing bins, excess waste and dumping in our streets.

Despite the availability of public place garbage bins and regular cleaning, cigarette butts, food packaging and plastic bags are still commonly littered, polluting our local environment. This causes significant impacts on our terrestrial and marine environments. Plastics, in particular, persist in our coastal beaches and waterways and can be ingested by marine animals.

The density and streetscape of Waverley leaves little space for the storage of bins and bulky waste and presenting these for collection. This creates pollution and is a significant eyesore on our local area.

Key Issues

Recycling is an ongoing challenge for our community. Recyclable plastics, paper and glass continue to be misplaced in the red bin, and waste often ends up in our recycling bins. When waste and recycling are not sorted correctly it undermines the ability of the recycling industry to turn these materials into valuable products.

Other items that offer an opportunity to be reused or recycled include bulky household items, textiles and electronic waste. These items are frequently found in the kerbside bins, when they could be recycled through Council drop-off locations and other statewide programs.

By working with residents, visitors and businesses to avoid waste, reduce our waste generation, increase reuse and recycling we are confident that our ambitious waste targets can be met.

Waverley Council
Environmental Action Plan
SUSTAINABLE WASTE
Bondi Unwrapped

In 2016, Waverley Council launched ‘Bondi Unwrapped’, a multidisciplinary education and engagement program working to prevent take-away packaging litter in Bondi. The program was part-funded by the NSW Environment Protection Authority (EPA) and supported the installation of Solar Bins as well as working with the community and businesses to prevent litter at the source, patrol litter hotspots and maintain the cleanliness of those areas. The program won the Keep NSW Beautiful Award for litter prevention in 2017.

The program has plans to expand in 2018/19. It demonstrated what can be achieved working together, as a community, to prevent litter entering our waterways.

What are our goals?

No net increase in waste generation from 2004/05 levels

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<thead>
<tr>
<th>Year</th>
<th>Residential waste</th>
<th>Commercial waste</th>
<th>Target for 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004/05</td>
<td>29,877 tonnes/pa</td>
<td>26,876 tonnes/pa</td>
<td>29,877 tonnes/pa</td>
</tr>
<tr>
<td>2017/18</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

90% recovery of residential and commercial waste by 2030

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential waste</th>
<th>Commercial waste</th>
<th>Target for 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005/06</td>
<td>28%</td>
<td>61%</td>
<td>75%</td>
</tr>
<tr>
<td>2017/18</td>
<td>31%</td>
<td>61%</td>
<td>90%</td>
</tr>
</tbody>
</table>
SUSTAINABLE WASTE

Actively reduce the amount of waste generated

Council has an important role to play in facilitating programs that reduce waste generation and promote diversion from landfill.

This includes waste avoidance programs to reduce consumer goods through reuse and repair, and raising awareness about sustainable consumer choices.

Council will work with local businesses, government and industry stakeholders and community groups to develop and deliver programs that encourage our community to reduce the use of single use plastics.

Key deliverables
- Develop and deliver targeted engagement programs to facilitate reuse, repair and sustainable purchasing
- Work with businesses, government and industry stakeholders to realise waste recycling and reduction principles
- Research and deliver sustainable waste management guidelines for Council and the community

Keeping our streets, beaches and parks clean and free of litter, rubbish and pollution

Council will continue to work with community groups and the EPA to engage with residents, visitors and businesses to reduce litter items from the source.

Groups such as Blue Bondi Green and Plastic Free Bronte are working to reduce single use plastics, such as straws and coffee cups, at our beaches.

Council provides recycling and waste infrastructure at strategic positions in Bondi Junction, Bondi, Tamarama and Bronte. The distribution and design of these will continue to be evaluated to ensure they are optimal and fit for purpose.

Council will continue to ensure that all of our urban and open spaces are regularly cleaned to a high standard.

Key deliverables
- Continue litter prevention programs that engage with residents, visitors and community groups to reduce litter at our hotspots and undertake litter enforcement when required
- Review and improve public place cleansing and beach cleaning services to meet community expectation
- Build strategic partnerships with strata managers, building managers, real estate agents, cleaners and local businesses to improve presentation and storage of bins

SUSTAINABLE WASTE

Best practice in waste management to increase recycle and recovery

Council will deliver actions within its Sustainable Waste Strategy and monitor the outcomes to ensure best practice waste management is adopted in all that we do.

Council is guided by the NSW Environmental Protection Authority’s overarching strategies to ensure efficient waste collection, appropriate infrastructure for multi-unit dwellings, and dumping and litter prevention.

Council works strategically to provide cost-effective and high impact programs that tackle waste issues on a regional level, such as reducing illegal dumping.

The Waste industry and its technology is constantly evolving. Council will continue to partner with regional stakeholders and state government to investigate new and innovative waste recovery and recycling practices such as Energy from Waste, in order to reach our ambitious waste targets.

Key deliverables
- Identify and deliver targeted engagement programs to residents, schools and businesses to increase recycling and lower contamination
- Provide services and programs that recover as much problem waste and bulky waste as possible
- Partner with regional stakeholders and state government to investigate and implement new waste technologies to maximise resource recovery

Rubbish dumped illegally on the street

Clean Up Australia Day

Waverley Council Environmental Action Plan

Waverley Council Environmental Action Plan

Got waste? Sort it out... it’s second nature.
waverley.nsw.gov.au/waste

#secondnatureimin
SUSTAINABLE WASTE

Partners

- Blue Bondi Green
- Plastic-Free Bronte
- Transition Bondi
- Responsible Runners
- Environment Protection Authority
- Southern Sydney Regional Organisation of Councils
- SSROC Regional Illegal Dumping (RID) Squad
- Australian Packaging Covenant
Reducing our greenhouse gases and preparing for the impacts of climate change

Our climate is changing and it is largely due to increases in atmospheric greenhouse gases caused by human activities. These activities include the burning of fossil fuels (coal, oil, and natural gas), agriculture and land clearing. Changes seen over the 20th century include increases in air and ocean temperature, widespread melting of snow and ice and rising global sea levels. In Australia, each decade has been warmer than the previous decade since the 1950s.

Scientists agree that the worst effects of this ‘runaway’ climate change can largely be avoided if greenhouse gas emissions (GHG), particularly carbon dioxide, are very significantly reduced.

As a community, we need to continue to power our homes, workplaces and schools, but in doing so we have a choice as to where that power comes from. Waverley Council has been working to reduce greenhouse gas emissions from our operations and our community since 2009, which was when we committed to our first GHG reduction targets.

As the risks from a warming world intensify, we will need to plan how we build resilience to extreme changes in weather and how we will ensure our community has the capacity to adapt.

We are on track to surpass our 2020 Waverley Council operations target. Since 2003, emissions from our own organisation have been reduced by 28 per cent. We are not on track to meet our 2020 Waverley Community target; Waverley Community has only achieved a 3 per cent reduction in GHG emissions since baseline year. Our community GHG emissions still need to decrease by 27 per cent (129,263 tonnes CO₂-e) by 2020 in order to meet our target.

**Built Environment**

How the public spaces, households and workplaces of Waverley are built, function and perform is vital in reducing our greenhouse gas emissions but also improving livability and resilience to a changing climate.

Integrating building insulation, green walls or roofs and rooftop solar panels are some of the key issues in mitigating and adapting to climate change.

**Transport**

Emissions from transport is Australia’s third largest source of emissions. Travel to and from work, school and from visitors coming to our beaches are responsible for 85% of transport emissions. Developing viable, low-energy transport networks for our community are vital to reducing our emissions.

The NSW Government has modeled a series of impacts from climate change. The Sea Level Policy projects a sea level rise along the NSW coast for a rise, relative to 1990 mean sea levels, of 40 cm by 2050 and 90 cm by 2100. Spring and summer rainfall is projected to increase across the region by 25 – 50 per cent, while winter rainfall is projected to decrease. Extreme daily rainfall events are expected to become more common, particularly in the summer months, and there is a slightly greater likelihood of increased storm events.

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There is a risk that intense rain periods (that is, the number of 1 in 40 year one day rainfall events) will increase between 3 to 5 per cent per year by 2050. By 2050 days are projected to be hotter over all seasons, with the greatest warming in winter and spring (1.5 to 2°C).

**Impacts of Climate Change**

**Carbon Footprint**

Australia’s historic and continued reliance on coal to generate the majority of their electricity is a major driver of our greenhouse gas emissions. Changing our energy mix to one with a lower carbon footprint is both an obligation due to the scale of infrastructure involved, but also an opportunity with the falling prices of renewable power.

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**Key Issues**

**Australia's historic and continued reliance on coal to generate the majority of their electricity is a major driver of our greenhouse gas emissions. Changing our energy mix to one with a lower carbon footprint is both an obligation due to the scale of infrastructure involved, but also an opportunity with the falling prices of renewable power.**
Where do we want to get to?

70% reduction in Community greenhouse gas emissions of 2003/04 levels by 2030

<table>
<thead>
<tr>
<th>Year</th>
<th>2003/04</th>
<th>2017/18</th>
<th>Target for 2030</th>
<th>Target for 2050</th>
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<tr>
<td>Tonnage</td>
<td>CO2-e</td>
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<tr>
<td>2005/06</td>
<td>478,725</td>
<td>475,763</td>
<td>335,126</td>
<td>143,618</td>
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</tbody>
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+ Carbon neutral by 2050

70% reduction of 2003/04 Council generated greenhouse gas emissions levels by 2020

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<td>5,594</td>
<td>5,328</td>
<td>2,840</td>
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CLIMATE & ENERGY

Waverley Council Environmental Action Plan

Solar my school

Solar my School is a free Council initiative to help local schools navigate a path to solar power.

Waverley will enable electric vehicle recharging at Council buildings and within the LGA to encourage the use of electric vehicles.

Target for 2020

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Key Deliverables

- Monitor, manage and report on Council assets water and energy use.
- Enable energy savings in households and businesses.
- Develop and deliver a program to support energy and water efficiencies in existing multi-storey buildings.
- Launch the pilot program, Building Futures, in Bondi Junction.
- Continue building energy efficiency works and LED street lighting roll out.
- Reduce Council’s fleet vehicle emissions through procurement of low emission/fuel efficient vehicles, alternative fuel types, and transport alternatives.

Solar my School is a free Council program to help local schools navigate a path to solar power.

Run as an Eastern Suburbs initiative, Solar My School provides independent support and guidance to primary and secondary schools looking to power their buildings with clean green energy.

Schools are ideal for solar because they use energy during the day when the sun is pumping out its energy-generating rays.

Switching to solar energy helps reduce our local environmental impact, and also helps schools cut energy expenses. Visit www.solarmyschool.org.au

Within our community and our own operations the future take-up of electric vehicles would save about 22,000 tonnes CO2e/year or 4.4% decrease in GHG emissions compared to a BAU 2030 scenario when charged from renewable electricity.

Vehicle fuel emissions

Council will improve the energy efficiency of its buildings through a range of measures including the installation of LED lighting and optimisation of building control systems to improve operational performance.

Streetlighting contributes significantly to Council’s greenhouse gas emissions and presents an opportunity to considerably reduce our emissions. Council recently upgraded 760 of our streetlights to LED, reducing annual CO2 emissions by 200 tonnes. Council will continue to implement an LED street lighting upgrade program.

Waverley will enable electric vehicle recharging at Council buildings and within the LGA to encourage the use of electric vehicles.

Key Deliverables

- Monitor, manage and report on Council assets water and energy use.
- Enable energy savings in households and businesses.
- Develop and deliver a program to support energy and water efficiencies in existing multi-storey buildings.
- Launch the pilot program, Building Futures, in Bondi Junction.
- Continue building energy efficiency works and LED street lighting roll out.
- Reduce Council’s fleet vehicle emissions through procurement of low emission/fuel efficient vehicles, alternative fuel types, and transport alternatives.
Increase uptake of renewable energy in Waverley through rooftop solar panels and offsite wind and solar energy.

Rooftop solar panels and storage

Council operates and maintains solar PV systems on 12 Council buildings, generating 353,000kWh annually and reducing 322 tonnes of CO2 emissions per year.

Council will continue to investigate new solar PV installations and battery storage across all of our assets, including social housing stock and commercial properties.

Council will continue to promote solar installations and storage across Waverley through programs such as ‘Solar my School’ and solar power to residents in homes and apartments.

Waverley Council is currently participating in a regional renewable energy Power Purchase Agreement tender. This approach involves numerous Councils guaranteeing to jointly purchase the electricity generated by a wind or solar farm. If this model proves successful, Council will increase the percentage of our electricity sourced from renewable energy.

Council will also work with neighbouring Councils, State and Federal government to increase the share of renewable energy fed into the grid.

Waverley has conducted modelling to assess the most effective methods to reach the 2030 Council target as seen in Figure 1, below.

Key Deliverables

- Deliver programs to increase the amount of solar and battery storage installed on Council properties, community buildings, schools and residential properties.
- Collaborate with other Councils and stakeholders to increase the proportion of cost effective renewable electricity purchased by Council.
- Solar for rental and apartments – trial innovative models of unlocking the solar potential for rentals and apartments which make up 55% Waverley properties.
- Provide planning support, controls and incentives to drive innovation and better environmental outcomes in new development.

Waverley has conducted modelling to assess the most effective methods to reach the 2030 Council target as seen in Figure 1, below.

Plan and respond to the impacts of climate change

The specific impacts of climate change for our LGA are difficult to accurately predict.

Council will refine our knowledge of the risks of a changing climate and plan effective strategies so that Waverley and the local community can become more resilient and prepared for the effects of climate change. However, there are a number of known effects which Council will commence planning to counteract.

Development of an Urban Tree Strategy

Council knows that it has a small number of Urban Heat Islands - areas in our LGA with a higher than average temperatures.

In order to counteract the effect of these Council will develop an Urban Tree Strategy, in which consideration will be given to the potential shade provided by street trees. This will build on the work undertaken by Council to continually increase the number of trees and green spaces in Waverley.

Council is currently undertaking updated modelling of our stormwater drainage network and capacity to manage different high flow events including climate change scenarios.

Flood management

Council will continue to monitor and update water infrastructure.
Partners

- AusGrid
- Office of Environment & Heritage
- Greater Sydney Commission
- SSROC (offsite)
- Randwick and Woollahra Councils (Solar my School)
- Green Strata
Planning the future of transport

Emissions from transport is Australia’s third largest source of greenhouse gas emissions. Travel to and from work, school and from visitors coming to our beaches are responsible for 85 per cent of transport emissions locally.

Waverley’s People, Movement and Places strategy was adopted in 2017 and is the blueprint for how we improve the quality of our streetscapes to not only help achieve a better environment, but also a better community and economy. The plan prioritises pedestrians first, followed by people riding bicycles, using public transport, service vehicles, shared mobility and private motor vehicles.

We anticipate that changes to transport over the next 20-30 years will be as dramatic as the transformation from horses to cars. Driverless vehicles (for goods delivery, drones, buses and cars), electric vehicles (including e-bikes) and shared mobility (share cars, share bikes, on-demand ride-sharing) will all be part of the transport mix.

Planning functioning transport that protects our environment is a key priority for Council.

Waverley has the highest population density in Australia. This is, and should continue to be, supported by high frequency public transport, and quality walking and cycling infrastructure.

Key Issues

Changing Demographics

Waverley has the highest population density in Australia. This is, and should continue to be, supported by high frequency public transport, and quality walking and cycling infrastructure.

Traffic congestion and parking

Twice as many people use the Bondi Junction interchange as Syd Einfeld Drive. If they switched to driving instead, our streets would be gridlocked. Whilst our passenger car ownership levels have remained stable, there has been an increase in the number of SUVs and scooters, leading to an overall increase in the number of vehicles on our roads.

Signature projects

Waverley Council has identified twelve signature projects that will make the biggest impact on improving transport across our area for the whole community and follow the transport hierarchy developed (see right). These include:

- Implement better streetscapes across Waverley
- Provide safe cycling infrastructure across Waverley and beyond
- Improve transport and access along Bondi Road corridor

These projects include a Cycling Strategy, a walking strategy and shared and electric vehicles. For more information see Waverley’s People, Movement and Places.

What are our goals?

Please refer to People, Movement and Places for targets.

How are we going to get there?

Transport

Waverley Council
Environmental Action Plan

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