

ITEM 4 POST EXHIBITION - CLIMATE CHANGE MITIGATION PLAN

Wollongong City Council is one of 26 Councils in Australia to commit to greenhouse gas reduction through the Global Covenant of Mayors for Climate and Energy (GCoM) program. Under the GCoM initiative Council is required to undertake a series of actions to respond to the risks and opportunities presented by climate change. These actions include adoption of a science-derived emissions reduction target on behalf of the City of Wollongong and development of a Climate Change Mitigation (emissions reduction) Action Plan.

At its meeting on 9 December 2019, Council adopted targets of net zero emissions by 2050 for the City of Wollongong and net zero emissions by 2030 for Council operations.

A draft Climate Change Mitigation Plan (CCMP) 2020 was subsequently prepared to guide delivery of actions for the next two years in achieving the emissions reduction targets. At its meeting on 29 June 2020, Council endorsed the draft CCMP 2020 for public exhibition. The draft document was exhibited from 1 July to 12 August 2020. The exhibition resulted in 155 submissions from the community.

In response to the submissions an updated draft CCMP has been prepared; including the addition of seven new actions to address issues such as business engagement, Council advocating for green industries in the region, enhancement of energy efficiency programs and education for Council facilities and managers. Other changes relate to minor wording changes to four actions.

This report recommends that the updated draft CCMP 2020 be adopted by Council for implementation.

RECOMMENDATION

The updated draft Climate Mitigation Action Plan 2020, as attached in this report, be adopted.

REPORT AUTHORISATIONS

Report of: Chris Stewart, Manager City Strategy

Authorised by: Linda Davis, Director Planning + Environment - Future City + Neighbourhoods

ATTACHMENTS

- 1 Draft Climate Change Mitigation Plan 2020
- 2 Submissions in Reply Report

BACKGROUND

In August 2017, Council became a signatory to the GCoM program. GCoM is an international alliance of cities and local governments with a shared long-term vision of promoting and supporting voluntary action to combat climate change and move to a low emission, resilient society.

GCoM commits Council to respond to the risks and opportunities presented by climate change and provides a structured framework for compliance. The required commitments relating to emissions reduction include completing an emissions inventory, adopting a science-derived emissions reduction target for the LGA and developing a CCMP. Under the program, Council has also committed to prepare a Climate Change Adaptation Plan, which is currently underway.

In determining an emission reduction target, Council undertook extensive consultation with the community and key stakeholders. It was made apparent through this process that the community supports setting of emission reduction targets for the Wollongong LGA and Council operations and wants Council to demonstrate leadership on climate change. The community desires a move towards renewable energy sources, making transport more sustainable, planting more trees and reducing waste to landfill.

At its meeting on 9 December 2019, Council considered a report on proposed emission reduction and adopted a target for the City of Wollongong of net zero emissions by 2050, and a target of net zero emissions by 2030 for Council operations. Council also resolved to join the Cities Power Partnership Program (CPP).

At its meeting on 16 March 2020, Council resolved to commit to the following five pledges under the CPP program -

- Install renewable energy (solar PV) on Council buildings.
- Implement landfill gas methane flaring or capture for electricity generation.
- Encourage sustainable transport use such as public transport, walking and cycling through Council transport planning and design.
- Set city-level renewable energy or emissions reduction targets.
- Adopt best practice energy efficiency measures across Council buildings, and support community facilities to adopt these measures.

Draft CCMP development

A draft CCMP was prepared to guide delivery of actions for the next two years in achieving the emissions reduction targets and CPP pledges.

Community and staff engagement undertaken in 2019 for the Sustainability Strategy review and emissions reduction target, assisted with development of the draft CCMP.

This work resulted in 92 draft actions across six themes -

- 1 **Climate change leadership and planning:** actions for Council to demonstrate leadership in considering climate change in all areas of operations and service, advocate to other levels of Government for our community, foster innovation, collaborate regionally and monitor our performance.
- 2 **Energy efficiency and renewable energy:** including energy efficiency and renewable energy projects for buildings, facilities and streetlights.
- 3 **Transport:** addressing options for lowering emissions from Council fleet, supporting the uptake of electric vehicles and public and active transport.
- 4 **Waste:** including capture of landfill gas, rolling out Food Organics Garden Organics (FOGO) across the city, additional recycling services, waste wise events and expanding educational programs to further address food waste.
- 5 **Trees and vegetation:** covering biodiversity conservation projects and urban greening to cool our city.
- 6 **Working with our community:** actions to partner with business and industry to promote their emissions reduction successes and encourage and support more sustainable practices, engage with and educate our community to support emissions reduction.

The actions proposed were classified as either -

- Actions to directly reduce emissions (e.g. installing solar panels, diverting organic waste from landfill), or
- Enabling actions, such as implementing strategies, policy change, collaboration or education, to provide support and frameworks for Council and the community to reduce emissions.

Public Exhibition

At its meeting on 29 June 2020, Council considered a report on the draft CCMP and resolved -

- 1 *The draft Climate Change Mitigation Action Plan be placed on public exhibition for a period of 42 days.*

2 Following public exhibition, a further report be provided to Council on the submissions received and any amendments proposed, seeking adoption of the plan.

The draft CCMP was placed on public exhibition for a period of six weeks from 1 July to 12 August 2020, for a period of six weeks, submissions accepted for a further 2 weeks beyond this.

Engagement and promotion of the CCMP through the public exhibition process included the following -

- A community engagement webpage and information sent to customer service -
 - Copy of draft CCMP
 - Frequently Asked Questions (FAQs)
 - Online feedback form
 - Open Q&A – which allowed participants to ask questions and receive a response
- Media promotion -
 - Facebook
 - Twitter
 - Media releases
- Email to 174 external stakeholders, including; Youth Climate Coalition, Climate Action Network, Renew Illawarra, Illawarra Business Chamber and Neighbourhood forums
- Email to persons on the register of interest
- Internal consultation through the Climate Action Working Groups and specific technical staff

Due to COVID-19 restrictions no community sessions were able to be conducted and access to information through Council's libraries was not possible.

Outcomes of the Exhibition

Response to the exhibition was as follows -

- 566 people visited the project page on Council's engagement website
- 367 learnt more about the project online by downloading the draft strategy and FAQs
- 155 submissions were received -
 - 69 were open submissions
 - 4 were group submissions
 - 82 were submitted via the online feedback form
- 97% of submission were supportive of the draft CCMP, with 3% not supportive or undecided
- There was a significant level of support for the six themes in the draft CCMP
- Many submissions requested minor additions, amendments or put forward other potential considerations for the draft CCMP

A summary of the top ten issues raised and proposed response, is provided in Table 1 under the Consultation and Communication heading. A detailed Submissions in Reply Report is also provided (see Attachment 1).

A number of ideas and suggestions from the community were determined as not feasible over the CCMP's two-year timeframe or will rely on work/ studies proposed in this CCMP. These ideas have been parked for consideration in future CCMP development e.g. community PPA, community batteries.

PROPOSAL

An updated draft CCMP (Attachment 2) has been prepared based on the outcomes of the public exhibition process. Many of the issues raised were already actions in the CCMP – implement PPA, EV charging station, energy efficiency measures, trees & vegetation and Council fleet, education and

engagement activities. Notwithstanding this, Council staff determined that some changes to the draft CCMP were warranted, being wording amendments and addition of new actions.

The updated draft CCMP identifies 98 actions for Council to deliver over the next two years. The following specific changes are proposed to the draft CCMP:

Wording changes/ amendments -

- **L12** Amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Construction Code *and the outcomes of the 'Energy efficiency and emissions standards for new commercial buildings' survey being undertaken by the Department of Industry, Science, Energy and Resources.*
- **L20** *Pursue the development of a virtual sustainable home to promote sustainable urban residential building options.*
- **L27** Continue to maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and *Council's journey towards corporate goals and will be shared with the community.*
- **C3** Work collaboratively with Illawarra Business Chamber to assist their members to adopt more sustainable practices and promote positive *environmental and financial outcomes.*
- **C19** Continue to monitor the emissions of Wollongong LGA and share it with the community *including the data used to develop the emissions profile.*
- **E17** removed and incorporated into **L25** (now L29)

Proposed new actions in response to community feedback -

- **L19** Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area.
- **L27** Support Council facility managers to understand and implement sustainability practices, such as reduced energy and water use, and waste.
- **E3** Investigate opportunities for Council to participate in the 'Sustainable Advantage' program for its facilities.
- **C6** Design and implement a business engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps.
- **C10** Consider the establishment of a climate action community reference group following the 2021 Local Government elections, to provide input, feedback and community perspective on Council's climate action activities and programs.

Proposed new actions in response to Council staff feedback -

- **L14** Prepare subsequent Climate Change Mitigation Plan 2022-26.
- **L29** Monitor and report on the implementation of the Climate Change Mitigation Plan 2020.

Emission reduction projections remain the same in the updated draft CCMP. Delivery of direct actions alone, is expected to reduce the annual emissions of Council operations by 25% (~35,200 tonnes CO₂-e p.a). In addition, there is a significant number of direct actions where projected emissions reductions are unable to be calculated at present but once implemented and operating, savings will be more easily calculated. There is a vast array of enabling actions, all of which will contribute to achieving Council and the Wollongong LGA's emissions reduction targets.

In accordance with the GCoM requirements, Council will undertake a new inventory of emissions for the Wollongong LGA every two years. These inventories will compile up-to-date information on emissions from energy use, transport, waste and wastewater from all sources across the city. Council will also continue to monitor its own emissions data for its electricity and gas consumption for Council buildings

and facilities, fuel consumption from its fleet and emissions from waste to landfill. These emissions profiles will be re-calculated next in 2021 to track how the city and Council are changing and progressing towards the emissions reduction targets.

A subsequent CCMP will be prepared for 2022 and beyond, informed by the updated emissions profiles, project status, the availability and feasibility of new technologies, any new opportunities or threats, and ongoing collaboration with the community of Wollongong.

CONSULTATION AND COMMUNICATION

The Submissions in Reply Report (Attachment 1) includes a detailed analysis of the submissions received and the proposed responses. Comments from submissions were categorised into 28 different themes/issues.

A summary of the top ten issues raised and proposed response, is provided in Table 1 below. The proposed changes to the draft CCMP are also detailed in the table.

Table 1 – Summary of the top ten issues raised during public exhibition and proposed response

Issue Category	Summary	Proposed Response
Strong leadership from Council	<p>Council should take an active role in supporting itself, businesses and the community by taking a strong stance on climate change and facilitating and encouraging changes for businesses and community.</p> <p>Council to imbed Climate Change Mitigation in all aspects of the organisation over the two years of the plan and beyond.</p>	<p>Leadership actions are covered by Theme 1 and there are 29 actions under this theme.</p> <p>Notwithstanding this, two new leadership actions have been added to the updated draft CCMP, as follows -</p> <ul style="list-style-type: none"> ➤ Action L19: Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area. ➤ Action L27: Support Council facility managers to understand and implement sustainability practices, such as reduced energy and water use, and waste.
Implementation energy efficiency measures	<p>Implement Energy efficiency measures such as LED lighting at sportfields to be accelerated.</p> <p>Council can demonstrate leadership in this area for other businesses and organisations.</p> <p>Provide and facilitate education and grants for the community.</p>	<p>Council will continue to implement the energy efficiency program for Council buildings and facilities, noting that this is regarded as a high priority for our community.</p> <p>Actions E3 (E4) to E8 (E9) detail energy efficiency actions that will be implemented 2020-2022, as detailed in the Infrastructure Delivery Program.</p> <p>New action E3 – Investigate opportunities for Council to participate in the “Sustainability Advantage” program for its facilities.</p>
More trees and native habitat	<p>Strengthen and accelerate the Urban Greening Strategy.</p> <p>Greater resources for natural resources management and urban greening, particularly Lake Illawarra wetlands.</p>	<p>Council is committed to implementing the Urban Greening Strategy and is recognised in the Plan by Actions V4 and V5. Biodiversity and Natural Area Management actions are addressed through actions V1, V2, V3 and V6 of this Plan.</p> <p>No changes required.</p>
Carbon budget accounting and	<p>The carbon budget should be re-calculated based on a 1.5°C warming by 2050 limit</p>	<p>As Council is a signatory to GCoM, Council is required to develop an</p>

Issue Category	Summary	Proposed Response
transparency	<p>target every 2 years.</p> <p>Explain what's in emissions profile and make it publicly available.</p>	<p>emissions profile compliant with the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC). The profile that was conducted was in accordance with their requirements and on the best available scientific information at the time.</p> <p>The next inventory is scheduled for 2021, the methodology will be modified to ensure that emissions from all industries are accounted for. Wollongong's carbon budget and emission reduction target will be recalculated based on this inventory and new scientific recommendations at the time. The carbon budget recalculation will be part of the next Climate Change Mitigation Plan 2022-26.</p> <p>New Action L14: prepare subsequent Climate Change Mitigation Plan 2020-26</p> <p>Action C17 (C19) updated -</p> <p>Add "including the inventory data used to develop the emissions profile".</p>
Better waste management	<p>Better waste management is an integral part of improving environmental sustainability and reducing our climate impact. Reducing waste is important, as well as diverting waste from landfill through initiatives such as FOGO.</p> <p>More could be done to educate residents on proper waste disposal.</p> <p>Ban single use plastics.</p>	<p>Waste management and associated education programs are incorporated into a variety of actions within the CCMP, notably -</p> <ul style="list-style-type: none"> ➤ W1 and W2 – implementation and review of Wollongong Waste and Resource Recovery Strategy 2022. ➤ W4 - FOGO rollout accompanied by education program. ➤ W7 - Continue to design and deliver community education and behaviour change initiatives to maximise diversion of food, other organics, and general household waste from landfill and to educate the broader community in waste avoidance. <p>Action W8 - design and delivery of a "War Against Food Waste" campaign that focuses on known behaviours and limited knowledge on food waste.</p> <p>Action C10 (C12) – Development of an Environmental Education Program focusing on the key environmental issues of waste management, urban greening and climate change.</p> <p>No changes required.</p>
Entry into a Power Purchase Agreement (PPA)	<p>Entry into a Power Purchase Agreement to source renewable energy for Council and the community.</p>	<p>Council recognised this is a high priority for the community, two actions were included in the draft CMPP relating to PPAs -</p> <ul style="list-style-type: none"> ➤ E11 (E12) – Pursue PPA using Whytes Gully landfill gas capture.

Issue Category	Summary	Proposed Response
		<p>➤ E12 (E13) – Pursue potential regional PPA.</p> <p>Opportunities for a community PPA will be examined through future plans.</p> <p>No changes required.</p>
Installation of Electric Vehicle Charging Stations and parking areas	<p>Install EV charging stations</p> <p>Council should also invest in infrastructure and incentives to encourage EV uptake by residents such as charging stations and EV only parking spots</p>	<p>Actions included in draft CCMP demonstrate Council's commitment to support the community to purchase electric vehicles -</p> <p>➤ T3 – Development of EV Charging Stations on Public Land Policy.</p> <p>➤ T4 – Pursue installation of charging stations across the City.</p> <p>No changes required.</p>
Community engagement	<p>To achieve the targets action is required by all and it won't be easy.</p> <p>The community will need strong leadership and support if we are to move forward in this area.</p> <p>Council needs to establish connections across the whole community and empower people to change their behaviours</p> <p>Collaboratively with expert community group</p> <p>Public participation in decision making around climate action</p> <p>A greater respect for the First Nations People and making sure their voices are heard when it comes to what activities on Dharawal country.</p>	<p>Numerous actions included in draft CCMP focus on community engagement -</p> <p>➤ Actions C1-C10 (C12) involve creating partnerships, engagement and education of businesses and the community, and continuous engagement with our Aboriginal communities.</p> <p>Despite these actions it was recognised that there was opportunities to enhance current actions and introduce new ones in response to the feedback -</p> <p>➤ Action C3 updated to include reference to promotion of <i>environmental and financial outcomes</i> in working with the Illawarra Business Chamber.</p> <p>➤ New action C6 – Design and implement a business engagement program to understand their needs and assist them in emissions reduction.</p> <p>➤ New action C10 – Consider the establishment of a climate action community reference group following the 2021 Local Government elections, to provide input, feedback and community perspective on Council's climate action activities and programs.</p>
Council to procure lower emission vehicles	Procure low emission vehicles for Council fleet and plant	<p>Action T1 – prioritisation of low emissions and fuel-efficiency when purchasing vehicles and inclusion of hybrid and electric vehicles as part of our fleet.</p> <p>Action T2 – Council to investigate the feasibility of low-emissions vehicle standards for plant fleet.</p> <p>No changes required.</p>

Issue Category	Summary	Proposed Response
Emissions tracking transparency	Undertake ongoing emissions tracking. Clear and accessible reporting to the community.	<p>Wording of actions updated:</p> <p>Action L25 (L27) – Continue to maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and <i>Council's journey</i> towards corporate goals and <i>will be shared with the community</i>.</p> <p>Action C17 (C19) – Monitor emissions and share information with the community, <i>including data used to develop emissions profile</i>.</p>

Note: Proposed new action numbers (where relevant) in updated draft CCMP are highlighted in blue.

PLANNING AND POLICY IMPACT

This report contributes to the delivery of Wollongong 2028 Goal 1 – 'We value and protect our natural environment', Goal 2 – 'We have an innovative and sustainable economy', Goal 6 – 'We have affordable and accessible transport'. Under these goals the draft plan delivers on the following objectives -

- Objective 1.1 Our natural environment, waterways and terrestrial areas are protected, managed and improved
- Objective 1.2 We practice sustainable living and reduce our ecological footprint
- Objective 1.5 Set targets and reduce our greenhouse gas emissions through our participation in the Global Covenant of Mayors for Climate and Energy.
- Objective 2.2 The regions industry base is diversified
- Objective 6.1 Wollongong is supported by an integrated transport system
- Objective 6.3 Provide connected and accessible places and spaces

It specifically delivers on the following Strategies and Actions as shown in Table 2.

Table 2: Relevant Strategies and Actions

Community Strategic Plan	Delivery Program 2018-2022	Operational Plan 2020-21
Strategy	4 Year Action	Annual Deliverables
1.2.1 Reduce our ecological footprint, working together to minimise the impacts of climate change and reduce waste going to landfill	1.2.1.1 Develop and implement a range of programs that encourage community participation in reducing Wollongong's ecological footprint	Coordinate community environmental programs including: Rise and Shine, Clean Up Australia Day, World Environment Day, National Recycling Week, International Composting Week and other waste education activities.
		Deliver waste minimisation programs in accordance with the Waste Strategy.
		Continue to progress options for a Food Organics Garden organics (FOGO) program across the LGA.
1.2.2 Government and community work together to mitigate the impacts of climate change on our environment and future generations	1.2.1.1 Our community is proactively engaged in a range of initiatives that improve the sustainability of our environments	Continue to explore the United Nations Sustainable Development Goals and how they align to the community's goals in preparation for the review of the Community Strategic Plan.
		Continue to deploy Council's Waste and Resource Recovery Strategy.
	1.2.1.3 Methods to reduce emissions are investigated and utilised	Implement a landfill gas management

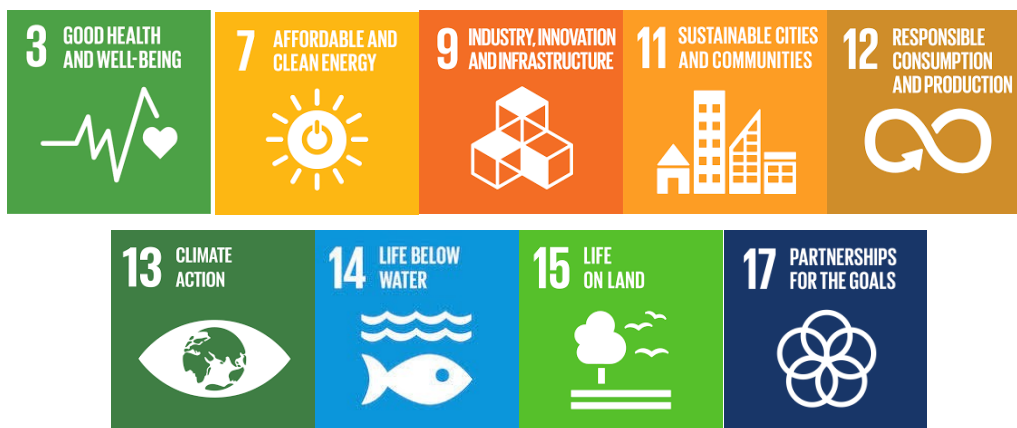
Community Strategic Plan	Delivery Program 2018-2022	Operational Plan 2020-21
Strategy	4 Year Action	Annual Deliverables
		system at Whyte's Gully.
		Monitor and report on organisational water, energy and greenhouse gas emission trends.
		Implement and review annual water and energy saving actions.
1.5.1 Participate in the Global Covenants of Mayors and set emission reduction targets for the LGA	1.5.1.1 Set an emissions reduction target and carry out actions to reduce greenhouse gas emissions through the Global Covenant of Mayors	Set an emissions reduction target that is in alignment with the Global Covenant of Mayors compliance requirement.
		Finalise and deliver priority actions in the Climate Change Mitigation Plan.
		Deliver commitments made under the Global Covenant of Mayors and support Council's climate emergency declaration.
		Monitor and report annually on endorsed reduction initiatives.
2.2.1 Further diversify the region's economy through a focus on new and disruptive and green technology	2.2.1.1 The development of renewable energy products and services is supported	Seek out opportunities to incorporate green technology in Council's projects and contracts.
6.1.1 Work in partnership to deliver the Gong Shuttle Bus as an affordable transport option for our community	6.1.1.1 Support the delivery of the Gong Shuttle Bus as an affordable transport option	Provide funding to support the delivery of the Gong Shuttle Bus as a free transport option as per the Illawarra-Shoalhaven Regional Plan.
		Advocate to the NSW Government to continue the Gong Shuttle as an affordable service beyond 2021.
		Incorporate findings of investigation for a potential second Gong Shuttle route into City Centre Access and Movement Strategy 2013-23.
		Advocate for the implementation of a shuttle route for the south of the Wollongong City Centre.
6.12 Work with partners to decrease car dependency and facilitate sustainable transport to provide convenient movement throughout the city, with sustainable transport modes such as walking and cycling	6.1.2.1 Implement a variety of projects and programs to encourage sustainable transport throughout the LGA	Review and update the Wollongong Bike Plan.
		Finalise and deliver priority actions in the draft Cycling Strategy 2030.

The updated draft CCMP falls within the suite of documents that underpin and are informed by the draft *Sustainable Wollongong: A Climate Healthy City Strategy*. The actions within the updated draft CCMP aim to deliver on the following goals of the draft Strategy -

- Environmental and climate leadership underpins Council decision-making and service delivery which inspires the same in others.
- Together we protect our environment, reduce emissions and increase our resilience to climate change.
- We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city.
- Our ecosystems and waterways are enhanced, our urban areas are cooler and greener and our community is connected to our natural environment.

- Our community only take what they need, reuse and recycle what they can and are aware of the resources that they consume.
- Our infrastructure and community can adapt to the impacts of a changing climate and water is valued as a vital natural resource.

The adoption of a CCMP will support the achievement of the following United Nations Sustainable Development Goals –



SUSTAINABILITY IMPLICATIONS

Implementation of the actions in the updated draft CCMP will reduce emissions from Council operations and the City of Wollongong and contribute towards our endeavour to avert and reduce the impacts of climate change.

The updated draft CCMP will directly support Council's August 2019 Climate Emergency Declaration, adopted of emissions reduction targets on December 2019 and commitments under the GCoM program.

RISK MANAGEMENT

There will be significant environmental and social risks associated with not addressing climate change. Council is the owner of significant assets including roads, bridges, coastal infrastructure, buildings and facilities that will be affected by the impacts of climate change and the health and wellbeing of our community, and future generations, will also be affected by the impacts of climate change.

There is a reputational risk if Council does not adopt a plan to reduce emissions following the recent Climate Emergency Declaration and the adoption of emissions reduction targets. Council will also be non-compliant with the GCoM requirements and will need to reconsider its commitment to the GCoM and CPP.

FINANCIAL IMPLICATIONS

The majority of actions that are identified as requiring budgetary provision are either projects already planned for implementation through the current Infrastructure Delivery Program, or existing operational programs already planned and budgeted for.

However, some funds will be required to deliver on actions in the updated draft CCMP, identified as new projects. These projects include expanded community education programs, pilot projects for improving energy efficiency and support uptake of renewable energy in our schools and community and a trial of waste timber separation and recycling.

Funding for projects identified as 'new' will be sought through grant applications and/or subject to the annual budgeting and business proposal process. A budget breakdown of the revised draft CCMP is provided in Table 3 below.

Table 3: Revised draft CCMP budget breakdown

Type of Project	Examples of Projects	Already Budgeted Amount	Funding Gap
Capital actions within IDP	Energy efficiency upgrades, solar PV installation	\$22,428,000	
Existing operational programs	Waste management, community environmental programs, natural area management, urban greening	\$2,634,000 (\$1,317,000 pa)	
Other planned projects	FOGO, streetlight upgrade	\$6,474,836	
New ongoing operational actions proposed	Expanded community education programs, targeting adults and including more food waste focus		\$60,000 (\$30,000 pa x 2 years)
New projects proposed	Pilot projects for improving energy efficiency and support uptake of renewable energy in our schools and community and a trial of timber separation and recycling and preparation of the next CCMP		\$379,000
Sub-totals (for two-year plan)		\$31,536,836	\$439,000
Total (for two-year plan)		\$31,975,836	

Preparation of the next CCMP (\$100,000 approximate cost) was not previously nominated in the pre-exhibition report presented to the June 2020 Council meeting.

These actions are likely to result in cost and efficiency savings to the organisation associated with reduced energy consumption and there is the opportunity to reinvest these savings into further emission reduction actions.

CONCLUSION

The updated draft Climate Change Mitigation Plan 2020 confirms Council's commitment to reducing emissions in line with its Climate Emergency Declaration and GCoM initiative. The revised draft CCMP 2020 outlines actions for the next two years to set the scene for ongoing emissions reduction and demonstrates commitment to work with all sectors of the community. Actions focus on establishing partnerships, undertaking research and monitoring, piloting projects within our community as well as continuing to roll out planned projects to reduce emissions from Council's operations. Implementation of these actions will help Council and the community to work towards achievement of the emissions reduction targets.

Should the updated draft Climate Change Mitigation Plan 2020 be adopted it will be reviewed, and actions updated to progress emission reduction beyond the initial implementation period. The review will be informed by re-inventories of Council and community emissions to track our progress, strong collaboration with community stakeholders, project status and learnings and new technological advances.

Wollongong City Council

DRAFT CLIMATE CHANGE MITIGATION PLAN 2020

*Working together to
reduce our emissions*

Wollongong City Council **Climate Change Mitigation Plan 2020**

Acknowledgment of Country

Wollongong City Council would like to acknowledge and pay respect to the Traditional Custodians of the Land, to Elders past and present, and extend that respect to the Aboriginal and Torres Strait Islander people residing within the Wollongong Local Government area

Wollongong City Council Climate Change Mitigation Plan 2020

Glossary of terms and acronyms

CPP Cities Power Partnership

CO₂ Carbon Dioxide

CO₂-e Equivalent tonnes of Carbon Dioxide. The universal unit of measurement to indicate the global warming potential (GWP) of each GHG, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate the climate impact of releasing (or avoiding releasing) different GHGs on a common basis

DCP Development Control Plan

ESD Ecologically Sustainable Development

EV Electric vehicles

FCEVs Fuel Cell Electric Vehicles

FOGO Food Organics Garden Organics

GHG Greenhouse Gas

Gt Gigatonne is a unit of measure equal to 1,000,000 tonnes

HVAC Heating, Ventilation and Air Conditioning

IPCC Intergovernmental Panel on Climate Change

kL Kilolitre is a unit of measurement equal to 1,000 litres.

kt Kilotonne is a unit of measure equal to 1,000 tonnes

kWh Kilowatt hours is a unit of energy equal to 1000 watt hours or 3.6 megajoules.

LED Light Emitting Diode

LEP Local Environmental Plan

LGA Local Government Area

LPG Low Pressure Gas

LSPS Local Strategy Planning Statement

Mt Megatonne is a unit of measure equal to a million tonnes

MW Megawatt is a unit of measure equal to a million watts

PPA Power Purchase Agreement

PV Photo-voltaic

SEPP State Environmental Planning Policy

W Watt

Wollongong City Council Climate Change Mitigation Plan 2020

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Executive Summary

Wollongong City Council is committed to reducing greenhouse gas emissions in the Wollongong Local Government Area. Council will lead the community of Wollongong by both implementing and supporting effective action. Council is part of a vast group of local governments around the world taking the initiative to act on climate change at a local level. Council has joined the international Global Covenant of Mayors for Climate and Energy and the national Cities Power Partnership Program, both of which support local government to move towards lower emissions. In 2019, Council declared we are in a state of climate emergency that requires urgent action by all levels of government. As part of the Global Covenant of Mayors for Climate and Energy program, Council has a target of net zero emissions by 2050 for the City of Wollongong. Council also recognised the significance of its own contribution to the city's emissions and the need to demonstrate leadership, and so set a target of net zero emissions by 2030 for its own operations.

The community of Wollongong have provided feedback to Council that it supports setting the emissions reduction targets and wants Council to demonstrate leadership on climate change. The community desires a move towards renewable energy sources, making transport more sustainable, planting more trees and reducing waste to landfill.

This Climate Change Mitigation Plan is for 2020-2022 and sets the initial scene for how Council intends to move forward on the journey to meeting the emissions reduction targets. It sets out preliminary actions that will provide information and establish strong relationships for continued success. There are 98 actions for Council to reduce its own emissions and to support the community and businesses to reduce theirs. This plan does not allocate actions to external organisations, groups or individuals, however future plans may include a more holistic range of actions developed in partnership for the whole local government area. The actions are set out under the themes of:

- Climate Change Leadership and Planning
- Energy Efficiency and Renewable Energy
- Transport
- Waste
- Trees and Vegetation
- Working with our Community.

Where adequate information was available, actions aimed at directly reducing emissions from Councils buildings, facilities and landfill were subject to a calculation of the expected emissions reduction. From these actions alone, it is expected that the annual emissions of Council operations will be reduced by 25% in the next two years, many attributed to management of waste. There are also a vast array of enabling actions, which will indirectly contribute to Council's and the City of Wollongong emissions reduction targets through supporting strategies, education, monitoring and reporting.

The value of all the actions in this Plan over two years is approximately \$32,000,000, over and above staff time, including all operational and capital projects that include emissions reductions aspects.

This is the first of many plans that will be prepared, and these will be informed by regular re-inventories of Council and City emissions to track our progress and will benefit from previous success stories, learnings and new technological advances. The next emissions inventories will be undertaken in 2021 and a new plan will be developed for 2022-26.

Wollongong City Council Climate Change Mitigation Plan 2020

1 Introduction

Climate change is a global problem, with a variety of impacts currently being felt around the world. The primary cause of climate change is the release of greenhouse gas emissions primarily from human activities, such as the burning of fossil fuels (coal, oil and natural gas), agriculture and land clearing. Global temperatures have been increasing in the last century. In New South Wales (NSW), natural hazards such as heat waves, heavy rainfall and severe bushfire conditions have occurred more often and have been more intense.

The likely impacts of climate change on the Illawarra region have been projected by the NSW Government. The region is projected to continue to warm in the near future (2020–39) on average by about 0.6°C and far future (2060–79) on average by about 1.9°C, compared to recent years (1990–2009). The number of hot days above 35°C is projected to increase, and cold nights below 2°C will decrease. Rainfall is projected to decrease in winter and increase in summer and autumn. The region is also projected to experience an increase in average and severe fire weather (Office of Environment and Heritage, 2014).

Keeping global temperature rise below 1.5°C above pre-industrial levels is considered a critical limit to protect lives and livelihoods (Climate Council, 2018). The Intergovernmental Panel on Climate Change report on *Global Warming of 1.5°C* found that limiting global warming to 1.5°C would require “rapid and far-reaching” changes to the management of land, energy, industry, buildings, transport, and cities. Global net human-caused emissions of carbon dioxide (CO₂) would need to reach ‘net zero’ by around 2050 (IPCC, 2018).

Wollongong City Council is committed to reducing greenhouse gas emissions. Council joined the Global Covenant of Mayors for Climate and Energy (GCoM) program, has completed an emissions inventory and set emissions reduction targets. The targets are net zero emissions by 2030 for its own operations and for the City of Wollongong by 2050. The development of this plan is the next step in the GCoM program.

Net zero emissions broadly refer to a state where any emissions of greenhouse gases generated are counterbalanced by removal of greenhouse gases from the atmosphere. In practice this means reducing emissions as far as possible, then offsetting the remainder. Offsetting refers to any ‘residual emissions’ that remain after undertaking actions to achieve net zero emissions can be addressed by purchasing and retiring an equivalent number of carbon offsets. For local councils, achieving a net zero at a Local Government Area (LGA) level will mean first avoiding and reducing emissions in a way that balances the economic, social and environmental needs of the LGA.

This Climate Change Mitigation Plan (the Plan) sets the scene for how Council intends to move forward with meeting the emissions reduction targets. It is the first of many plans to strive to meet the targets, with each new plan being informed by regular re-inventories of Council and City of Wollongong emissions to track our progress and benefitting from previous success stories, learnings and new technological advances.

This Plan prescribes actions for delivery for the next two years and focuses on important preliminary actions that will provide information and establish strong relationships for continued success. It includes actions to establish partnerships with government, business, industry and community groups, undertake required research and pilot projects within our community and to roll out some key projects to reduce Council’s emissions.

Wollongong City Council Climate Change Mitigation Plan 2020



Figure 1: The role of this Plan in moving towards the emission reduction targets

1.1 Scope of the Plan

1.1.1 Mitigation vs Adaptation

Responding to climate change involves both reducing greenhouse gas emissions (mitigation) and being prepared to adapt to any unavoidable impacts of climate change as they are realised (adaptation). This plan is focusing on mitigation of emissions. A separate 'Adaptation' plan will be prepared to address how Council and the community can adapt to projected changes in climate. There are often synergies and co-benefits of actions for both mitigation of and adaptation to climate change. As Council continues to review and advance its planning and activities these synergies will be identified and pursued.

1.1.2 Role of local government

Climate change adaptation and mitigation is the responsibility of all spheres of government as well as businesses, the community and individuals. While Council recognises that local government has an important role in both mitigation and adaptation, it is also important to recognise that many strategies for mitigation are outside of the statutory responsibility or influence of local government.

Council's responsibilities relate to reducing its own emissions and encouraging and supporting the community to reduce their emissions through education and engagement, behaviour change programs and planning and development processes. Council has varying influences on reducing emissions, such as having a direct influence on assets it owns or builds to having an advocacy or supporting role to encourage other to reduce their emissions. Some aspects of emissions reduction such as carbon pricing are outside the direct scope and influence of local government. A more detailed summary of the Council's role in climate change mitigation is provided in Table 1.

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Table 1: Scope of Council's mitigation responsibilities

Within Scope (direct influence)	
Council's buildings and facilities	Council owns approximately 740 buildings and facilities and are responsible for the maintenance and construction of buildings and facilities. Council aims to integrate principles of environmental sustainability into the construction, refurbishment, fit-out and operation of buildings through implementing best practice sustainable building design and performance standards.
Energy source and use in Council buildings and facilities	Council is responsible for and has direct control over the amount and source of energy used within its buildings.
Council's fleet system	Council is responsible for and has direct control over the size and type of vehicles that comprise its vehicle fleet as well as the fuel sources used.
Urban planning	Council has a regulatory role through the Council's Local Environmental Plan (LEP) and Development Control Plan (DCP). The LEP and DCP sets out the provisions for how the LGA is developed which may then influence energy and transport use. The DCP has controls for development building and design but is limited by its non-legislative status.
Waste management	Council is responsible for collecting and managing waste produced by households and operates the Wollongong Waste and Resource Recovery Park at Whyte's Gully. Effective waste management (i.e. recycling, organics composting and diversion from landfill) can reduce greenhouse gas emissions.
Community infrastructure	Provision of public walking and cycling infrastructure, priority parking systems and electric vehicle charging stations on public land can encourage sustainable transport choices.
Community transport	Provision of community transport programs and support of the Wollongong free shuttle bus service.
Within scope (indirect influence)	
Household energy use	Council can encourage and support energy savings and efficiency, use of renewable energy, and the use of sustainable transport by individuals and businesses through education or incentives but cannot directly control it.
Building and development	Minimum energy requirements are set out in Section J of the National Construction Code. The State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 mandates provisions relating to reduced consumption of mains-supplied potable water, reduction of greenhouse gases emissions and improved thermal comfort for all residential development. Council can encourage and support energy efficient and environmentally sustainable buildings and development to go beyond the minimum BASIX requirements.
Waste production	Council can support and encourage residents and businesses to avoid, reduce, reuse and recycle their waste production but cannot directly control it.
Street lights	Street lights are owned, operated and maintained by the electricity distributor Endeavour Energy within the Wollongong LGA. Council pays the electricity costs, as well as the maintenance and replacement costs for these lights and therefore has a stake in and can influence street light replacements.

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Outside Scope	
Carbon pricing	Responsibility of the Federal Government. Council has an advocacy role only.
Energy regulation and supply	Responsibility of the State Government. Council has an advocacy role only.
Public transport	Responsibility of the State Government and private operators. Council has an advocacy role only.
Regional planning	Responsibility of the State Government.

1.2 Objectives of the Plan

The overarching objectives of the Plan are to:

1. Lead to the community in emissions reduction and climate change action
2. Reduce Council's greenhouse gas emissions through effective energy management and improving energy efficiency
3. Reduce Council's greenhouse gas emissions through the increased use of renewable energy and alternative fuels
4. Reduce Council's greenhouse gas emissions from landfill through resource recovery and gas capture
5. Support the community and businesses to reduce their greenhouse gas emissions.

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2 Context

2.1 International, Australia and New South Wales context

Climate change was formally recognised globally at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. In 2015, a global commitment by countries was agreed at the 21st Conference of the Parties in Paris. The Paris Agreement includes a global commitment to limit global temperature rise to below 2°C above pre-industrial levels and pursue efforts to limit the rise to 1.5 degrees and a commitment to achieve net-zero emissions, globally, by the second half of the century.

The Sustainable Development Goals is a global strategy agreed by the United Nations General Assembly, and contains 17 goals for 2015-2030, including the following goals directly relevant to climate change mitigation and adaptation (United Nations, 2020) (Figure 2).



Figure 2: Sustainable Development Goals directly relevant to climate change

Source: United Nations 2020

In response to ratifying the Paris Agreement, Australia set a target to reduce emissions by 26-28% below 2005 levels by 2030 (Commonwealth of Australia, 2020). The range of Australian policies relating to climate change can be found at <https://www.environment.gov.au/climate-change>

The NSW Government endorses the Paris Agreement and has committed in its Climate Change Policy Framework to take action that is consistent with the level of effort to achieve Australia's commitments to the Paris Agreement. The Framework includes an objective to achieve net zero emissions by 2050 (State of NSW and Office of Environment and Heritage, 2016). The range of NSW policies relating to climate change can be found at <https://climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/NSW-Government-action-on-climate-change>.

The *Net Zero Plan Stage 1: 2020–2030* is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050 (Department of Planning, Industry and Science, 2020). The plan aims to deliver a 35% cut in emissions by 2030 compared to 2005 and will support a range of initiatives targeting electricity and energy efficiency, electric vehicles, hydrogen, primary industries, coal innovation, organic waste and carbon financing. The plan details the establishment of a \$450 million

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Emissions Intensity Reduction Program to support businesses to transition plant, equipment and processes to low emissions alternatives. This program will be complemented by the Commonwealth's \$450 million commitment to New South Wales from the Climate Solutions Fund. Furthermore, the NSW and Commonwealth Governments will commit a further \$1.07 billion over 10 years under a Bilateral Memorandum of Understanding, to the Energy Efficiency, Electric Vehicle Infrastructure and Model Availability, Primary Industries Productivity and Abatement, Coal Innovation, Clean Technology and Hydrogen programs described *Net Zero Plan Stage 1: 2020–2030* (Department of Planning, Industry and Science, 2020). These programs will potentially provide significant support to Council, businesses and residents to reduce emissions.

The NSW Government has also looked at climate change at a regional level for the Shoalhaven and Illawarra region, in the Shoalhaven Illawarra Enabling Regional Adaptation Project. While the project focussed on the region vulnerabilities to climate change and actions to minimise the impacts of climate change, there are synergies with climate change mitigation actions. This includes transition models for energy, transport and industrial systems (State of NSW and Office of Environmental and Heritage, 2019).

2.2 Wollongong City Council context

2.2.1 Council's Planning Framework

Our Wollongong 2028 is the Council's Community Strategic Plan. *Our Wollongong 2028* includes a community vision and goals and guides Council's work. Climate change is highlighted as a key challenge for our future. This Plan contributes to multiple goals, objectives, strategies and actions from the *Our Wollongong 2028*, and specifically addresses the Strategy 1.5.1 'Participate in the Global Covenant of Mayors and set emissions reduction targets for the City'.



Figure 3: Council's planning framework

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This Plan will be a 'supporting document', which is a direction setting document to support the development and implementation of the Community Strategic Plan, Council's Resourcing Strategy, Delivery Program and Operational Plans (Figure 3). However, until the actions are enabled through resourcing and included in the Delivery Program and Operational Plan, they remain aspirational.

2.2.2 Sustainable Wollongong: A Climate Healthy City Strategy

The *Sustainable Wollongong: A Climate Healthy City Strategy* is the guiding document for all environmental and sustainability programs. It outlines Council's commitment to environmental sustainability for both Council operations and our community and identifies pathways to create a sustainable, greener, healthier, cooler and more liveable City. The Strategy is an overarching document which brings together the many environmental programs that we are implementing across our City and Council's operations. The priority areas and goals of the Strategy are:

- Priority Area: A city whose council shows leadership
Goal: Environmental and climate leadership underpins Council decision-making and service delivery which inspires the same in others
- Priority Area: A city that works together
Goal: Together we protect our environment, reduce emissions and increase our resilience to climate change
- Priority Area: A low emissions city
Goal: We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city
- Priority Area: A city in harmony with our environment
Goal: Our ecosystems and waterways are enhanced, our urban areas are cooler and greener and our community is connected to our natural environment
- Priority Area: A low waste city
Goal: Our community only take what they need, reuse and recycle what they can and are aware of the resources that they consume
- Priority Area: A climate and water resilient city
Goal: Our infrastructure and community can adapt to a changing climate and water is valued as a vital natural resource

This Plan falls within the suite of documents that underpin the Strategy, and the actions within this Plan aim to deliver on many of the goals of the Strategy. These links are detailed in Section 5: Action to reduce our emissions.

2.2.3 Complementary and Supporting Council Strategies and Policies

There are also several other complementary and supporting Council strategies and policies that relate to climate change issues (Table 2). Further work will be done on integrating Council's climate change response through an organisational review, which will include these policies and strategies (see actions under Theme 1). This also includes a range of plans that relate to climate change adaptation, which will be considered when preparing the Climate Change Adaptation Plan.

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Table 2: Complementary and supporting strategies and policies

Plans and Policies		Mitigation or Adaptation
Wollongong Waste and Resource Recovery Strategy 2022		Mitigation
Economic Development Strategy 2019-2029		Mitigation
Bike Plan 2014-2018 (being updated to Wollongong Cycling Strategy 2030)		Mitigation
Pedestrian Plan 2017-2021		Mitigation
Community and Crown Land Plans of Management		Mitigation and Adaptation
Planning and Development strategies and policies	<ul style="list-style-type: none"> Local Environmental Plan and Development Control Plans Town Centre and Village Plans Neighbourhood Plans West Dapto Vision 	Mitigation and Adaptation
Social plans	<ul style="list-style-type: none"> Ageing Plan 2018-2022 Beach and Foreshore Access Strategy 2019-2028 Community Safety Plan 2016-2020 Disability Inclusion Action Plan 2016-2020 People for Places Wollongong Social Infrastructure Planning Framework 2018-2028 	Mitigation and Adaptation
Sustainable Procurement Policy and Procedures		Mitigation
Sustainable Events Guideline (under development)		Mitigation
Wollongong Coastal Zone Management Plan 2017		Adaptation
Wollongong Dune Management Strategy 2014		Adaptation
Lake Illawarra Coastal Management Program (draft)		Mitigation and Adaptation
Illawarra Regional Food Strategy 2013		Mitigation and Adaptation
Illawarra Biodiversity Strategy 2011		Mitigation and Adaptation
Illawarra Escarpment Strategy Management Plan 2015		Mitigation and Adaptation
Urban Greening Strategy 2017-2037		Mitigation and Adaptation
Floodplain Risk Management Plans		Adaptation
Stormwater Management Plans		Adaptation
Asset Management Plans		Adaptation
Illawarra Local Emergency Management Plan 2017		Adaptation
Illawarra Region Bushfire Risk Management Plan 2016		Adaptation
Wollongong City Local Flood Plan 2010		Adaptation

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2.3 Climate Emergency Declaration

In August 2019, Council declared we are in a state of climate emergency that requires urgent action by all levels of government. In doing so, it joins close to 100 other Australian local councils that have declared a climate emergency since 2016.

By declaring we are in a state of climate emergency, Council acknowledges that climate changes pose a serious risk to life as we know it and that current measures being implemented are not enough to limit human caused climatic changes. This declaration means that Council needs to ensure that the climate emergency response is considered as a high level of importance in all Council decision making. This includes taking all actions possible to reduce emissions through advocacy, partnerships with other councils, supporting local community action and reducing Council's own emissions.

2.4 Global Covenant of Mayors for Climate and Energy

Council joined the Global Covenant of Mayors for Climate and Energy in August 2017. This is an international group of more than 9,200 cities and local governments that support voluntary action to combat climate change and with a long-term vision to moving to a low emission, climate resilient future. The key objectives of this program are to mobilise city level action, raise the bar on standards of practice and facilitate cities working together better.

Councils are required to meet certain milestones in two streams: climate change mitigation (emissions reduction) and climate change adaptation (Table 3). Council has completed the emissions inventory and set targets for the Wollongong LGA, which are informing this Plan.

Table 3: Global Covenant of Mayors milestones and status

Milestone	Status
Register commitment	Completed August 2017
Complete an LGA-wide emissions inventory	Completed August 2018
Complete a climate change hazards assessment	Completed August 2018
Adopt a science-derived emissions reduction target for the LGA	Completed December 2019
Complete a climate change vulnerability assessment	Underway
Develop a climate change mitigation plan	Underway - this document
Develop a climate change adaptation plan	Underway

2.5 Cities Power Partnership Program

Council joined the Cities Power Partnership Program in January 2020. The Climate Council launched this program to support and accelerate the climate action taking place in Australian local governments. Councils are supported to increase renewable energy, energy efficiency and sustainable transport and are encouraged to collaborate and share knowledge with other participant Councils. Councils are required to commit to climate action by submitting five pledges to increase renewable energy, energy efficiency and sustainable transport and collaboration.

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Council has committed to the following pledges:

- Install renewable energy (solar PV) on Council buildings
- Implement landfill gas methane flaring or capture for electricity generation
- Encourage sustainable transport use such as public transport, walking and cycling through Council transport planning and design
- Set city-level renewable energy or emissions reduction targets
- Adopt best practice energy efficiency measures across Council buildings, and support community facilities to adopt these measures.

Delivery on the actions within this Plan will assist to achieve the pledges. In turn, it is envisaged that Council's CPP membership and associated collaborative partnerships and access to information will assist Council with action delivery.

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3 Wollongong's emissions profile and reduction targets

3.1 Defining the greenhouse gas emission profile

As a signatory to the Global Covenant of Mayors for Climate & Energy, Council is required to develop an emissions profile compliant with the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories. This means that the emissions are reported by sector, greenhouse gas type and scope (Figure 4).

As activities taking place within Wollongong LGA can generate GHG emissions inside and outside the LGA boundary, the following categories are used to describe where they occur:

- Scope 1: GHG emissions from sources located within the city boundary
- Scope 2: GHG emissions occurring as a consequence of the use of grid-supplied electricity, heat, steam and/or cooling within the city boundary
- Scope 3: All other GHG emissions that occur outside the city boundary as a result of activities taking place within the boundary (Ironbark Sustainability, 2018).

The emissions profile for Wollongong LGA was prepared to cover the geographic boundary of the City of Wollongong LGA, for the financial year of 2016-17 and includes Scopes 1-3 emissions.

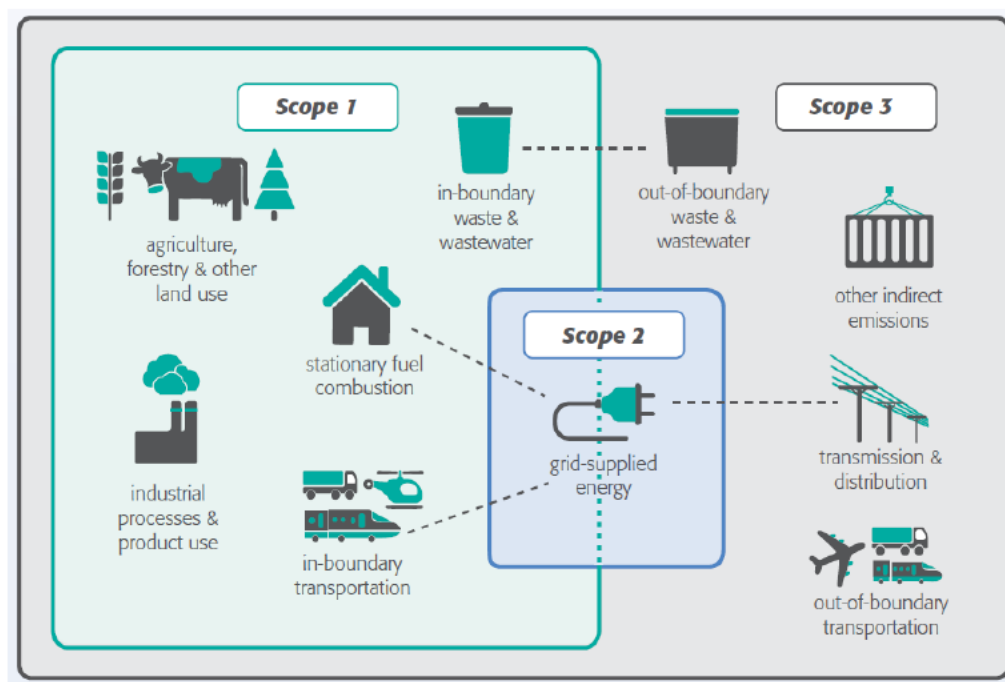


Figure 4: Emission scopes and boundaries

(Source: Global Protocol for Community-Scale Greenhouse Gas Emission Inventories)

It is important to note that the City of Wollongong emissions profile for this Plan is a snapshot only and where necessary for completeness, state or national data scaled down to the LGA level is used.

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The methodology will improve over time as data becomes more readily available (Ironbark Sustainability, 2018). This differs from the emissions profile for Council operations, which uses actual energy consumption and landfill data, and hence accounts for any small differences between the two emissions profiles.

3.2 Emissions profile for Wollongong Local Government Area

The total emissions summary is provided in Figure 5. The City of Wollongong's total annual emissions have been calculated as 3,091,346 kt CO₂-e. This is a snapshot of the emissions profile for 2016-17 and this profile will vary from year to year. The majority of Wollongong's emissions (78%) are from the stationary energy sector, which is mainly electricity consumed by residential, commercial and institutional facilities and manufacturing and construction activities. Transportation is the next largest sector at 19% (Table 4 and Figure 5).

Table 4: Emissions profile for the Wollongong Local Government Area (2016-17)

Category	Emissions (t CO ₂ -e)	Percentage
Stationary Energy	2,406,496	78%
Transport	584,545	19%
Waste	75,558	2%
Wastewater	24,747	1%
Total	3,091,346	100%

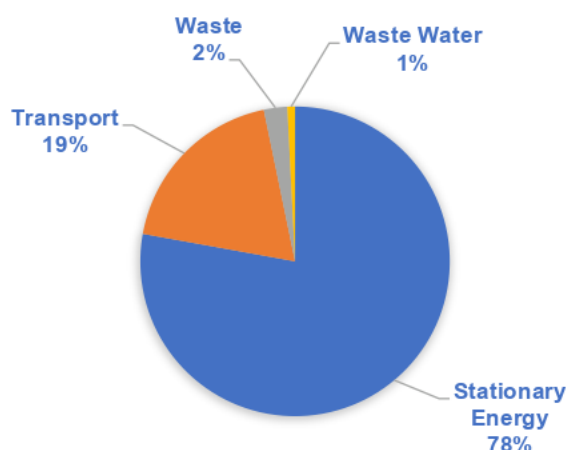


Figure 5: Emissions profile for the Wollongong Local Government Area (2016-17)

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The majority of the City of Wollongong's emissions are Scope 2, which refers to emissions released as a result of grid-supplied energy, generally from outside of the municipal boundary to heat, steam and/or cool within the city boundary. The use of electricity in buildings, facilities and manufacturing is the primary source of Scope 2 emissions (Ironbark Sustainability, 2018). Figure 6 shows the emissions categorised by scopes, according to source, with the stationary energy category broken down into three subcategories: residential, commercial and manufacturing (Ironbark Sustainability, 2018).

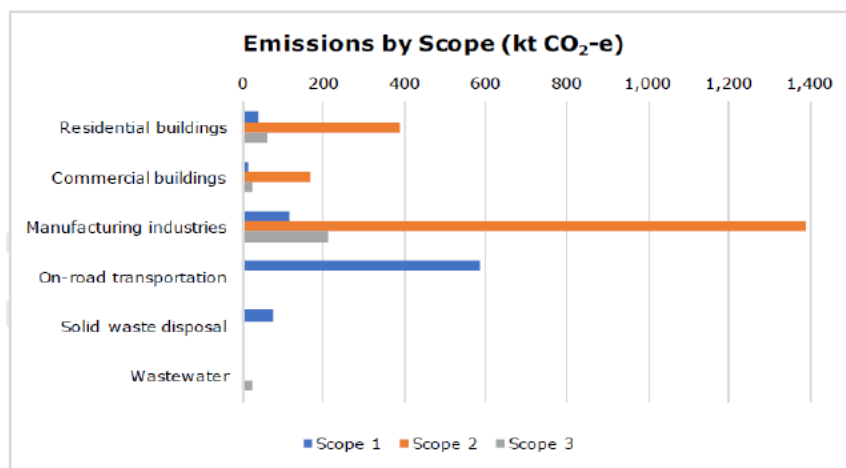


Figure 6: City of Wollongong total emissions categorised by scope, according to source (2016-17)

3.3 Emissions profile for Wollongong Council operations

To determine Council's emission profile, a variety of source data has been collated including waste to landfill and fleet information (Scope 1) and electricity and gas use (Scope 2). This measure is an important step in better understanding the different aspects of Council's operations which can be made more efficient in terms of greenhouse related emissions. Additionally, these efficiency improvements often lead to reduced operational costs. Council operations account for approximately 5% of the LGA emissions. Table 5 and Figure 7 show the emissions profile for Council operations for 2017-18.

Table 5: Emissions profile for Wollongong City Council operations (2017-18)

Category	Emissions (t CO ₂ -e)	Percentage
Landfill	118,580	85%
Streetlights	8,432	6%
Electricity	7,994	6%
Fuel	3,543	2%
Gas	855	1%
Total	139,404	100%

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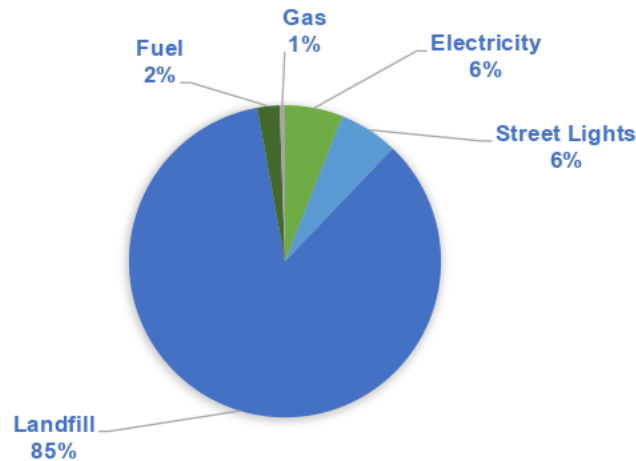


Figure 7: Emissions profile for Wollongong City Council operations (2017-18)

As Council manages the landfill at Whyte's Gully, where waste is received from the wider community, the emissions from waste disposed of at this facility is included in the Council operations emissions profile. With the exception of its own waste, Council does not have full control over the amount of waste taken to the landfill but has a role in encouraging and supporting waste minimisation, reuse and recycling in the community and can reduce the amount of emissions through gas capture and flaring.

The management of streetlights is a complicated issue. Streetlights are owned, operated and maintained by the electricity distributor Endeavour Energy within the Wollongong LGA and have operational control under the *National Greenhouse and Energy Reporting Act 2007*. Council pays the electricity costs, as well as the maintenance and replacement costs for these lights and therefore has a stake in and can influence street light replacements.

Council has full control over the emissions from its consumption of fuel from its fleet operations and gas and electricity in its buildings and facilities, with the exception of those operated by others under a lease or licence.

3.4 Determining City of Wollongong's carbon budget and science-derived target

Under the Paris Agreement, a global carbon budget allocation of 1040 Gt CO₂-e was determined by the Intergovernmental Panel on Climate Change (IPCC). This is based on the amount of carbon emissions that can be produced globally (indefinitely) to keep global temperature rise below 2°C compared to pre-industrial temperatures. This is the level that has been determined to avoid catastrophic climate change. Carbon budgets were then derived for individual countries across the world based on populations, socio-economic factors and growth projections.

A 'science-derived target' is aligned with this broader emissions reduction required to keep global temperature increase to below 2°C compared to pre-industrial temperatures.

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City of Wollongong's carbon budget of 49,185 kt CO₂-e has been determined based on the carbon budget allocation for Australia, as the limit that we cannot exceed in order for Wollongong to play its role in avoiding catastrophic climate change. In developing a science-derived target for the Wollongong LGA the following were considered:

1. Australia's current carbon budget at September 2018 is calculated at 7.26Gt CO₂-e. This is the Australian Climate Change Authority national carbon budget minus all the emissions that have occurred since the budget was derived, per the National Greenhouse Gas Inventory.
2. The carbon budget is adjusted to account for the sources considered in Wollongong's emissions profile (stationary energy, transport, agriculture, solid waste and wastewater). This is done by applying the proportion of each sector from the most recent National Greenhouse gas inventory. This means that sectors which have not yet been modelled (land use change and forestry, industrial processes and product use) are not included in the budget but can be easily added as the data becomes available.
3. The adjusted national carbon budget is then scaled down to the municipal-level based on the percentage of emissions for the included sector that occurred in Wollongong according to the most recent data (Ironbark Sustainability, 2019).

Further scaling factors were applied once the total carbon budget was calculated. These included the Socio-Economic Index for Areas (SIEFA) and projected population growth (Ironbark Sustainability, 2019).

Table 6 below shows the scaled science-derived target for the City of Wollongong, as calculated in October 2018.

Table 6: Scaled science-derived target for Wollongong LGA (Ironbark Sustainability, 2019)

Remaining budget for Wollongong (kt CO ₂ -e)	49,185
Remaining years without change (years)	18.2
Linear annual reduction (kt CO ₂ -e)	74.251
Linear rate of reduction (p.a)	2.7%

The *remaining years without change* (18.2 years) calculates how long this carbon budget would last, based on the emissions released in 2017-18 financial year. The *required annual reduction* and *required rate of reduction* indicates Wollongong's need to reduce emissions by 74 kt CO₂-e (2.7%) per year until 2050, assuming the carbon budget is used in a linear fashion over this time period (Ironbark Sustainability, 2019).

The remaining budget in t CO₂e- will change each year due to reductions in the overall budget available based on the emissions released nationally drawing from the Australian carbon budget. However,

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while numbers for the carbon budget can change, the remaining years without change and the % reduction required are similar. This is because the updates that have been applied to the calculation of the science-derived target also apply to the calculation of the City of Wollongong emissions profile (Ironbark Sustainability, 2019).

In December 2019, Council adopted a science-derived greenhouse gas emissions reduction target of net zero emissions by 2050 for the City of Wollongong, which has been submitted to the Global Covenant of Mayors secretariat. Noting that Council is submitting this target on behalf of the community, for the benefit of the entire community and that Council is not solely responsible for the implementation of actions to achieve this target. This target is to be reviewed in five years with a view to reduce the timeline from 2050 to 2030 in line with Council's target.

Council also adopted that it will work towards an aspirational greenhouse gas emissions reduction target of net zero emissions by 2030 for organisational operations and that this commitment be reviewed in five years to enable consideration of progress towards the target.

Council will be preparing a new inventory of emissions for the City of Wollongong every two years, to compile up to date information on the GHG emissions from energy use, transport, waste and wastewater from all sources. Council will also continue to compile its own emissions data for its electricity and gas consumption for Council buildings and facilities, fuel consumption from its fleet and emissions from waste to landfill.

3.5 Identifying opportunities to reduce emissions

Emissions reductions can be considered according to a hierarchy of Avoid, Reduce, Replace and Offset, as shown in Figure 8, and examples of actions related to each category are detailed below. Wollongong City Council will consider offsetting as a last possible step, after opportunities for emissions reduction have been implemented. The process of identifying actions and opportunities to reduce emissions will be an ongoing process, will be expanded over time through further scoping works, and as new technologies become available or affordable.

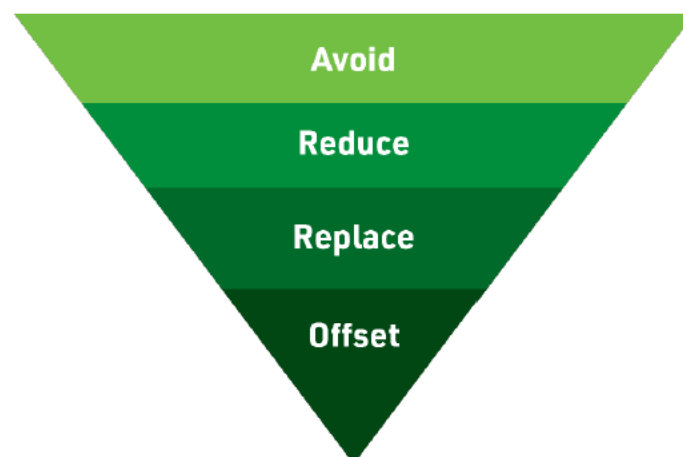


Figure 8: Hierarchy of emissions reduction

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Avoid- The best way to reduce emissions is to not create them in the first place. Examples include turning off electrical devices when not in use, avoid travel by instead using video-conferencing or encouraging active transport in the city rather than driving.

Reduce- This relates to making activities less emission intensive by introducing more efficient technologies, such as LED lighting, undertaking energy efficiency improvements to buildings, fuel-efficient vehicles and reducing waste to landfill.

Replace- This typically refers to transitioning to low emission sources of energy instead of traditional fossil fuel sources. Examples of replacing high emission sources include installing solar PV systems on buildings, buying renewable energy and switching to electric vehicles powered by renewable energy.

Offsetting- Offsetting is usually considered a transitional measure or a last resort when implementing a net zero strategy. To achieve net zero emissions, any 'residual emissions' that remain after undertaking actions can be addressed by purchasing and retiring an equivalent number of carbon offsets. This is usually achieved through planting trees, soil sequestration or investing in renewable energy elsewhere.

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4 Community engagement

4.1 Engagement campaigns

Our community has contributed to the development of actions within this plan through two engagement processes that were undertaken in 2019.

In May to July 2019, the community was asked to provide input into the review of the Environmental Sustainability Policy and the Environmental Sustainability Strategy. The engagement process involved an online ideas tool on Council's Engagement HQ website, feedback form, opportunities to peer vote on suggested ideas, and nine workshops/sessions with schools and interested community members, Aboriginal groups, and the Walking, Cycling and Mobility Reference Group (Figure 9). The community was asked what was important to them in terms of sustainability, why it was important and what Council could do.

				
5 Schools	1 Online Engagement HQ	1 Community Engagement Workshop	2 Aboriginal Engagement Sessions	1 Walking, Cycling and Mobility Reference Group Meeting
150 Student Participants	134 Participants	40 Participants	20 Participants	10 Participants
140 Unique Ideas	205 Unique Ideas	120 Unique Ideas	35 Unique Ideas	
	1125 Peer Votes	84 Peer Votes		

Figure 9: Community engagement participation for the Environmental Sustainability Strategy

In October to November 2019, feedback was sought on the proposed emissions reduction target of net zero emissions by 2050 for the City of Wollongong. The engagement process involved an online ideas tool on Council's Engagement HQ website, feedback form and direct contact with key business

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groups. The community were asked to provide feedback on the proposed target and suggest actions to reduce emissions within the city (Figure 10).

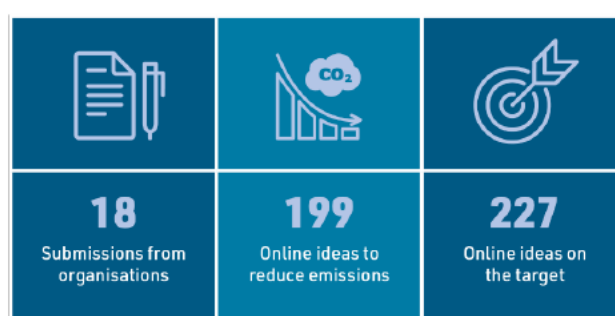


Figure 10: Community engagement participation for the emissions reduction target

The suggestions for reducing emissions from both of these engagement processes have been used to inform the development of this Plan.

4.2 What did the community say?

There was strong community support for moving to renewable energy sources, including:

- installation of solar panels on all Council facilities
- Council purchase green power or participate in a Power Purchase Agreement
- Council replace current streetlights with LEDs
- installation of solar panels on residential, government and commercial buildings
- requiring minimum solar power systems for new developments
- leveraging the uptake of renewables by the community, schools and businesses, including rebates, subsidies or low interest payment plans
- investigating opportunities for the development of green industry and green jobs, including the installation of community batteries.

The community also clearly favoured actions to make both private and public transport more sustainable. Suggestions include:

- installation of electric vehicle (EV) infrastructure to support the uptake of electric vehicles
- connectivity and better access to wide cycle paths and shareways around the city
- providing access and adequate facilities in the central business district (CBD) to complement public and active transport
- improvements to public transport access, timetables and infrastructure (including expansion of the Gong Shuttle) to reduce cars in the CBD
- expand and allocate parking for ride/car share schemes in the city.

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Actions around increasing tree and vegetation cover were also consistently suggested, including:

- planting trees to sequester carbon
- revegetating pocket parks and unused land to reduce emissions and improve the quality of urban environments
- accelerating implementation of the Urban Greening Strategy
- additional funding for coastal wetland activities
- encouraging planting and support for community-based gardening programs, including increasing stock and access to Green Plan and community gardens.

Implementing a Food Organics Garden Organics program (FOGO) and other actions to reduce waste to landfill and improve recycling services were recommended, as well as installing a system to capture gas from landfill.

Our Aboriginal community told us that their traditional culture has been about living in harmony with their environment, using the principles of low consumption, low waste, eating sustainably and locally sourced food and protecting native vegetation and wildlife.

Requests for leadership from Council was a common theme, including reducing its own emissions, stronger planning and development controls and education and marketing programs. There was strong support for Council setting an emission reduction target, developing this Plan and prioritising consideration of climate change issues so that every section of Council is operating and planning in the context of a climate crisis.

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5 Actions to reduce our emissions

Council aspires to be a leader in response to this critical intergenerational issue and supports bold, ambitious and effective action. Council will continue to lead in its actions, support and advocacy in response to the Climate Emergency Declaration.

The specific actions to be undertaken are outlined in the following sections, organised under six themes:

1. Climate change leadership and planning

Council will demonstrate leadership and improve planning processes to encourage reduction of greenhouse gas emissions

2. Energy efficiency and renewable energy

Council will reduce greenhouse gas emissions by using renewable energy and improving energy efficiency of its buildings, facilities and streetlights

3. Transport

Council will reduce greenhouse gas emissions from its fleet and support the community to reduce emissions through their transport choices

4. Waste

Council will reduce greenhouse gas emissions from waste in landfill through waste avoidance, minimisation, diversion and gas capture

5. Trees and vegetation

Council will protect and enhance vegetation to cool our city and increase absorption of greenhouse gases

6. Working with our community

Council will support the community of Wollongong to reduce emissions

Each of these themes are related to one or more of the goals from the *Sustainable Wollongong: A Climate Healthy City Strategy*, which is the guiding document for all environmental and sustainability programs. The relevant Strategy goals are identified within each theme.

Funding for the actions in this Plan are either within Council's existing budget over the duration of the Plan or will require further analysis and consideration through Council's annual budgeting process. Some future actions may require additional feasibility assessments, or attract external funding, particularly where community benefits or partnerships can be established.

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5.1 Theme 1: Climate change leadership and planning

This theme is related to achieving *Sustainable Wollongong: A Climate Healthy City Strategy Goals*:

- Environmental and climate leadership underpins Council decision-making and service delivery which inspires the same in others
- We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city

5.1.1 Leadership

Council will demonstrate leadership and improve planning processes to encourage reduction of greenhouse gas emissions. At the time our net zero emissions targets were set, it was recognised that all levels of government would need to work collaboratively to reduce emissions. Council will continue to aim for net zero greenhouse gas emissions for our Council and community. We will also take the action required to draw down Wollongong's share of the greenhouse gas emissions already in the atmosphere. We recognise that we will not achieve this without urgent leadership and action from other levels of government. Council will, over the next two years, develop a more detailed carbon management plan for Council's own operations.

Council's operations contribute only a small percentage of the emissions for the LGA, but it is important Council sets an example and take actions where possible. While we are still aiming for net zero emissions for the whole LGA by 2050, a review of this target will occur in 2024-25.

A key platform of this Plan is creating and building the capacity, awareness and commitment to energy management and the reduction of greenhouse gas emissions within Council and the community. Council has an opportunity and a responsibility to be a leader in the community by demonstrating and advocating for clean energy technologies, sustainable practices and reducing emissions.

Advocacy will be a key part for Wollongong Council to help reduce the city's greenhouse emissions, along with State and Federal Government policy, legislation and funding. Council will continue to campaign for conducive legislative and policy frameworks, and support and funding from Federal and State Governments. These include renewable energy targets, emission trading schemes, planning policy changes and minimum energy standards for homes, commercial buildings and vehicles. Wollongong is unique with respect to its higher proportion of emissions from industry; however, this also presents opportunities for the city in transitioning to cleaner technology. Collaborative campaigns involving partners such as other Councils, educational institutions, industry groups, community organisations and our community will also be vital to effect real change.

Progress to date

- Wollongong City Council joined the Global Covenant of Mayors Program in 2017. See Section 2.4 for more information.
- Wollongong City Council declared Climate Change Emergency in 2019. See Section 2.3 for more information.
- Wollongong City Council joined Cities Power Partnership program in 2020. See Section 2.5 for more information.
- Wollongong City Council *Sustainable Procurement Policy* supports sustainable practices and minimises environmental impact in the procurement of goods and services. Council also has a Procurement Procedure Management Policy which states Council staff must follow the

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waste hierarchy of avoid, reduce, reuse and recycle to endeavour to minimise the volumes of goods and services procured. When undertaking procurement activities environmental considerations should be part of the overall assessment including, but not limited to: only purchase goods or services when necessary, where available purchase goods with recycled content, are recyclable, have minimal and recyclable packaging, are energy and/or water efficient, minimise greenhouse gas emissions, are sustainably produced (for example food, timber, paper etc), and minimise transport impacts.

- Council's Local Roads Program has a long history of innovation with materials and processes that have social, economic and environmental benefits. This has resulted in the majority of local roads achieving a life far exceeding their design life as well as reducing emissions and waste to landfill. This has included in-situ pavement recycling, and use of recycled materials in different road components, reducing reliance on quarried natural resources and diverting materials that would otherwise go to landfill. Council has updated its procurement specifications for asphalt road base and concrete to permit appropriate use of recycled materials when providers are set up to supply. When comparing full depth asphalt to in-situ recycling Pavement Recyclers have calculated in-situ recycling saves 50% reduction in greenhouse emissions, 69% reduction in truck movements and 65% reduction in fuel consumption of construction vehicles.

5.1.2 Land use planning

Council plays an important role in guiding economic, environmental and socially sustainable communities. The way we live, where we work and how we move around Wollongong is critical to our impact on carbon emissions.

The way we plan and design our local places, our City Centre, town centres and suburbs, presents an opportunity to encourage a more sustainable lifestyle. Making streets comfortable for cycling or walking rather than driving, having access to local employment rather than commuting long distances, and working to deliver the right housing density to protect important natural areas are all very important elements in guiding sustainable communities.

Local government land use planning is part of a NSW framework including the Environmental Planning and Assessment Act 1979, Government Architect NSW policies and the Illawarra Shoalhaven Regional Plan.

The role of land use planning is varied. The areas of Council influence are outlined below:

Local Strategic Planning Statement - The Local Strategic Planning Statement (LSPS) will set out the 20-year vision for land-use in the local area, the special character and values that are to be preserved and how change will be managed into the future. The statement must identify the planning priorities for an area and explain how these are to be delivered. They must also show how the council will monitor and report on how the priorities will be implemented. Climate change is a key theme of the Wollongong LSPS.

Local Environmental Plans - The Wollongong Local Environment Plan (LEP) describes the different land zones in an area, such as residential, commercial or industrial land, and explain what development is allowed on each type of land zone.

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Development Controls Plans - The Wollongong Development Control Plan (DCP) is a set of Council policies that explain how developments need to be designed to meet the conditions of the Local Environmental Plan (LEP) and State-wide rules. This Plan is important to guiding many areas of sustainable building design.

Planning Proposal Policy - Rezoning requests must be justified, having regard to Council's strategic plans and policies, and the NSW Department of Planning Regional Strategy, The Illawarra Shoalhaven Regional Plan 2015. Merit based assessment must consider adequacy of public infrastructure (e.g. proximity to public transport etc), impact on critical habitat or threatened species, social and economic effects, and opportunity to provide an improved environmental outcome. Proposals must also be consistent with State Environment Planning Policies (SEPPs) and Ministerial Directions.

Town and Village Plans - The role of town and village plans is to work with the community to outline clear strategies and actions to meet the current and future needs of the people who live, work and visit. These projects are focussed around business zones and seek to inform how we create liveable places that are safe, healthy, lively, sustainable and attractive. These plans identify key actions around planning policy change, infrastructure investment and community initiatives. Visions for each place are defined in partnership with the community, with relevant technical investigations informing built form, and infrastructure including improve the existing pedestrian and cyclists' access and mobility facilities.

Wollongong City Centre - 'A City for People' was endorsed by Council in May 2016. This work sets the vision for the City Centre. Council is committed to creating a City Centre that is people orientated, sustainable and liveable.

Progress to date

- Wollongong City Council has a DCP Chapter A2: Ecologically Sustainable Development, in which Council encourages ecologically sustainable development (ESD) for all development in the Wollongong LGA. This includes objectives relating to greenhouse gas emissions, waste minimisations and recycling of waste, renewable and low carbon energy, the environmental impacts from building materials and biodiversity values. Council also encourages the application of an environmental building rating tool e.g. Green Star or the National Australian Built Environment Rating Scheme (NABERS) to document and demonstrate the environmental performance of a proposed development.
- Warrawong Town Centre and Master Plan, Corrimal Town Centre and Master Plan 2015-25, Unanderra Town Centre and Master Plan, Dapto Town Centre Plan 2017-27, and Port Kembla Revitalisation Plan 2018-43 have been completed. The draft Helensburgh Town Centre Plan 2020-2045 is currently under development.
- The most recent component of 'A City for People' is the development of the Wollongong City Centre Urban Design Framework, which presents recommendations on which changes to the existing Wollongong City Centre Planning Controls will be made (including Wollongong Local Environmental Plan 2009 and Wollongong Development Control Plan 2009 (Chapter D13)). One of the key objectives of the framework is *Public domain and connections: a green and walkable city*. The three directions recommended to achieve this are:
 - strengthen the structure of the City through a permeable grid that prioritises pedestrians
 - create a green network of open spaces for a sustainable, healthy and attractive city
 - protect sunlight to key public spaces.

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- The LSPS was prepared in 2020 and includes 'Climate Action and Resilience' as one of its six themes, recognises emissions reduction targets for Wollongong City Council operations and the community, and identifies this Plan as a key strategy.

Future actions

Table 7 details the actions Council will undertake in the next two years to demonstrate leadership and consider climate change in all aspects of Council operations.

Table 7: Climate change leadership and planning actions

Strategies	Timeframe	Actions
Demonstrate leadership	2019	➤ L1 Set emissions reduction targets for the City of Wollongong and Council operations (completed December 2019)
	2020-21	➤ L2 Establish a Steering Committee with representation from senior management across all divisions of Council to have responsibility for the implementation of climate change actions
	Ongoing	➤ L3 Ensure adequate resourcing for implementation of climate change mitigation actions
	Ongoing	➤ L4 Initiate an organisational review of Council decision making processes, policies and operational practices to ensure alignment with the Climate Emergency Declaration and net zero emissions targets
	Ongoing	➤ L5 Continue commitments and actions for the Global Covenant of Mayors for Climate and Energy
	Ongoing	➤ L6 Implement pledges from Cities Power Partnership Program
	Ongoing	➤ L7 Council will share key emissions reduction projects and achievements to our community
	2020-21	➤ L8 Develop a Sustainable Events Guideline for event managers and stallholders to improve the sustainability of events such as minimisation of waste and reducing water and energy consumption
	2020-21	➤ L9 Strengthen the sustainability provisions and procedures in the Sustainable Procurement Policy, such as utilising low emissions products
	Ongoing	➤ L10 Continue to innovate and trial all viable road maintenance and construction options to reduce emissions and waste to landfill while providing the best outcomes for roads performance, including: <ul style="list-style-type: none"> Continue to research ways to in-situ recycle old road pavements to eliminate landfill Minimise waste to landfill during full road reconstruction by exploring materials requiring least excavation and ways to recycle excavated materials Work with local suppliers to move towards provision of asphalt, road base and concrete that complies

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		with Council specifications to permit appropriate use of recycled materials
2020-22	➤	L11 Review the Wollongong Development Control Plan Chapter A2 – Ecologically Sustainable Development to ensure alignment with the Climate Emergency Declaration commitment and net zero emissions targets
2021-22	➤	L12 Amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Construction Code, and the outcomes of the 'Energy efficiency and emissions standards for new commercial buildings' survey being undertaken by the Department of Industry, Science, Energy and Resources
2020-22	➤	L13 Commence an investigation into how to encourage sustainable development outcomes, including but not limited to community education, broad ranging incentives, and property marketing tools
2020-22	➤	L14 Prepare subsequent Climate Change Mitigation Plan 2022-2026
<hr/>		
Advocacy		
Ongoing	➤	L15 Undertake and collaborate on strong advocacy programs to State and Federal Governments to declare and act on the climate emergency
Ongoing	➤	L16 Advocate to the State and Federal Governments to consider climate change impacts when developing new and revised planning instruments, guidelines and legislation, including increased thresholds and standards in NSW BASIX and National Construction Code
2020-21	➤	L17 Advocate to the Federal Government to expand and improve the Commercial Building Disclosure program
2020-21	➤	L18 Advocate to the Federal Government to expand and improve the Australian Government Equipment Energy Efficiency program, which determines the minimum energy performance standards of appliances
Ongoing	➤	L19 Council will advocate and investigate opportunities to attract green industries to the Wollongong LGA
<hr/>		
Foster innovation		
2020-22	➤	L20 Investigate opportunities to work with the University of Wollongong to showcase sustainable building design
2020-22	➤	L21 Pursue the development of a virtual sustainable home to promote sustainable urban residential building options
<hr/>		
Regional collaboration		
Ongoing	➤	L22 Continue to work with Illawarra Shoalhaven Joint Organisation on regional collaborative grants and projects, including the Cities Powers Partnership Program
<hr/>		

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	Ongoing	➤ L23 Continue to work with other agencies including Local and State Government, universities, industry and community organisations to network, learn and share information on low carbon strategies
Grant funding opportunities	Ongoing	➤ L24 Continue to apply for external grant funding for climate change mitigation projects through NSW State Government and Commonwealth funding programs
Internal capacity building	2020-22	➤ L25 Raise awareness to ensure that climate change mitigation actions can be embedded into policies, strategies and service delivery
	2020-22	➤ L26 Educate Council staff on waste reduction, resource recovery and energy savings behaviours within the workplace
		➤ L27 Support Council facility managers to understand and implement sustainability practices, such as reduced energy and water use, and waste
Monitoring	Ongoing	➤ L28 Continue to maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and Council's journey towards corporate goals and will be shared with the community
	2020-22	➤ L29 Monitor and report on the implementation of the Climate Change Mitigation Plan 2020

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5.2 Theme 2: Energy efficiency and renewable energy

This theme is related to achieving *Sustainable Wollongong: A Climate Healthy City Strategy Goal*:

- We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city

Council will reduce greenhouse gas emissions by improving energy efficiency of its buildings, facilities and streetlights and using renewable energy, and encourage businesses and residents to improve their building's environmental performance.

5.2.1 Energy efficiency of buildings

Energy efficiency includes implementing actions to reduce energy usage or energy demand, as well as the monitoring, measurement and verification of energy and various saving measures. Many factors affect the efficiency of energy use in buildings. Improved base building design, facade changes, or retrofitting/replacing energy consuming plant and equipment and building tuning/commissioning can all reduce losses and increase useful outputs. Occupant behaviours are also a factor that impacts on a building's emissions intensity.

Existing standards, policies and incentive programs will make a substantial contribution to reducing energy and emissions in the future for the community, businesses and manufacturing (Table 8). Council will work with other levels of government and key stakeholders to ensure these initiatives are maintained, improved or extended, and support and encourage uptake within the community (refer to Theme 1: Climate Change Leadership and Planning and 6: Working with our Community).

Table 8: List of performance standards and incentive programs available to improve business and building energy efficiency

Minimum performance standards	Information and incentive programs
<ul style="list-style-type: none"> • Minimum Energy Performance Standards (MEPS) • NSW Building Sustainability Index (BASIX) • National Construction Code (NCC) Section J 	<ul style="list-style-type: none"> • Commercial Building Disclosure • Green Star program • Well Rating • National Australian Built Environment Rating Scheme (NABERS) • NSW Energy Savings Scheme – financial incentives for businesses and households to be more energy efficient • NSW Manufacturing Efficiency funding • NSW Environmental Upgrade Agreements • NSW Sustainable Advantage

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5.2.2 Renewable energy

Clean renewable electrical energy generation systems are becoming increasingly accessible to the average homeowner either installed at home and connected to the grid or purchased as GreenPower.

Renewable power systems use renewable energy sources, such as the sun, wind and water, to produce electricity with very low greenhouse gas emissions. Photovoltaic (solar energy) systems have become the dominant renewable energy technology installed for domestic systems and commercial buildings in Australia.

These energy systems usually operate with low running costs but can be expensive to install, although equipment costs are generally declining. Maintenance can also be a cost issue for systems reliant on batteries. The design and installation of these systems is a complex task requiring specialist knowledge. The Clean Energy Council register at www.solaraccreditation.com.au lists accredited designers and installers who can ensure systems comply with the appropriate Australian Standards.

5.2.3 Energy efficiency measures for Council

For Council energy efficiency and renewable energy encompasses two main focus areas:

- Buildings and facilities
- Street and sports field lighting

5.2.3.1 Council buildings and facilities

Council owns approximately 740 facilities and buildings ranging in size from public toilets, community halls to our larger facilities such as seven libraries, central administration building, and three work depots. Council also owns and manages three tourist parks, two leisure centres and 18 public swimming pools.

To reduce emissions from its buildings and facilities Council has identified and implemented a number of energy efficiency and renewable energy initiatives that will reduce Council's energy usage and costs, and future proof Council from rising energy prices. Energy efficiency in buildings still remains one of the best cost-effective measures to reduce energy use and eliminate carbon emissions and is the first priority for Council in reducing emissions from its buildings and facilities. Heating, ventilation and air conditioning (HVAC) contributes significantly to business energy use and operating costs and HVAC systems are the biggest energy consumers. Council has implemented a number of HVAC upgrades in our buildings and will continue to do so to reduce emissions from energy use.

Investment in renewable energy on Council buildings is also an opportunity to save on energy costs, refresh infrastructure and continue Council's work to reduce emissions. Council has already installed 327kW of solar capacity on a number of Council buildings and will continue to investigate the feasibility of solar systems on our buildings and facilities.

Council has been involved in the Green Star program, which is an internationally recognised sustainability rating system for the certification of design, construction and operation of buildings, fit outs and communities, and a partnership with the Green Building Council of Australia.

Progress to date

A large number of energy efficient and renewable energy measures have already been completed by Wollongong City Council for its own operations:

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- Council's Administration Building was the first 5 Star Green Star Performance rated building in the Country and was recertified as a 6 Star building in 2018. This was a significant achievement as the building was 32 years old when it received the rating. This achievement was again a first for the rating tool as the building is the only building to have been recertified under the new tool. Some of the key things Council achieved within the building include:
 - reducing the energy consumption by 64%, due to building tuning, smart lighting and efficient systems to heat and cool the building
 - reducing water use by 75% through a mix of improvements like low flow taps and toilet flushing, rain water storage tanks, and reusing clean water
 - diverting more than 60% of our waste generated within the building from landfill through recycling, composting organics and reducing the amount of waste staff generate in the first place.
- Installation of 327kW Photovoltaic systems has already occurred on a number of Council buildings. This includes the:
 - Beaton Park Ted Tobin Hall
 - Corrimal Tourist Park
 - Bulli Tourist Park
 - Windang Tourist Park
 - Dapto Pool
 - Ribbonwood Community Centre.

Future actions

Table 9 details the actions Council will undertake in the next two years to reduce greenhouse emissions through energy efficiency improvements in our buildings and facilities and renewable energy projects.

Table 9: Energy efficiency and renewable energy actions

Strategies	Timeframe	Actions
Implement sustainable building design and performance standards	2020-22	➤ E1 Commence review of sustainable building design and performance standards to apply to all new and refurbished Council buildings and facilities
	Ongoing	➤ E2 Incorporate the adopted sustainable building design and performance standards in all new and refurbished Council buildings and facilities
	Ongoing	➤ E3 Investigate opportunities for Council to participate in the 'Sustainable Advantage' program for its facilities
Continue energy efficiency program for Council buildings and facilities	2020-25	➤ E4 HVAC upgrade for Town Hall and Art Gallery with combined plant
	2020-25	➤ E5 HVAC upgrade for Corrimal Library, Ribbonwood Community Centre, IPAC and Integral Energy buildings
	2020-25	➤ E6 Complete roll-out of the Administration building lighting upgrade program to the Library

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	2020-21	➤ E7 Warrawong Community Centre & Library and Helensburgh Community Centre & Library new builds will aim to be designed, constructed and maintained to sustainable building design and performance principles
	2020-22	➤ E8 Beaton Park Leisure Centre Master Plan developed including Stage One Aquatics Design with sustainable building design and performance principles
	2020-22	➤ E9 Upgrade of treated pool filtration systems to reduce energy and water use
Renewable energy program for Council buildings and facilities	2020-21	➤ E10 Implementation of Solar on Council Buildings project
	2020-25	➤ E11 Pursue the feasibility of a Whytes Gully Renewable Energy Facility with a 1MW Power station
Pursue Power Purchase Agreement (PPA)	2020-22	➤ E12 Pursue the potential to establish a PPA utilising the energy generated from Whyte's gully landfill gas to offset Council's highest energy consuming buildings
	2020-22	➤ E13 Pursue the potential for opportunity to establish a regional PPA
Monitoring performance of solar systems	Ongoing	➤ E14 Continual monitoring of the efficiency of solar systems allows to track the performance of the systems and undertake further cost-benefit analysis for other buildings

5.2.3.2 Street and sports field lighting

Streetlighting has three main purposes - improved pedestrian and vehicle safety, reduced street crime, and providing night amenity in community spaces. Approximately 19,191 streetlights are owned, operated and maintained by the electricity distributor Endeavour Energy within the Wollongong LGA. Council pays the electricity costs, as well as the maintenance and replacement costs for these lights and therefore has a stake in and can indirectly influence street light replacements. At this stage Council is including the emissions from streetlights within the Council emissions profile in this Plan due to this considerable level of influence.

As such, with streetlights included in Council's emission profile, it is the second largest greenhouse gas emission contributor for Council, generating 8921 tCO₂-e, which accounted for 6% of Council's emissions in 2017-18 through the use of electricity (Figure 7). The challenge to reduce energy consumption and emissions associated with it can require large upfront costs.

Current streetlights vary in type, age, intensity and energy efficiency depending on the historical time of installation and the site location throughout the LGA. Standard residential streetlights are commonly 80-watt (W) mercury luminaries. Other types of lighting are termed larger main street lighting, which consists of streetlights for main roads, highways and sport fields, which can range from 150-400W.

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It is important to note that the number of streetlights will increase for the Wollongong LGA, largely as a result of the West Dapto development, new subdivisions and the creation of new sports fields.

Progress to date

- Council entered into an agreement with Endeavour Energy in 2019 to change all available mercury vapour residential class streetlights to energy efficient LED technology. The proposal offers Council a fixed price subsidy and has a significant environmental benefit.
- Council has already installed 7,089 LED lights when globes reached the end of their life or in new subdivisions.
- Sport field lighting has been progressively replaced with LED technology, for example the synthetic turf field, the natural turf field, and the junior natural turf field at Ian McLennan Park. All future installations are required to utilise LED fittings.

Future actions

Table 10 details the actions Council will undertake in the next two years to reduce greenhouse emissions from street and sports field lighting.

Table 10: Energy efficiency actions for street and sports field lighting

Strategies	Timeframe	Actions
Energy efficient lighting	2020-22	➤ E15 Continue the upgrade program of residential streetlights (80W mercury vapour) to LED
	2020-22	➤ E16 Pursue investigation into installation of converting higher wattage main streetlights to LED, once the technology becomes feasible
	Ongoing	➤ E17 All new and replacement sport field lighting installations will utilise LED fittings

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5.3 Theme 3: Transport

This theme is related to achieving *Sustainable Wollongong: A Climate Healthy City Strategy Goal*:

- We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city

Council will reduce greenhouse gas emissions from its fleet and support the community to reduce emissions through their transport choices. The transport systems for Wollongong have been defined as the management of journeys for business, freight and commuters and of the region's road networks (OEH 2019). Wollongong City Centre is the hub of the Illawarra Region, providing higher order regional services and facilities such as medical, education, commercial services as well as cultural and entertainment facilities.

The transport system in Wollongong is under pressure from a growing population, and the fact it is reliant on north-south connectivity due to the area's geographical features. The area is also characterised by a large number of small suburbs that are not focused around a central city centre. Residents largely use private cars as the primary form of transport for commuting for work within the areas and for services, with 72.5% of people in Wollongong saying they travel to work in a motor vehicle (ABS Census Data 2016). A significant proportion of residents commute by rail or private car to Sydney for employment, and there is growing pressure for more passenger services due to limited seating capacity (too few carriages per set) and large sections of single line south of Unanderra. In terms of freight capacity there is sufficient rail capacity in the short to medium term, but the freight rail access to Port Kembla is expected to grow, placing further pressure on the rail line (OEH 2019).

Reducing emissions from transport is therefore a high priority and presents one of the biggest challenges in achieving net zero emissions in the longer term. For the Wollongong local government area, transport emissions represent 19% of the City of Wollongong emissions profile (Figure 5). Responding to this challenge will require fundamental changes in how we plan and deliver transport networks and how people in Wollongong choose to travel. There will be a continued need in Wollongong to develop 'live-work-play' places through improved land use planning and companies/state agencies developing regional offices and 'work at home' policies to reduce the need for long distance commuting.

5.3.1 Sustainable transport

Sustainable and integrated transport planning aims to ensure there is a suitable, safe and interconnected transport infrastructure for different modes such as private vehicles, public transport, walking and cycling. The NSW State Government is responsible for planning and delivering public transport in our local area, supported by private operators. It plans and delivers metropolitan road projects that impact traffic and has responsibility for many roads in our LGA. Within a local government context, transport services and responsibilities extend mainly to the consideration of roads, road safety, improved and interconnected public transport, and increasing active transport options through walking and cycling path networks. The delivery of these services and responsibilities is also shared with external stakeholders such as Transport for NSW, and Council will continue to work these agencies to deliver sustainable transport options for the city. Council also contributes to the free shuttle bus and provides a number of community transport programs.

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5.3.2 Electric, hybrid and hydrogen vehicles

It is important for Council to stay up-to-date with electric, hybrid and hydrogen vehicle technology, infrastructure needs, and opportunities to support the transition from non-renewable fossil fuels. Alternative fuels will benefit the environment, improve energy security and lower costs. This would have several benefits including lower running costs for users, reduced air pollution and lower greenhouse gas emissions, health benefits from air quality improvements, and reduced noise which will improve liveability. It will also contribute to improved energy security through reduced reliance on imported, non-renewable fuels.

Unlike petrol and diesel vehicles, fully electric vehicles (EV) produce no dangerous pollutants such as carbon monoxide and nitrous oxide. Their emissions are primarily determined by the upstream emissions; that is, from the production and distribution of the energy to charge them. Australia has a low uptake of EV in comparison with other developed nations. This reflects current challenges with limited model choice, lack of affordable models (with no current government subsidies or benefit) and limited public charging infrastructure in the Australian market. This is expected to change as the range of EV models increases and prices continue to trend downwards, along with the development of supportive infrastructure such as charging stations and battery technology. In Australia, electric vehicle charging stations have been primarily located in capital cities, however there have been various initiatives that have seen the number of EV chargers in regional areas grow and these are now comparable in numbers to those located within cities.

Fuel Cell Electric Vehicles (FCEVs) powered by renewable hydrogen have high range and quick refuelling times. Combining the use of EVs and FCEVs across all motorised vehicles could present an emissions-free solution at point of vehicle use. Hydrogen refuelling infrastructure, not currently available, is necessary though to support commercialisation of this potential market.

5.3.3 Council fleet

Transport emissions represent 2% of Council's own emissions profile through the use of fuels such as diesel, LPG and petrol in Council's owned and operated car and plant fleet (Figure 7). Council's fleet consists of a variety of vehicles from passenger vehicles, light commercial vehicles, trailers, loaders, utes, ride-on mowers, 4WDs and a variety of trucks. Road travel is essential for undertaking many Council duties, and a number of actions will be taken in order to ensure the efficient selection and operation of Council's fleet. Wollongong City Council has a 'Vehicle Acquisition Strategy Management Policy' that states Council will address environmental considerations in the performance of the fleet, and will consider alternatively powered vehicles, including those that are petrol hybrid powered, electric vehicles, and alternate fuel powered as markets mature.

Progress to date

Integrated transport planning and sustainable transport options have been the subject of key Council Strategies and Plans, each containing a series of actions that are complementary to the aim of reducing emissions. These include:

- The City of Wollongong Bike Plan 2014-18 outlines a multifaceted approach for sustainable, affordable and accessible transport that consists of a range of elements comprising infrastructure provision and renewal, promotion, education and advocacy.
- The City of Wollongong Pedestrian Plan 2017-21 sets out a vision and goals to support a more walkable and connected Wollongong.

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- West Dapto Vision 2018 and West Dapto Integrated Transport Plan aim to create sustainable and resilient communities with active and passive open space accessible by walkways, cycleways and public transport.
- Wollongong City Centre Access and Movement Strategy 2013 is a multi-modal strategy that addresses the city centre road network, in addition to a wide range of complementary measures to reduce the impacts of travel demand on the city centre. This includes walking and cycling actions and strategies, public transport improvements, car parking strategies, and policies and consideration of land use policies which will affect demand for travel and parking.
- Grand Pacific Walk Vision and Master Plan, this major project will create a walking and cycling pathway along the coastline from the Royal National Park to Lake Illawarra.
- Port Kembla 2505 Revitalisation Plan 2018-43, a part of this Plan is to improve active transport infrastructure and opportunities, and the public transport network to and within the suburb.
- Wollongong City Council DCP contains objectives and controls designed to provide suitable bicycle parking facilities and for commercial office/business premises and retail centres, suitable bicycle parking facilities should be provided for both tenants/workers as well as bicycle couriers. The DCP also states that showers, change facilities and personal lockers shall also be provided.
- Council will continue to implement our Town Centre and Village Plans to improve the existing pedestrian and cyclists access and mobility facilities, such as:
 - Warrawong Town Centre and Master Plan
 - Corrimal Town Centre and Master Plan 2015-25
 - Unanderra Town Centre and Master Plan
 - Dapto Town Centre Plan 2017-27
 - West Dapto Integrated Transport Plan
 - Port Kembla Revitalisation Plan 2018-43.

Future actions

Table 11 details actions Council will undertake in the next two years to reduce Councils emissions from its fleet and actions to support the community's transport choices.

Table 11: Sustainable transport actions

Strategies	Timeframe	Actions
Council Fleet	2020-22	➤ T1 Council will prioritise low emissions and fuel-efficiency when purchasing vehicles, and will include hybrid and/or electric vehicles as part of their fleet
	2020-22	➤ T2 Investigate feasibility of low-emissions vehicle standards for plant fleet
Electric vehicles	2020-22	➤ T3 Develop and adopt an Electric Vehicle Charging Stations on Public Land Council Policy, addressing public access and range anxiety
	2020-22	➤ T4 Pursue the installation of public EV charging stations at a number of accessible locations across the City. This

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			will consider partnerships with the State Government, charging companies, car companies or other sponsors to establish electric vehicle charging stations
Council supported public transport	2020-23 2020-23	➤	<p>T5 Continue the Wollongong Free Shuttle Bus</p> <p>T6 Work with Transport NSW to explore opportunities to enhance the free shuttle bus route to other areas</p>
Active transport	2020-22 2020-22 2021-22	➤	<p>T7 Finalisation and adoption of the Wollongong Cycling Strategy 2030, to increase cycling participation at all levels across the city through improved planning, convenient, safe and connected cycling infrastructure and encouragement through improved education and events</p> <p>T8 Review Wollongong City Centre Access and Movement Strategy 2013 to deliver a new integrated traffic and transport strategy, with a priority on an efficient road network, better traffic management, reliable bus services and pedestrian and cycle networks</p> <p>T9 Commence the review of the City of Wollongong Pedestrian Plan 2017-2021</p>
NSW Government managed public transport	Ongoing Ongoing	➤	<p>T10 Continue to pursue State Government investment in improved public transport services, in particular:</p> <ul style="list-style-type: none"> Improved efficiency of current train system and commute to Sydney Increase number of trains, commuter parking and faster rail Improved accessibility of all public transport services, for people of all abilities Better connectivity between different modes of public transport Increase funding provided to local Councils for active transport and public transport projects <p>T11 Lobby NSW Government to implement actions from <i>Future Transport Strategy 2056</i> and NSW Transport Master Plan to guide investment, policy and reform and service provision. It provides a framework for planning and investment aimed at harnessing rapid change and innovation to support a modern, innovative transport network, including electric and hybrid vehicles, autonomous and connected vehicles and planning for freight and ports</p>

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5.4 Theme 4: Waste

This theme is related to achieving *Sustainable Wollongong: A Climate Healthy City Strategy Goals*:

- We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city
- Our community only take what they need, reuse and recycle what they can and are aware of the resources that they consume

Council will reduce greenhouse gas emissions from waste in landfill through waste minimisation, diversion and gas capture/flaring. Council manages the household waste collection service within the LGA, with the waste going to the Wollongong Waste and Recovery Park at Whytes Gully. Businesses can also request commercial recycling and waste collection. The Recovery Park is also home to the Community Recycling Centre where problem household waste can be recycled, and the Revolve Centre where unwanted items that are in good shape, like homewares, sporting goods, tools, furniture, toys and building materials can be dropped off to be re-sold.

Waste management is a significant issue for the city, with almost 40,000 tonnes of residential waste going to landfill each year.

The methane emissions associated with the breakdown of organic materials (garden and food waste) in landfill sites are a significant contribution to the Council's GHG emissions profile. Methane is 25 times more powerful as a greenhouse gas than carbon dioxide as it has a higher heat trapping ability, and levels are growing with increased methane emissions from landfill and other forms of waste.

As shown in Figure 7, 85% of Council's GHG emissions in 2017-18 were from the waste in the landfill at Wollongong Waste and Recovery Park. Whilst Council is responsible for the management of the landfill, the overwhelming majority of materials contained therein, are sourced from the community. Actions to reduce the amount of waste, primarily organic waste, going to landfill will reduce Council's emissions profile significantly.

Council will work with the city's residents and businesses to encourage waste re-use, recycling, composting and recovery of energy from the waste we generate, and Council will continue to focus on improved management of waste within its own operations.

Progress to date

- The Wollongong Waste and Resource Recovery Strategy 2022 and associated Action Plan outlines the actions for Council and the community to work towards sustainable waste management. The plan includes actions relating to management of the landfill, including landfill gas extraction, and actions to encourage residents and businesses to reduce waste to landfill.
- A landfill gas (methane) capture system is currently operating at Whytes Gully. An expansion of this system will be dependent on further testing and analysis.
- A trial of a Food Organics Garden Organics (FOGO) program to explore ways of keeping organic matter out of landfill was implemented in 1,600 homes throughout Austinmer, Cordeaux Heights and Warrawong. During the trial residents were asked to collect their food scraps such as raw and cooked meat, fruit and vegetable scraps and bread into the provided kitchen caddy and empty into their green-lidded bin for normal organics collection. Following a

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comprehensive engagement program, the trial is seeing high levels of participation and low levels of contamination. Results are being used to inform potential expansion of the program.

- Council runs educational programs to encourage the community to reduce the amount of organic waste going to landfill. Composting, worm farming, bokashi, keeping chickens and programs to reduce household food waste are encouraged through workshops, events, promotions and marketing messaging.
- Council has a 'Waste Wise Events' program that encourages Event Organisers to increase resource recovery (recycling and organics) and promote waste minimisation at public events.
- Implementation of the Illawarra Regional Food Strategy 2013-18 has resulted in linking food waste education with food aid provision with dual benefits of reducing food waste to landfill and assisting vulnerable communities.
- Wollongong City Council has an internal organics collection of kitchen waste in the central administration building that is taken to Greenhouse Park for composting, thereby reducing GHG emissions from staff waste.

Future actions

Table 12 details actions Council will undertake in the next two years to reduce emissions from waste in landfill. There are further actions within Theme 6: Working with our Community that encourage reduced consumption which will have waste minimisation benefits.

Table 12: Waste actions

Strategies	Timeframe	Actions
Wollongong Waste and Resource Recovery Strategy 2022	Ongoing	➤ W1 Continue to implement the Wollongong Waste and Resource Recovery Strategy 2022 and associated Action Plan
	2020-22	➤ W2 Review of the Wollongong Waste and Resource Recovery Strategy 2022
Landfill gas capture & energy generation	2020-22	➤ W3 Expand current landfill gas capture system at Whytes Gully
Food Organics Garden Organics (FOGO) program	2020-22	➤ W4 Implementation of the FOGO program across the Wollongong LGA, accompanied by an extensive educational program, to divert household organic waste from landfill and reduce emissions from Council's landfill
Green waste removal and services	2020-22	➤ W5 Increase green waste removal from fortnightly to weekly collection to divert more green waste to landfill
	2020-22	➤ W6 Implement a free drop off service for garden waste in preparation for or following natural disasters (including events such as storms, floods and bushfire preparation)

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Waste education programs	Ongoing	➤ W7 Continue to design and deliver community education and behaviour change initiatives to maximise diversion of food, other organics, general household waste and nappies from landfill and to educate the broader community in waste avoidance, raise awareness of alternatives and work towards a litter free Wollongong
	2020-22	➤ W8 Design and deliver a 'War Against Food Waste' campaign that focuses on known behaviours and limited knowledge on food waste. The program will focus on how best to reduce the amount of food waste households generate using an array of activities and tools to engage with the key target audiences such as families, 18-34 years, and culturally and linguistically diverse communities
Waste wise events	2020-22	➤ W9 Continue the 'Waste Wise Events' program to increase resource recovery and waste minimisation at public events
Recycling services	2020-22	➤ W10 Develop a waste management plan for each of the four major charities to assist separation of waste
	2020-22	➤ W11 Enhance kerbside collection service to concession holders to assist with increased separation of waste
	2020-22	➤ W12 Pursue the feasibility of a timber separation and recycling program
Council operations	2020-22	➤ W13 Ensuring Council events and facilities are 'waste-wise'
	2020-22	➤ W14 Increasing use of local and environmentally friendly caterers for Council meetings and events, avoiding packaging waste and prioritising seasonal and vegetarian selections
	2020-22	➤ W15 Continue the organic waste composting program within Council administration building and expand to other Council facilities where feasible
Monitoring performance	2020-22	➤ W16 Develop a central reporting framework for waste from the city's operations and properties to improve our confidence in waste data, and identify and implement opportunities to reduce waste to landfill

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5.5 Theme 5: Trees and vegetation

This theme is related to achieving *Sustainable Wollongong: A Climate Healthy City Strategy Goal*:

- Our ecosystems and waterways are enhanced, our urban areas are cooler and greener and our community is connected to our natural environment

Council will protect and enhance vegetation to cool our city and increase absorption of greenhouse gases. By retaining and increasing our natural vegetation, green space and tree canopy, carbon can be drawn out of the atmosphere and into plants and soil. Research has shown that coastal wetlands (mangrove, tidal marsh and seagrass) have the highest rates of carbon sequestration per unit area of all-natural systems primarily because of their comparatively high productivity and preservation of organic carbon within their sediments. Preservation of coastal wetlands is critical if they are to play a role in sequestering carbon and mitigating climate change (Rogers et al, 2019).

There are also benefits of vegetation in reducing energy consumption, for example cooling of our streets and city and town centres, leading to less energy being used for cooling cars and buildings. Shady areas also encourage more active communities, providing shelter, amenity and increasing comfort outdoors.

Vegetation also has a key role in helping our community adapt to the predicted changes in climate through reducing flooding impacts and reducing heat stress in urban areas, as well as providing biodiversity benefits. This will be explored further in the Climate Change Adaptation Plan.

Council is committed to protecting, managing and improving our natural environment, through biodiversity conservation projects on public land and urban greening across the city. There are further actions within Theme 6: Working with our Community, that encourage the protection and planting of trees and vegetation on private land.

Progress to date

Increasing vegetation cover and encouraging sustainable food management have been the subjects of key strategic documents, each containing a series of actions that are complementary to the aim of reducing emissions.

- The Natural Area Management Program involves active management of approximately 150 Council-owned and Council-managed sites including remnant bushland, wetlands, creek lines, dunes and urban reserves. These areas are often connected to other open space such as parks or sportsgrounds. Specialist bush regeneration contractors and over 60 Bushcare/Dunecare groups work to conserve biodiversity through removing weeds, encouraging natural regeneration and planting appropriate native vegetation. Specific activities to protect wetlands include maintaining designated walking paths and reducing foot and vehicle traffic and fencing of sensitive areas.
- The Illawarra Biodiversity Strategy was prepared in 2011 to assist in developing policy, inform strategic planning and to define a program of 'on-ground' actions for the Illawarra Councils to work towards to protect biodiversity. This strategy recognised the pressures that climate change will have on biodiversity and included actions relating to managing natural areas, land use planning, knowledge, data and monitoring and community participation. The achievements of this Strategy are currently being reviewed, and a new Strategy for Wollongong City Council will be prepared in 2021.

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- The Urban Greening Strategy was adopted in 2017 and sets out goals to strategically increase the quality and quantity of all vegetation and open green space on all land types in an urban setting. Climate change was a key driver for the Strategy, for both mitigation and adaptation purposes. Key achievements to date include:
 - online inventory of tree assessment data to better understand the condition of our existing trees
 - development of the draft Tree Management Technical Guidelines
 - upskilling of staff for improved tree installation and establishment
 - planting of more than 2,553 advanced trees in high priority urban areas with identified low canopy cover across the LGA, replacing those removed at a ratio of 2:1
 - implementation of tree planting aligned with Council's capital works program in projects such as car parks, footpath renewals, and accessible pathways providing shaded accessible pathways to parks infrastructure including BBQ's and picnic shelters.
- The draft Lake Illawarra Coastal Management Program recognises the importance of estuarine vegetation such as saltmarsh, seagrass and mangroves and sets out specific actions to conserve these wetlands around Lake Illawarra.
- The Illawarra Regional Food Strategy 2013-18 outlined actions that encouraged production and consumption of locally grown food that will have emissions reduction benefits through reducing food miles (Kiama Municipal Council, Shellharbour City Council and Wollongong City Council, 2013).

Future actions

Table 13 details actions Council will undertake in the next two years to protect and increase cover of trees and vegetation on public land.

Table 13: Trees and vegetation actions

Strategies	Timeframe	Actions
Natural area management	Ongoing	➤ V1 Continue to implement and plan to expand the Natural Area Management Program to ensure conservation of remnant bushland, wetlands and riparian areas, in accordance with the Illawarra Biodiversity Strategy, Lake Illawarra Coastal Management Program and relevant vegetation management plans
	Ongoing	➤ V2 Continue to actively protect and enhance wetlands including reducing unauthorised access and mowing
	2020-22	➤ V3 At appropriate locations, undertaken pilot projects to improve the interface between natural areas and open space, through planting of native grasses and meadows, and open specimen trees to reduce mowing and increase biodiversity

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Urban Greening	Ongoing	➤ V4 Continue to implement the Urban Greening Strategy 2017-37 across the LGA, particularly actions around promoting an increase in canopy cover, managing, protecting and maintaining urban vegetation, and development of guidelines for green roofs, green walls and facades, rain gardens and other structural vegetation
	2020-22	➤ V5 Develop a Tree Selector tool that ensures physical, environmental, and predicted climate constraints are determined to ensure the largest possible trees species in the right places are selected for Council plantings
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Biodiversity management and planning	2020-21	➤ V6 Prepare an update of the Illawarra Biodiversity Strategy for the Wollongong LGA and use it to guide future programs and works
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5.6 Theme 6: Working with our community

This theme is related to achieving *Sustainable Wollongong: A Climate Healthy City Strategy Goals*:

- Together we protect our environment, reduce emissions and increase our resilience to climate change
- We will achieve net zero emissions by 2030 for Council operations, and together we will achieve net zero emissions by 2050 for the city
- Our ecosystems and waterways are enhanced, our urban areas are cooler and greener and our community is connected to our natural environment
- Our community only take what they need, reuse and recycle what they can and are aware of the resources that they consume

Council has a role in facilitating the community of Wollongong to reduce their emissions. Council is well-placed to advocate for its community, share information and foster collective solutions for emissions reduction. Council will work to raise awareness and work in collaboration with the residential, business and industrial sectors to all move towards the target of net zero emissions by 2050, taking in account social, economic and environmental considerations.

Council has listened to the feedback from our community and has a range of focus areas that will be pursued - partnerships, engagement and education. In addition to this, some pilot projects targeting particular communities will be initiated.

This initial two-year Plan has vital and necessary actions relating to establishing partnerships and engaging with our communities on climate change and support each other to reduce emissions. Implementation of these actions will result in a strong foundation for Council and the community to work together to formulate actions that will be included in future plans.

Progress to date

Council has implemented a range of programs to promote sustainable living practices:

- Workshops and community events to help residents learn more about topics like reducing waste, keeping chickens, cooking, exploring natural areas and cleaning up our local environment.
- Local schools can participate in activities at the Botanic Garden Discovery Centre, Greenhouse Park and from the Green Team about composting, waste education, no-dig gardening and natural areas.
- Our community is invited to become involved in programs such as Bushcare, Dunecare, Clean Up Australia Day and National Tree Day.
- The Green Plan Nursery at the Botanic Garden sells indigenous plants to the public and plants are donated to local schools and community centres each year.
- The Sustainable Wollongong Newsletter shares information about issues, events and projects on a range of sustainability matters.

Council also has a number of established networks effective at collaborating with the community, for example the Lake Illawarra Estuary Management Committee and the Aboriginal Reference Group, and with the business community, such as BlueScope Consultative Committee, Port Kembla Environment Group, i3 Net, Illawarra Business Chamber, Urban Development Institute of Australia (UDIA), and the

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Property Council of Australia, and we will continue to work with these groups on climate change mitigation action.

Future actions

Table 14 details actions Council will undertake in the next two years to support our community to reduce GHG emissions.

Table 14: Working with our community actions

Strategies	Timeframe	Actions
Partnerships with business and industry	2020-21	➤ C1 Partner with BlueScope to support the positive environmental actions being implemented to reduce emissions of their operations
	2020-21	➤ C2 Work collaboratively with i3 Net to assist their members to adopt more sustainable practices and promote positives outcomes
	2020-21	➤ C3 Work collaboratively with Illawarra Business Chamber to assist their members to adopt more sustainable practices and promote positive environmental and financial outcomes
	2020-21	➤ C4 Work collaboratively with NSW Government's Sustainability Advantage Program to support small businesses
	Ongoing	➤ C5 Encourage business and manufacturing to apply for funding through the NSW Energy Savings Scheme and NSW Manufacturing efficiency program to upgrade energy monitoring systems, replace or retrofit old and inefficient systems, install new energy efficient equipment and improve manufacturing processes
	2020-21	➤ C6 Design and implement a business engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps
Engagement with community organisations/groups	2020-21	➤ C7 Design and implement a community engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps
	Ongoing	➤ C8 Continue to engage with members of Aboriginal communities to learn from their sustainable living practices and integrate these stories into our community sustainable living programs
	2020-21 then ongoing	➤ C9 Establish connections with community groups and help support connections of those within our community with shared values about climate change action. Facilitate a network to share information and work together

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	2021-22	➤ C10 Consider the establishment of a climate action community reference group following the 2021 Local Government elections, to provide input, feedback and community perspective on Council's climate action activities and programs
Community education programs	Ongoing	➤ C11 Continue to deliver sustainable living education and engagement activities (e.g. Green Team, Discovery Centre, Bushcare, Dunecare, Clean Up Australia Day, National Tree Day, Green Plan, and Sustainable Wollongong Newsletter)
	2021-22 then ongoing	➤ C12 Design and deliver a sustainability and environmental education plan to expand the existing education programs. Increase the focus on increasing the capacity of adults to take practical action. Provide guidance to households about how to reduce emissions, including accessing renewable energy, becoming more energy efficient, alternative transport options, waste minimisation, growing food, reducing consumption and sustainable purchasing
Urban greening	2020-22	➤ C13 Investigate the feasibility of expanding the Green Plan program to specifically assist homeowners in Urban Release Areas through provision of guidance and appropriate indigenous species
Encourage community gardens	Ongoing	➤ C14 Continue to support the establishment and operation of community gardens on public land
	2021-22	➤ C15 Review the Community Gardens Policy and procedures
Implement pilot projects	2021-22	➤ C16 Partner with the NSW Department of Education to pilot an Eco Schools program in the Warrawong Precinct to reduce their environmental impact by reducing waste to landfill, improving energy efficiency and investigating opportunities to install solar panels
	2021-22	➤ C17 Pursue the feasibility of piloting innovative energy efficiency programs in the community to improve the energy efficiency of homes, reduce peak demand from the grid, reduce emissions and increase the uptake of renewable energy generation in the community
	2021-22	➤ C18 Partner with state agencies to ensure that vulnerable communities have access to services and programs to reduce their energy consumption and adapt their homes to increasing temperatures and weather extremes

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Monitoring performance and information sharing

Ongoing

- **C19** Continue to monitor the emissions of the Wollongong LGA and share it with the community, including the data used to develop the emissions profile
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6 Implementation

Achieving real emissions reduction will require commitment from Council and the community of Wollongong. Implementation of the actions in this Plan will place Council in a strong position to continue to reduce its own emissions and to better influence and advocate for climate action across the city.

It is important to acknowledge that this is a two-year plan 2020-22 only. Actions will be prioritised and will inform Council's Delivery Program each year, flowing on to Divisional Business Plans.

The actions in this Plan aim to either directly reduce emissions (e.g. installing solar panels, diverting organic waste from landfill) or are enabling actions for Council and the community to reduce emissions (e.g. implement a strategy, policy change, collaboration or education). Where adequate information was available, actions aimed at directly reducing emissions from Council buildings, facilities and landfill were subject to a calculation of the expected emissions reduction.

From these actions detailed in this Plan alone, it is expected that the annual emissions of Council operations will be reduced by 25% (35,200 tonnes CO₂-e). In addition to these actions, there are other direct emissions reduction actions that were not able to be calculated at this time, and a vast array of enabling actions, both of which will contribute to Council's and the Wollongong LGA emissions reduction targets. Actions in subsequent plans will further reduce the annual emissions.

Effective and coordinated implementation of the Plan is critical to achieving its objectives. Implementation of the Plan will be coordinated by setting up processes for monitoring and review, improving knowledge and understanding, and relevant training and development for staff. This plan does not allocate actions to external organisations, groups or individuals, however future plans may include a more holistic range of actions, developed collaboratively, for the whole local government area.

Funding for new actions are either within Council's existing budget over the duration of the Plan or will require further analysis and consideration through Council's annual budgeting process, where project funding is competitively sought via business proposals. Some future actions may require additional feasibility assessments, or attract external funding, particularly where community benefits or partnerships can be established.

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7 Monitoring and reporting

Meaningful monitoring of both emissions and performance in implementing emissions reduction projects is required to effectively inform future planning for climate change mitigation. Technology and policy are constantly changing and will be drivers for future opportunities and barriers to which Council must respond.

As part of Council's Integrated Monitoring and Reporting Framework, Council will report to the community against the actions within its Quarterly and Annual Reports.

Council will be preparing a new inventory of emissions for the Wollongong LGA every two years, to compile up to date information on the GHG emissions from energy use, transport, waste and wastewater from all sources. Council will also continue to compile its own emissions data for its electricity and gas consumption for Council buildings and facilities, fuel consumption from its fleet and emissions from waste to landfill. These emissions profiles will be re-calculated next in 2021 to track how the City of Wollongong and Council's own profiles are changing and show progress towards the emissions reduction targets.

A new plan will be prepared for the period 2022-26 and will be informed by the updated emissions profiles, project success stories, the availability and feasibility of new technologies, any new opportunities or threats, and ongoing collaboration with the community of Wollongong.

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Wollongong City Council Climate Change Mitigation Plan 2020

Appendix 1: Implementation Plan

The Implementation Plan provides more detail for each action including in Section 5, including responsible Council Divisions, funding arrangements and expected greenhouse gas emission reductions

Responsibilities

- **CCED** Community Cultural and Economic Development (including Economic Development, Community and Cultural Development, and Public Relations teams)
- **CST** City Strategy (including Environmental Planning, Land Use Planning, and Urban Release)
- **CW** City Works (including Building, Facilities and Workshop team)
- **ED** Economic Development
- **GCS** Governance and Customer Service (including Supply Chain and Logistics team)
- **FI** Finance
- **INI** Information and Improvement (including Executive Strategy team)
- **ISP** Infrastructure Strategy and Planning (including Building and Facilities Planning and Transport and Stormwater Services teams)
- **OSES** Open Space and Environmental Services (including Environment and Conservation Services, Parks and Open Space and Waste Services teams)
- **PD** Project Delivery (including Major Projects team)

Resourcing

Actions have been categorised as being implemented through staff time only or as needing operational or capital funding. Where funding is required for implementation, it has been identified as existing operational or capital budgets or that it requires new funding to be sought through Council's annual budgeting processes.

Expected GHG emissions reduced

Where actions are able to be quantified, an expected reduction in emissions figure is included. Many actions are not able to be readily quantified at this time and more technical investigations and data are required. A large proportion of actions are strategies, education, monitoring and reporting which are considered enabling actions, meaning they will indirectly influence emissions.

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
Climate Change Leadership and Planning								
Demonstrate leadership	2019	L1	Set emissions reduction targets for the City of Wollongong and Council operations (completed December 2019)	All			N/A	Enabling action
	2020-21	L2	Establish a Steering Committee with representation from senior management across all divisions of Council to have responsibility for the implementation of the climate change actions	All			Staff time	Enabling action
	Ongoing	L3	Ensure adequate resourcing for implementation of climate change mitigation actions	All			Staff time	Enabling action
	Ongoing	L4	Initiate an organisational review of Council decision making processes, policies and operational practices to ensure alignment with the Climate Emergency Declaration and net zero emissions targets	CST, INI			Staff time	Enabling action
	Ongoing	L5	Continue commitments and actions for the Global Covenant of Mayors for Climate and Energy	CST			Staff time	Enabling action
	Ongoing	L6	Implement pledges from Cities Power Partnership Program	CST			See individual pledge actions	Enabling action
	Ongoing	L7	Council will share key emissions reduction projects and achievements to our community	CCED			Staff time	Enabling action
	2020-21	L8	Develop a Sustainable Events Guideline for event managers and stallholders to improve the sustainability of events such as minimisation of waste and reducing water and energy consumption	CST			Staff time	Enabling action
	2020-21	L9	Strengthen the sustainability provisions and procedures in the Sustainable Procurement Policy, such as utilising low emissions products	GCS			Staff time	Enabling action
	Ongoing	L10	Continue to innovate and trial all viable road maintenance and construction options to reduce emissions and waste to landfill while providing the best outcomes for roads performance, including: <ul style="list-style-type: none"> Continue to research ways to in-situ recycle old road pavements to eliminate landfill Minimise waste to landfill during full road reconstruction by exploring materials requiring least excavation and ways to recycle excavated materials Work with local suppliers to move towards provision of asphalt, road base and concrete that complies with Council specifications to permit appropriate use of recycled materials 	PD			Staff time	Enabling action
	2020-22	L11	Review the Wollongong Development Control Plan Chapter A2 – Ecologically Sustainable Development to ensure alignment with the Climate Emergency Declaration and net zero emissions targets	CST			Staff time	Enabling action

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
	2021-22	L12	Amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Construction Code, and the outcomes of the 'Energy efficiency and emissions standards for new commercial buildings' survey being undertaken by the Department of Industry, Science, Energy and Resources	CST			Staff time	Enabling action
	2020-22	L13	Commence an investigation into how to encourage sustainable development outcomes, including but not limited to community education, broad ranging incentives, and property marketing tools	CST			Staff time	Enabling action
	2020-2022	L14	Prepare subsequent Climate Change Mitigation Plan 2022-2026	CST	\$100,000		New funding required	Enabling action
Advocacy	Ongoing	L15	Undertake and collaborate on strong advocacy programs to State and Federal Governments to declare and act on the climate emergency	CST			Staff time	Enabling action
	Ongoing	L16	Advocate to the State and Federal Governments to consider climate change impacts when developing new and revised planning instruments, guidelines and legislation, including increased thresholds and standards in NSW BASIX and National Construction Code	CST			Staff time	Enabling action
	Ongoing	L17	Advocate to the Federal government to expand and improve the Commercial Building Disclosure program	CST			Staff time	Enabling action
	Ongoing	L18	Advocate to the Federal Government to expand and improve the Australian Government Equipment Energy Efficiency program, which determines the minimum energy performance standards of appliances	CST			Staff time	Enabling action
	Ongoing	L19	Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area	ED			Staff time	Enabling action
Foster innovation	2020-22	L20	Investigate opportunities to work with the University of Wollongong to showcase sustainable building design	CST, ISP			Staff time	Enabling action
	2020-22	L21	Pursue the development of a virtual sustainable home to promote sustainable urban residential building options	CST			Staff time	Enabling action
Regional collaboration	Ongoing	L22	Continue to work with Illawarra Shoalhaven Joint Organisation on regional collaborative grants and projects, including the Cities Powers Partnership Program	CST			Staff time	Enabling action
	Ongoing	L23	Continue to work with other agencies including local and State Government, universities, industry and community organisations to network, learn and share information on low carbon strategies	CST			Staff time	Enabling action
Grant funding opportunities	Ongoing	L24	Continue to apply for external grant funding for climate change mitigation projects through NSW State Government and Commonwealth funding programs	CST			Staff time	Enabling action
Internal capacity building	2020-22	L25	Raise awareness to ensure that climate change mitigation actions can be embedded into policies, strategies and service delivery	CST			Staff time	Enabling action

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
Monitoring	2020-22	L26	Educate Council staff on waste reduction, resource recovery and energy savings behaviours within the workplace	CST			Staff time	Enabling action
	2020-22	L27	Support Council facility managers to understand and implement sustainability practices, such as reduced energy and water use, and waste	CST			Staff time	Enabling action
	Ongoing	L28	Maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and Council's journey towards corporate goals, and will be shared with the community	CST, ISP, OSES, GCS, FI			TBD	Enabling action
	2020-2022	L29	Monitor and report on the implementation of the Climate Change Mitigation Plan 2020	CST			Staff time	Enabling action
Energy Efficiency and Renewable Energy								
Implement sustainable building design and performance standards	2020-22	E1	Commence review of sustainable building design and performance standards to apply to all new and refurbished Council buildings and facilities	ISP			Staff time	Enabling action
	Ongoing	E2	Incorporate the adopted sustainable building design and performance standards in all new and refurbished Council buildings and facilities	ISP			Staff time	Enabling action
	Ongoing	E3	Investigate opportunities for Council to participate in the 'Sustainable Advantage' program for its facilities	ISP			Staff time	Enabling action
Continue energy efficiency program for Council buildings and facilities	2020-25	E4	HVAC upgrade for Town Hall and Art Gallery with combined plant	ISP	\$6,250,000	project cost	Existing funding - in IDP	TBD
		E5	HVAC upgrade for Corimal Library, Ribbonwood Community Centre, IPAC and Integral Energy buildings	ISP	\$7,200,000	project cost	Existing funding - in IDP	TBD
	2020-22	E6	Complete roll-out of the Administration building lighting upgrade program to the Library	ISP	\$478,000	project cost	Existing funding - in IDP	TBD
	2020-25	E7	Warrawong Community Centre & Library and Helensburgh Community Centre & Library new builds will aim to be designed, constructed and maintained to sustainable building design and performance principles	ISP			TBD - in planning stage	TBD
	2020-22	E8	Beaton Park Leisure Centre Master Plan developed including Stage One Aquatics Design with sustainable building design and performance principles	ISP			Staff time	TBD
	2020-22	E9	Upgrade of treated pool filtration systems to reduce energy use	ISP	\$4,500,000	project cost	Existing funding - in IDP	TBD
Renewable energy program for Council buildings and facilities	2020-21	E10	Implementation of Solar on Council Buildings project	ISP	\$1,000,000	project cost	Existing funding - in IDP	TBD
	2020-25	E11	Pursue the feasibility of the construction of a Whytes Gully Renewable Energy Facility with a 1MW Power station	OSES			Staff time	Enabling action

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
Pursue Power Purchase Agreement (PPA)	2020-22	E12	Pursue the potential to establish a PPA utilising the energy generated from Whyte's gully landfill gas to offset Council's highest energy consuming buildings	CST, GCS, OSES			Staff time	Enabling action
	2020-22	E13	Pursue the potential for opportunity to establish a regional PPA	CST, GCS, ISP			Staff time	Enabling action
Monitoring performance of solar systems	2020-22	E14	Continual monitoring of the efficiency of solar systems allows to track the performance of the systems and undertake further cost-benefit analysis for other buildings	ISP			Staff time	Enabling action
Energy efficient lighting	2020-22	E15	Continue the upgrade of residential streetlights (80 W mercury vapour) to LED	PD	\$1,554,836	project cost	Existing funding	1622 tonnes/annum CO2-e
	2020-22	E16	Pursue investigation into installation of converting higher wattage main streetlights to LED, once the technology becomes feasible	PD			Staff time	Enabling action
	Ongoing	E17	All new and replacement sport field lighting installations will utilise LED fittings	ISP	\$3,000,000	project cost	Existing funding - in IDP, total cost of lighting upgrades	TBD - variable depending on site
Transport								
Council Fleet	2020-22	T1	Council will prioritise low emissions and fuel-efficiency when purchasing vehicles, and will include hybrid, and/or electric vehicles or other low emission technology as part of their fleet	GCS			Staff time. Further investigation will be performed on all low emission alternatives to identify budget implications	TBD
	2020-22	T2	Investigate feasibility of low-emissions vehicle standards for plant fleet	CW			Staff time	TBD
Electric Vehicles	2020-22	T3	Develop and adopt an Electric Vehicle Charging Stations on Public Land Council Policy, addressing public access and range anxiety	CST, GCS, ISP			Staff time	Enabling action
	2020-22	T4	Pursue the installation of public EV charging stations at a number of accessible locations across the City. This will consider partnerships with State government, charging companies, car companies or other sponsors to establish electric vehicle charging stations	CST, GCS, ISP			Staff time	Enabling action
Council supported public transport	2020-22	T5	Continue the Wollongong Free Shuttle Bus	ISP	To be determined in negotiation with Transport for NSW		Existing budget	TBD
	2020-22	T6	Work with Transport NSW to explore opportunities to enhance the free shuttle bus route to other areas	ISP			Staff time	Enabling action

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
Active Transport	2020-22	T7	Finalisation and adoption of the Wollongong Cycling Strategy 2030, to increase cycling participation at all levels across the city through improved planning, convenient, safe and connected cycling infrastructure and encouragement through improved education and events	ISP			Staff time	Enabling action
	2020-22	T8	Review Wollongong City Centre Access and Movement Strategy 2013 to deliver a new integrated traffic and transport strategy, with a priority on an efficient road network, better traffic management, reliable bus services and pedestrian and cycle networks	ISP			Staff time	Enabling action
	2021-22	T9	Commence the review of the City of Wollongong Pedestrian Plan 2017-2021	ISP			Staff time	Enabling action
NSW Government managed public transport	Ongoing	T10	Continue to pursue State government investment in improved public transport services, in particular: <ul style="list-style-type: none"> Improved efficiency of current train system and commute to Sydney Increase number of trains, commuter parking and faster rail Improved accessibility of all public transport services, for people of all abilities Better connectivity between different modes of public transport Increase funding provided to local councils for active transport and public transport projects 	ISP			Staff time	Enabling action
	Ongoing	T11	Lobby NSW Government to implement actions from Future Transport Strategy 2056 and NSW Transport Master Plan to guide investment, policy and reform and service provision. It provides a framework for planning and investment aimed at harnessing rapid change and innovation to support a modern, innovative transport network, including electric and hybrid vehicles, autonomous and connected vehicles and planning for freight and ports	ISP			Staff time	Enabling action
Waste								
Wollongong Waste and Resource Recovery Strategy 2022	Ongoing	W1	Continue to implement the Wollongong Waste and Resource Recovery Strategy 2022 and associated Action Plan	OSSES	See specific relevant actions below			Enabling action
	2020-22	W2	Review of the Wollongong Waste and Resource Recovery Strategy 2022	OSSES			Staff time	Enabling action
Landfill Gas Capture & Energy Generation	2020-22	W3	Expand current landfill gas capture system at Whytes Gully	OSSES			Build Own Operate Transfer (BOOT) Venture	17,000 tonnes/annum CO2-e
Food Organics Garden Organics (FOGO) program	2020-22	W4	Implementation of the FOGO program across the Wollongong LGA, accompanied by an extensive educational program, to divert household organic waste from landfill and reduce emissions from Council's landfill	OSSES	\$2,400,000	pa over two years	Existing funding	12,750 tonnes/annum CO2-e
Green waste removal and services	2020-22	W5	Increase green waste removal from fortnightly to weekly collection to divert more green waste to landfill	OSSES		Included in FOGO project above	Existing funding	Included in FOGO project above

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
	Ongoing	W6	Implement a free drop off service for garden waste in preparation for or following natural disasters (including events such as storms, floods and bushfire preparation)	OSES	\$25,000	pa	Existing funding	75 tonnes/annum CO2-e
Waste education programs	Ongoing	W7	Continue to design and deliver community education and behaviour change initiatives to maximise diversion of food, other organics, general household waste and nappies from landfill and to educate the broader community in waste avoidance, raise awareness of alternatives and work towards a litter free Wollongong	OSES	\$20,000	pa	Existing funding	Enabling action
	2021-22	W8	Design and deliver a 'War Against Food Waste' campaign that focuses on known behaviours and limited knowledge on food waste. The program will focus on how best to reduce the amount of food waste households generate using an array of activities and tools to engage with the key target audiences such as families, 18-34 years, and culturally and linguistically diverse (CALD) communities	OSES	\$30,000	pa	New funding required	Enabling action
Waste Wise Events	Ongoing	W9	Continue the Waste Wise Events program to increase resource recovery and waste minimisation at public events	OSES	\$70,000	pa	Existing funding (Better Waste Recycling funding)	TBD
Recycling Services	2021-22	W10	Develop a waste management plan for each of the four major charities to assist separation of waste	OSES			Staff time	880 tonnes/annum CO2-e
	2020-22	W11	Enhance kerbside collection service to concession holders to assist with increased separation of waste	OSES			Staff time	223.3 tonnes/annum CO2-e
	2020-22	W12	Pursue the feasibility of a timber and MDF product separation and recycling program	OSES	\$209,000	project cost for six month trial	New funding required	2,650 tonnes/annum CO2-e
Council operations	Ongoing	W13	Ensure Council events and facilities are 'waste-wise'	OSES	Part of Action W9	pa	Existing funding	TBD
	Ongoing	W14	Increase use of local and environmentally friendly caterers for Council meetings and events, avoiding packaging waste and prioritising seasonal and vegetarian selections	ALL			Staff time	TBD
	Ongoing	W15	Continue the organic waste composting program within Council administration building and expand to other Council facilities where feasible	ALL			Staff time	TBD
Monitoring performance	2020-22	W16	Develop a central reporting framework for waste from the City's operations and properties to improve our confidence in waste data, and identify and implement opportunities to reduce waste to landfill	OSES			Staff time	Enabling action
Trees and Vegetation								
Natural Area Management	Ongoing	V1	Continue to implement and plan to expand the Natural Area Management Program to ensure conservation of remnant bushland, wetlands and riparian areas, in accordance with the Illawarra Biodiversity Strategy, Lake Illawarra Coastal Management Program and relevant vegetation management plans	OSES	\$600,000 + stormwater levy + grants additional each year - variable	pa	Existing funding	TBD

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
	Ongoing	V2	Continue to actively protect and enhance wetlands including reducing unauthorised access and mowing	OSES	Part of Action V1	pa	Existing funding	part of above
	2020-22	V3	At appropriate locations, undertake pilot projects to improve the interface between natural areas and open space, through planting of native grasses and meadows, and open specimen trees to reduce mowing and increase biodiversity	OSES	\$10,000	pa	Existing funding	TBD
Urban Greening	Ongoing	V4	Continue to implement the Urban Greening Strategy 2017-37 across the LGA, particularly actions around promoting an increase in canopy cover managing, protecting and maintaining urban vegetation, and development of guidelines for green roofs, green walls and facades, rain gardens and other structural vegetation	OSES	\$512,000	pa	Existing funding	TBD
	2020-22	V5	Develop a Tree Selector tool that ensures physical, environmental, and predicted climate constraints are determined to ensure the largest possible trees species are selected for Council plantings	OSES	Part of Action V4	pa	Existing funding	Enabling action
Biodiversity Strategy	2020-21	V6	Prepare an update of the Illawarra Biodiversity Strategy for the Wollongong LGA and use it to guide future programs and works	CST	\$90,000	project cost	Existing funding	Enabling action
Working with our Community								
Partnerships with business and industry	2020-21	C1	Partner with BlueScope to support the positive environmental actions being implemented to reduce emissions of their operations	CST, CCED			Staff time	Enabling action
	2020-21	C2	Pursue a partnership with i3 Net to assist their members to adopt more sustainable practices and promote positives outcomes	CST, CCED			Staff time	Enabling action
	2020-21	C3	Pursue a partnership with Illawarra Business Chamber to assist their members to adopt more sustainable practices and promote positive environmental and financial outcomes	CST, CCED			Staff time	Enabling action
	2020-21	C4	Pursue partnership with NSW Government's Sustainability Advantage Program to support small businesses	CST			Staff time	Enabling action
	Ongoing	C5	Encourage business and manufacturing to apply for funding through the NSW Energy Savings Scheme and NSW Manufacturing efficiency program to upgrade energy monitoring systems, replace or retrofit old and inefficient systems, install new energy efficient equipment and improve manufacturing processes	CST			Staff time	Enabling action
	2020-21	C6	Design and implement a business engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps	CST			Staff time	Enabling action

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
Engagement with community organisations/groups	2020-21	C7	Design and implement a community engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps	CST, CCED, OSES			Staff time	Enabling action
	Ongoing	C8	Continue to engage with members of Aboriginal communities to learn from their sustainable living practices and integrate these stories into our community sustainable living programs	CST, CCED, OSES			Staff time	Enabling action
	2020-21, then ongoing	C9	Establish connections with community groups and help support connections of those within our community with shared values about climate change action. Facilitate a network to share information and work together	CST, CCED			Staff time	Enabling action
	2021-22	C10	Consider the establishment of a climate action community reference group following the 2021 Local Government elections to provide input, feedback and community perspective on Council's climate action activities and programs	CST			Staff time	Enabling action
Community education	Ongoing	C11	Continue to deliver sustainable living education and engagement activities (e.g. Green Team, Discovery Centre, Bushcare, Dunecare, Clean Up Australia Day, National Tree Day, Green Plan, and Sustainable Wollongong Newsletter)	OSES	\$70,000	pa	Existing funding	Enabling action
	2020-22	C12	Design and deliver a sustainability and environmental education plan to expand the existing education programs. Increase the focus on increasing the capacity of adults to take practical action. Provide guidance to households about how to reduce emissions, including accessing renewable energy, becoming more energy efficient, alternative transport options, waste minimisation, growing food, reducing consumption and sustainable purchasing	CST, OSES	\$30,000	project cost	Existing funding	Enabling action
Urban greening	2020-22	C13	Investigate the feasibility of expanding the Green Plan program to specifically assist homeowners in Urban Release Areas through provision of guidance and appropriate indigenous species	OSES, CST			Staff time to investigate/trial	Enabling action
Encourage community gardens	Ongoing	C14	Continue to support the establishment and operation of community gardens on public land	CST			Staff time	Enabling action
	2021-22	C15	Review the Community Gardens Policy and procedures	CST			Staff time	Enabling action
Implement pilot projects	2021-22	C16	Partner with the NW Department of Education to pilot an Eco Schools program in the Warrawong Precinct to reduce their environmental impact by reducing waste to landfill, improving energy efficiency and investigating opportunities to install solar panels	CST	\$20,000	project cost	New funding, plus staff time	Enabling action
	2021-22	C17	Pursue the feasibility of piloting innovative energy efficiency programs in the community to improve the energy efficiency of homes, reduce peak demand from the grid, reduce emissions and increase the uptake of renewable energy generation in the community	CST	\$50,000	project cost	New funding, plus staff time	Enabling action
	2021-22	C18	Partner with state agencies to ensure that vulnerable communities have access to services and programs to reduce their energy consumption and adapt their homes to increasing temperatures and weather extremes	CST			Staff time	Enabling action

Wollongong City Council Climate Change Mitigation Plan 2020

Strategies	Timeframe	Action No.	Actions	Division/s	Resourcing	Resourcing timeframe	Resourcing type	Expected GHG emissions reduced
Monitoring performance and information sharing	Ongoing	C19	Continue to monitor the emissions Wollongong LGA and share it with the community, including the data used to develop the emissions profile	CST	\$10,000	pa	Existing funding	Enabling action
TOTALS				One-off Projects: \$24,481,836				35,200.3 tonnes CO2-e (per annum)
				Annual programs (per annum): \$3,747,000				
				Two year (2021-22) plan total: \$31,975,836				

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CLIMATE CHANGE MITIGATION PLAN 2020

Submissions in Reply Report

October 2020

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The information in this report is based on data collected from community members who chose to be involved in engagement activities and therefore should not be considered representative.

This report is intended to provide a high-level analysis of the most prominent themes and ideas as expressed by those who participated. While it's not possible to include all the detailed feedback we received, feedback that was relevant to the project has been provided to the project manager for review and consideration.

Executive Summary

Council is a signatory to the Global Covenant of Mayors for Climate and Energy (GCoM) program. Under the auspice of the GCoM Council has adopted emissions reduction targets of net zero emissions by 2050 for the City of Wollongong and net zero emissions by 2030 for Council operations.

A draft Climate Change Mitigation Plan (CCMP) 2020 was prepared to guide delivery of actions for the next two years in achieving the emissions reduction targets, in accordance with the GCoM requirements. The draft CCMP was developed based on community and staff engagement undertaken in 2019, for the Sustainability Strategy review and Emissions Reduction Target.

The draft CCMP 2020 identified 92 actions for delivery over a two year period, across six themes.

At its meeting on 29 June 2020 Council endorsed the draft CCMP for public exhibition. Public exhibition was undertaken from 1 July to 12 August 2020. Submissions were also accepted up to two weeks past this date.

Information, including a copy of the draft CCMP, a Frequently Asked Questions sheet (Appendix A), an Online Feedback Form (Appendix B) and an open Q&A were placed on Council's engagement webpage and sent to Council's customer service. Social media promotion of the exhibition was posted on Council's Facebook page (Appendix C). A number of media stories promoting the exhibition and draft CCMP were published throughout July and August (Appendix D).

Due to COVID-19 restrictions no community sessions were able to be conducted and access to information through Council's libraries was not possible.

Response to the exhibition was as follows:

- 566 people visited the project page on Council's engagement website
- 367 learnt more about the project online by downloading the draft strategy and Frequently Asked Questions
- 155 submissions were received;
 - 69 were open submissions
 - 4 were group submissions
 - 82 were submitted via the online feedback form
- 97% of submissions were supportive of the draft CCMP, with 3% not supportive or undecided
- There was a significant level of support for the six themes in the draft CCMP
- Many submissions requested minor additions, amendments or put forward other potential considerations for the draft CCMP.

The top ten issues raised by the community through the exhibition process were:

- 1 Strong leadership from Council in climate change mitigation action
- 2 Implementation of energy efficiency measures
- 3 Re-calculation of the carbon budget based on a 1.5°C warming limit
- 4 Installation of additional electric vehicle charging stations
- 5 Council to enter into a Power Purchase Agreement
- 6 Better waste management
- 7 More trees and native habitat, strong support for the Urban Greening Strategy
- 8 Increased and broader community engagement and education on climate change
- 9 Procurement of low emission vehicles for Council plant and fleet
- 10 Emission tracking transparency and information sharing

The feedback received through the public exhibition process has been used to prepare an updated draft CCMP. The updated draft CCMP contains 98 actions which, upon implementation, aim to reduce Council's own emissions and to support the community and businesses to reduce theirs.

Background

Wollongong City Council is committed to reducing greenhouse gas emissions in the Wollongong Local Government Area. Council is a signatory to the international GCoM program and the national Cities Power Partnership (CPP) program, both of which support local government to transition to low emission communities. In 2019 Council declared that we are in a state of climate emergency that requires urgent action by all levels of government.

Under the GCoM program Council is required to undertake a series of actions to respond to the risks and opportunities presented by climate change. These actions include adoption of a science-derived emissions reduction target on behalf of the City of Wollongong and development of a CCMP.

Under the auspice of GCoM Council has adopted an emission reduction target of net zero emissions by 2050 for the City of Wollongong. In recognising the significance of its own contribution to the City's emissions and the need to demonstrate leadership, Council has also set a target of net zero emissions by 2030 for its own operations.

A draft CCMP was prepared to guide delivery of actions for the next two years in achieving the emissions reduction targets and CPP pledges. The draft CCMP was developed based on community and staff engagement undertaken in 2019 for the Sustainability Strategy review and Emissions Reduction Target.

The result was the proposal of 92 actions to include in the draft CCMP for delivery over a two year period, across six themes:

- 1 **Climate change leadership and planning:** actions for Council to demonstrate leadership in considering climate change in all areas of operations and service, advocate to other levels of Government for our community, foster innovation, collaborate regionally and monitor our performance.
- 2 **Energy efficiency and renewable energy:** including energy efficiency and renewable energy projects for buildings, facilities and streetlights.
- 3 **Transport:** addressing options for lowering emissions from Council fleet, supporting the uptake of electric vehicles and public and active transport.
- 4 **Waste:** including capture of landfill gas, rolling out Food Organics Garden Organics (FOGO) across the city, additional recycling services, waste wise events and expanding educational programs to further address food waste.
- 5 **Trees and vegetation:** covering biodiversity conservation projects and urban greening to cool our city.
- 6 **Working with our community:** actions to partner with business and industry to promote their emissions reduction successes and encourage and support more sustainable practices, engage with and educate our community to support emissions reduction.

Actions included establishing partnerships with government, business, industry and community groups, undertaking research and pilot projects within our community and the rolling out key projects to reduce Council's emissions.

The actions proposed were classified as either:

- Actions to directly reduce emissions (eg installing solar panels, diverting organic waste from landfill), or
- Enabling actions, such as implementing strategies, policy change, collaboration or education, to provide support and frameworks for Council and the community to reduce emissions.

The draft CCMP was submitted to Council on 29 June 2020 and was endorsed for public exhibition.

It is envisaged that this is the first of many CCMPs that will be prepared to assist in achieving the emission reduction targets. These CCMPs will be informed by regular re-inventories of Council and City emissions to track our progress and will benefit from previous success stories, learnings and new technological advances. The next emissions City-wide inventory will be undertaken in 2021 and a new CCMP will be developed for 2022-26.

How will the comments be considered?

Council is grateful for the invaluable insights, expert opinions and passionate contributions of our community. All submissions, both emailed and through the online feedback form have been carefully reviewed by Council staff and used to prepare an updated draft CCMP. Comments from both the online feedback form and open submissions have been summarised together due to similarities in comments from the community. Responses to community feedback and proposed changes to the updated draft CCMP are included in this report. Additional amendments to the updated draft CCMP are also proposed following internal feedback, mainly to refine actions, to provide clarity or to correct minor grammatical errors.

The updated draft CCMP will be submitted to Council for consideration along with this Submissions in Reply report. Should it be adopted, implementation of the CCMP will commence and be reported on through the Integrated Planning & Reporting framework.

Methodology

The draft CCMP was placed on public exhibition for a six week period from 1 July – 12 August 2020. Submissions were also accepted for a further two weeks beyond the closure date. Details on the communication and engagement activities undertaken are provided in Table 1 below.

Table 1: Exhibition methodologies

Methods	Details
Communication Methods	
The Advertiser	Details about the engagement were made available in Council's Community Update pages.
Media release	A media release was distributed.
Frequently Asked Questions	A series of FAQs were developed which provided an overview of the project and how people could get involved.
Email	An email was sent to 148 external stakeholders informing them of the exhibition and how they can provide feedback (a list of these stakeholders is provided in Appendix E).
Register of Interest	An email was sent to all participants with registered interest in Environment.
Social Media	Posts about the engagement were made on Facebook and Twitter.
Engagement Methods	
Engagement HQ Website	An online feedback tool was used to capture participants' ideas and allowed community members to comment. A Question and Answer page was also available for most of the exhibition period. The page also hosted background information and supporting documents and allowed visitors to pose questions to staff and receive a response within three days.

Due to Covid-19 restrictions no face to face engagement activities were able to be undertaken and access to information through Council's libraries was not possible.

Results

This section provides details on the participation at engagement activities and the feedback received during the exhibition period. All identified stakeholders and the wider community were invited to provide feedback on the proposed draft CCMP. Statistics relating to the response to the exhibition are provided in Tables 2 and 3.

Table 2: Summary of exhibition participation

Measure and Explanation	Usage
Aware – visited at least one page	566
Informed – number of people who clicked a link, eg to download a document, view a photo or read the Frequently Asked Questions	367
Engaged – total number of participants who submitted the Online Feedback Form	82
Engaged – total number of emailed submissions	73
<ul style="list-style-type: none"> Individual Group* 	(69) (4)

*Group submissions were received from Wilderness Society, Wollongong Climate Action Network (WCAN), Urban Biodiversity Illawarra and Renew Illawarra

Table 3: Informed visitor downloads and FAQ views

Type	Engagement Tool / Document Name	Visitors	Downloads
Document	Draft Climate Change Mitigation Plan 2020	253	417
FAQ	Frequently Asked Questions	36	42
Q&A	Online Question and Answer	1	45

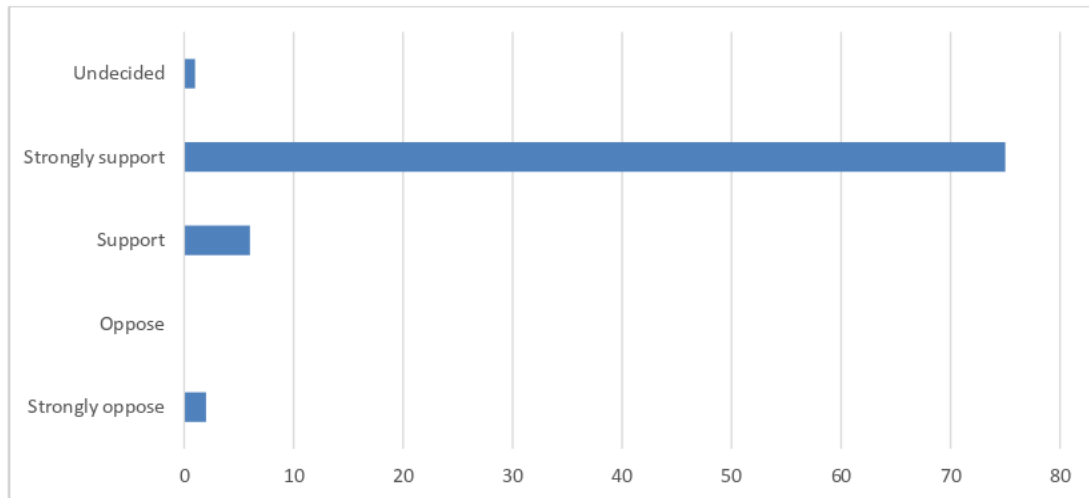
There was an overwhelming level of support for the implementation of the CCMP and the themes covered therein. 97% of submissions communicated support, compared to 3% who were either unsupportive or undecided.

Online Feedback Form Results

As indicated above, webpage visitors were provided the option of completing the Online Feedback Form to communicate their thoughts on the CCMP, a copy of which is provided in Appendix B.

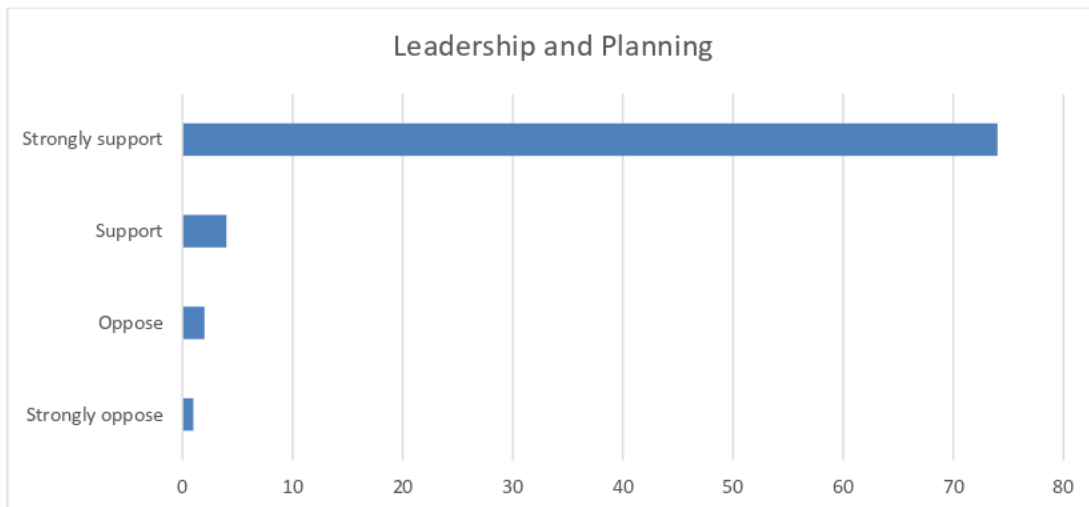
The level of support for the implementation of the CCMP and the six themes communicated through the online feedback process is shown below.

Question 1 – Do you support implementation of the draft Climate Change Mitigation Plan?



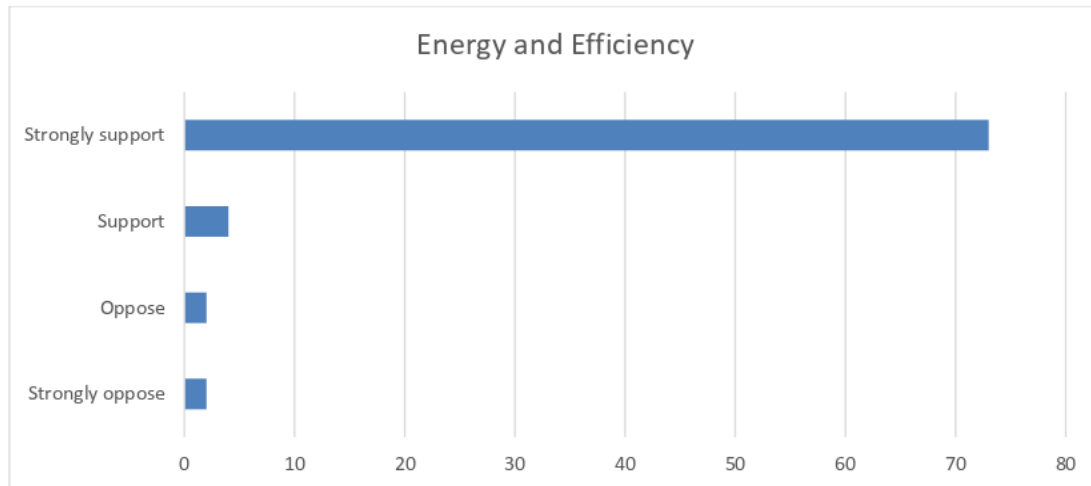
Question 2 – Climate Change Leadership and Planning. This theme relates to: *Council will demonstrate leadership and improve planning processes to encourage reduction of greenhouse gas emissions.*

Do you support this theme?



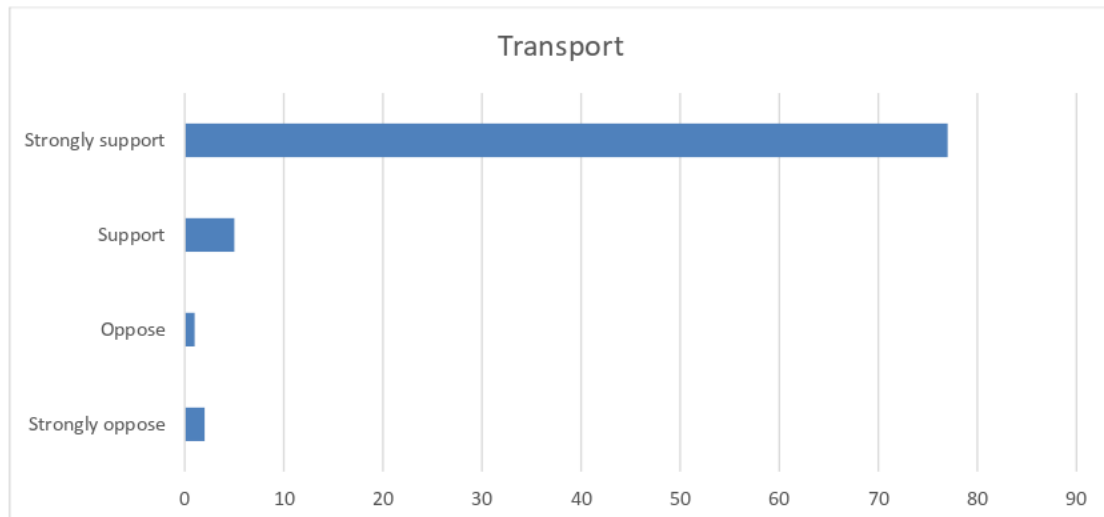
Question 3 – Energy and Efficiency. This theme relates to: *Council will reduce greenhouse gas emissions by using renewable energy and improving energy efficiency of its buildings, facilities and streetlights.*

Do you support this theme?



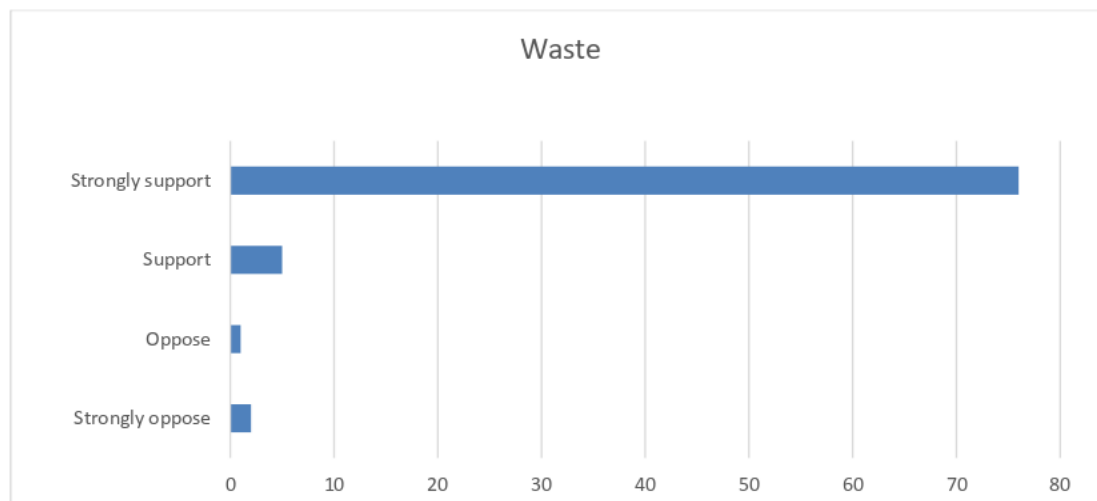
Question 4 – Transport. This theme relates to: *Council will reduce greenhouse gas emissions from its fleet and support the community to reduce emissions through their transport choices.*

Do you support this theme?



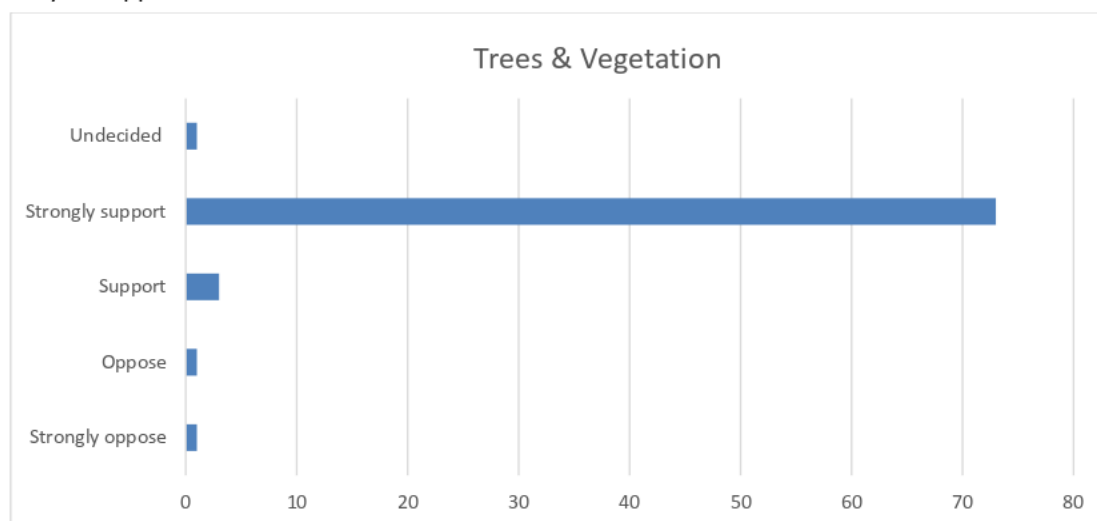
Question 5 – Waste. This theme relates to: *Council will reduce greenhouse gas emissions from waste in landfill through waste avoidance, minimisation, diversion and gas capture.*

Do you support this theme?



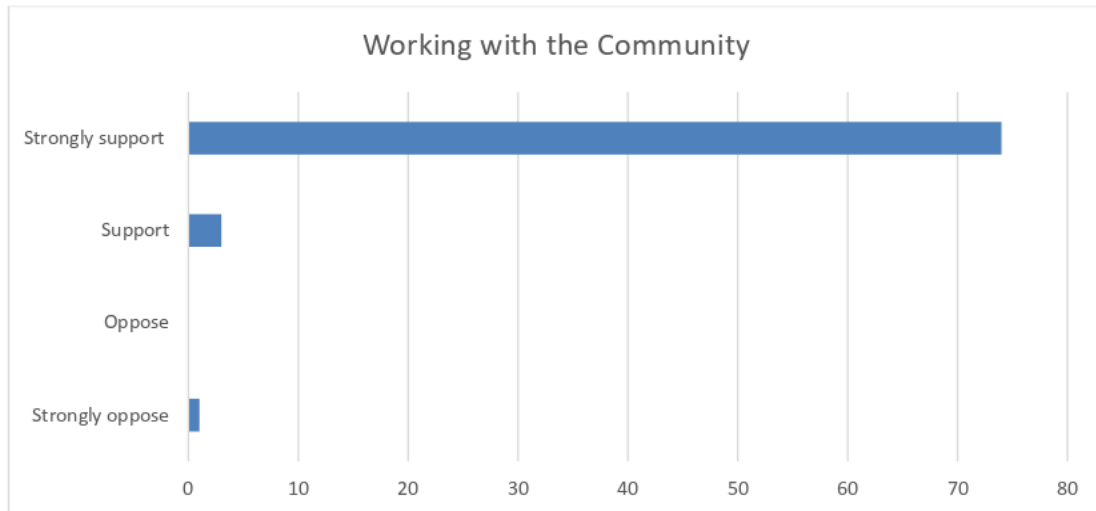
Question 6 – Trees and vegetation. This theme relates to: *Council will protect and enhance vegetation to cool our city and increase absorption of greenhouse gases.*

Do you support this theme?



Question 7 – Working with our community. This theme relates to: *Council will support the community of Wollongong to reduce emissions.*

Do you support this theme?



Comments from Submissions

The comments from all 155 submissions have been categorised into 28 different issues/themes. A description of these issues, key comments from the submissions and Council's proposed response and changes to the draft CCMP are detailed in Table 4.

Table 4: Summary of comments from community submissions and Council's response and proposed changes

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
1	Strong leadership from Council	56	<ul style="list-style-type: none"> • We need strong leadership leading to action now. • Leadership is critical to community change. • All levels of government need to play leadership roles. • Council should take an active role in supporting itself, businesses and the community by taking a strong stance on climate change and facilitating and encouraging changes for businesses and community. • Combine with other councils to advocate to State Government. • Council to imbed Climate Change Mitigation in all aspects of the organisation over the two years of the plan and beyond. 	<p>Council has gone above and beyond the commitments required under the Global Covenant of Mayors, in adopting an emissions reduction target for its own operations as well as a target for the City. By committing to an aspirational target of net zero emissions by 2030 for Council operations, Council is demonstrating leadership for the City and supporting its recent declaration of a State of Climate Emergency.</p> <p>Leadership actions are covered by Theme 1 of the draft CCMP and there are 29 actions under this theme, including:</p> <ul style="list-style-type: none"> • Action L4: Initiate an organisational review of Council decision making processes, policies and operational practices to ensure alignment with the Climate Emergency Declaration and net zero emission targets. • Action L2: Establish a steering committee with representation from senior management across all divisions of Council to have responsibility for the implementation of climate change actions. • Action L20 (L22): Continue to work with Illawarra Shoalhaven Joint Organisation on 	<p>Inclusion of two new leadership actions as follows:</p> <ul style="list-style-type: none"> • Action L19: Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area. • Action L27: Support Council facility managers to understand and implement sustainability practices, such as reduced energy, water use and waste.

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
				<p>regional collaborative grants and projects, including the Cities Powers Partnership program.</p> <p>Despite these actions it was recognised that there was an opportunity to introduce new actions in response to the feedback (see next column).</p>	
10	Energy Efficiency measures	56	<ul style="list-style-type: none"> Implement energy efficiency measures such as LED lighting at sports fields. Council has the resources and opportunity to take meaningful action on reducing emissions of its own infrastructure but more resources need to be put into supporting residents to do the same including education and grants to encourage transitioning to solar panels, etc. Energy is where we can make the most impact now. This makes sense and should be as ambitious as possible. I think it will be a great step if the Council can demonstrate leadership in this area for other businesses and organisations. LED streetlight rollout should be accelerated and go beyond just the mercury lamps. At the end of the two year time frame the goal should be to have all streetlights replaced, including high wattage sodium vapour lamps. 	<p>Council will continue to implement the energy efficiency program for Council buildings and facilities, and it is noted that this is regarded as a high priority for our community.</p> <ul style="list-style-type: none"> Actions E3 (E4) to E8 (E9): Energy efficiency actions that will be implemented from 2020-2022, as detailed in the Infrastructure Delivery Program. Actions E1-E2: The development of sustainable building design and performance standards for Council buildings is currently being developed to guide new builds and refurbishments. Actions E14 (E15) and E15 (E16): describe the streetlight upgrade program to LED. Sports field lighting will progressively be replaced with LED technology. Action E16 (E17): notes all new and replacement sport field lighting installations will utilise LED fittings and a substantial budget has been allocated to this. <p>Despite these actions it was recognised that there was an opportunity to introduce a new</p>	<p>Inclusion of new action as follows:</p> <ul style="list-style-type: none"> Action E3: Investigate opportunities for Council to participate in the "Sustainability Advantage" program for its facilities.

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response <i>(Blue text represents the new action number in the final document)</i>	Proposed changes
				action in response to the feedback (see next column).	
24	More trees and native habitat	55	<p>Strengthen and accelerate the Urban Greening Strategy:</p> <ul style="list-style-type: none"> • This has to be done across the Illawarra. For example, it's very green in the northern suburbs (and maybe even overgrown given the fire danger risk) but quite barren around places like Fairy Meadow and in new housing estates. • Every tree cools our city and contributes to biodiversity. • Green space enhances the attractiveness and liveability of a city. • Lower socio-economic areas who rely on public transport often lack air conditioning and shading and tree cover will help in assisting the pressure on struggling families. This added with mental health and wellbeing aspect of improved biodiversity will be great for the future of the Illawarra. • A liveable city of the future will require cooling, shade and amenity of vegetation cover. Take up and storage of carbon is an important ecological service provided by trees and vegetation cover. • Roof top gardens are another possible option, they reduce run off, provide insulation, reduce heat island effect and lead to creative public or commercial 	<p>Council is committed to implementing the Urban Greening Strategy (UGS). Feedback on actions relating to UGS has been passed on to the relevant department.</p> <p>As part of the UGS, more than 5,000 semi-mature trees have been planted in high need suburbs with low canopy and Council is currently committed to planting two trees on public land for every tree removed in an effort increase canopy. Council has worked with the community to focus on intensive tree planting campaigns in high need suburbs including Unanderra in 2018, Corrimal in 2019, Port Kembla in 2020 and are now preparing a major street tree installation in partnership with the Dapto community.</p> <p>The significance of remnant biodiversity, proactive management of existing vegetation and support for enhanced biodiversity outcomes is also included in Goals 2 and 3 of the UGS.</p> <p>The first 20 x Transitional Landscape sites are being scoped now for planting in Autumn 2021 (Action V3). This will create spaces that have increased canopy cover for shade, pedestrian access and native grass and groundcovers that promote safe use by the community.</p>	No action required

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
			<p>spaces. I would add green building facades in general could be something promoted and thought about for Council buildings.</p> <ul style="list-style-type: none"> • Make it mandatory for new developments (both at a suburban and single-building scale) to include design elements of urban greening (eg green roofs, green walls, on-ground vegetation). • Mandate a minimum of 2 trees per block. • Prioritise Illawarra natives. • More detail on the tree selector tool and magnitude of impacts by 2030, 2040 and 2050. • Don't plant trees that interfere with existing infrastructure such as footpaths, cycleway and roads. • Biodiversity/Natural Resources Management. • Illawarra Biodiversity Strategy - should be undertaken with Kiama and Shellharbour. A progress report against the 2011 strategy should be published. • greater resources for natural resources management and urban greening, particularly Lake Illawarra wetlands. • Revegetation and habitat protection. • There are many public lands that don't have much vegetation and could be planted with 	<p>Council also undertakes protection and enhancement works through its Natural Areas Management Program.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> • Actions V4 and V5: Delivery of the Urban Greening Strategy to increase canopy cover across suburbs of the Illawarra, including priority planting of areas of low canopy cover and social vulnerability; Developing Technical Guidelines and a Tree Selector Tool to inform tree selection and species, including native species. • Actions V1, V2, V3 and V6: relate to biodiversity and Natural Area Management. • Action C9 (C11): Delivering sustainable living education and engagement activities, such as Bushcare and Dunecare groups. 	

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response <i>(Blue text represents the new action number in the final document)</i>	Proposed changes
			<p>native plants. This will increase animal habitat as well.</p> <ul style="list-style-type: none"> Plant all the native trees we can!!! Invite the community to do tree planting, make more parks and places for flora and fauna to thrive in. Reforestation of unused lands on the coastal plain should be a priority. Community Bushcare groups should be cultivated and incentivised to reforests unused grassy spaces. This will make our city more beautiful, connect the community with the landscape and create habitat for wildlife and - in the long term - facilitate low cost carbon drawdown through the establishment of old growth timber. 		
2	Carbon budget recalculation and emission profile questions	52	<ul style="list-style-type: none"> The carbon budget should be re-calculated based on a 1.5°C warming by 2050 limit target every 2 years. The carbon budget is both overstated and is already substantially depleted, plus it does not adequately take into account growth in emissions not just from population increase but also from prospects like the LNG terminal, hydrogen hub, electrification of transport etc. Coal to be included in community emission profile. Emission profile doesn't take into account growth in emissions from prospects like LNG 	<p>As Council is a signatory to the Global Covenant of Mayors for Climate and Energy, Council is required to develop an emissions profile compliant with the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC). The profile that was conducted was in accordance with their requirements and on the best available scientific information at the time. Council uses the GPC compliant carbon accountants to undertake inventory and emissions profiles.</p> <p>Further information on the methodology used to determine Wollongong's carbon budget and emissions reduction target is available in the Ironbark report on Council's website.</p>	<p>Inclusion of new action as follows:</p> <ul style="list-style-type: none"> Action L14: Prepare subsequent Climate Change Mitigation Plan 2020-26. Action C17 (C19): wording updated: Continue to monitor the emissions in Wollongong LGA and share it with the community <i>including the data used to</i>

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response <i>(Blue text represents the new action number in the final document)</i>	Proposed changes
			<p>terminal and hydrogen hub, and 50% population increase predicted by 2035.</p> <ul style="list-style-type: none"> Explain what's in emissions profile and make it publicly available. 	<p>The next inventory is scheduled for 2021. The methodology will be modified to ensure that emissions from all industries are accounted for. Wollongong's carbon budget and emission reduction target will be recalculated based on this inventory and new scientific recommendations at the time. The carbon budget recalculation will be part of the next Climate Change Mitigation Plan 2022-26 (new Action L14).</p> <p>Projected growth or contraction of population and industry is taken into consideration in the development of the emissions reduction target. Further inventories will include more information on the emission profile.</p> <p>Despite these actions it was recognised that there was an opportunity to enhance a current action in response to the feedback (see next column).</p>	<i>develop the emissions profile.</i>
20	Waste management	48	<ul style="list-style-type: none"> Better waste management is an integral part of improving environmental sustainability and reducing our climate impact. Reducing waste entirely is important, as well as diverting waste from landfill through initiatives such as FOGO. it is by far the greatest contributor to emissions from council's operations. More could be done to educate residents on proper waste disposal 	<p>Noted. Wollongong Waste and Resource Recovery Strategy addresses both infrastructure and education needs. An update of this Strategy will comply with current state targets on waste diversion from landfill.</p> <p>The organics stream (ie food waste) contributes to carbon emissions. The expansion of FOGO and the capture of methane from Whytes Gully will significantly reduce these emissions.</p> <p>Council does not have the ability to ban single use plastics, however we have and will continue to advocate for state and federal single use plastic bans. Council also implements the</p>	No action required.

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response <i>(Blue text represents the new action number in the final document)</i>	Proposed changes
			<ul style="list-style-type: none"> • We should also be aiming to become a zero-waste community, and a hub for the circular economy. • Reduction is more important than recycling. • Businesses should be supported to not use single use items • Ban single use plastics in council's lease's, including the Friday Markets • Remove single-use plastics from council's own operations • More could be done to educate residents on proper waste disposal • Require transparent disclosure from council waste contractors – where are the waste streams going, and what is it turning into? 	<p>Plastics Free Wollongong program which encourages and incentives residents and businesses to avoid single use plastics.</p> <p>Council has a Single Use Plastics Management Policy for Council run events and will research ways to reduce single use plastics from Council operations.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> • Action L8: Council will develop Sustainable Events Guidelines to assist event managers and stallholders to incorporate sustainability provisions, such as waste reduction and organics collection into events. • Action W9: Council will also continue to run the 'Waste Wise Events' program to increase resource recovery and waste minimisation at public events. • Action W7: Council will continue to design and deliver community education and behaviour change initiatives to maximise diversion of food, other organics, general household waste and nappies from landfill and to educate the broader community in waste avoidance, raise awareness of alternatives and work towards a litter free Wollongong. • Action W8: Council will design and deliver a 'War Against Food Waste' campaign to reduce the amount of food waste households generate. 	

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
				<ul style="list-style-type: none"> Action C10 (C12): Council will develop an Environmental Education Program focusing on the key environmental issues of waste management, urban greening and climate change Action W16: A central reporting framework is being developed for the waste from the city's operations and properties to improve our confidence in waste data and identify and implement opportunities to reduce waste to landfill. 	
11	Power Purchase Agreement (PPA)	45	<ul style="list-style-type: none"> Council to implement a Power Purchase Agreement. Establish a group Power Purchase Agreement for consumers in the region by December 2022, resulting in 100,000 tonnes CO₂ reduction. To assist the community implementing a Renewable Power Purchase Agreement would be a great opportunity for Council to lead the way for cheaper renewable energy throughout the LGA. 	<p>Council recognised this is a high priority for the community.</p> <p>The following actions in the draft CCMP also seek to address these issues and have already commenced implementation:</p> <ul style="list-style-type: none"> Action E11 (E12): Pursue the potential to establish a PPA utilising the energy generated from Whyte's gully landfill gas to offset Council's highest energy consuming buildings. Action E12) (E13): Council is also investigating the potential for opportunity to establish a regional PPA. Both actions have already commenced. <p>Opportunities for community PPAs will be investigated in future mitigation plans.</p>	No action required.

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
16	Electric Vehicle (EV) Charging Stations	41	<ul style="list-style-type: none"> • Install EV charging stations • Council should also invest in infrastructure and incentives to encourage EV uptake by residents such as charging stations and EV only parking spots • Council should partner with energy providers, supermarkets or fuel companies and advocate for business to implement these for the city. Endeavour Energy should maintain them as Council is not an expert in this area. 	<p>At its meeting on 31 August 2020 Council resolved to publicly exhibit the draft Electric Vehicle Charging Stations on Public Land Policy. The draft Policy details clear processes to guide prospective providers and Council for the establishment, operation and management of EV charging infrastructure on public land in the Wollongong Local Government Area.</p> <p>Council is also in negotiations with providers to install EV charging stations at key destination locations across the city, in accordance with the draft policy.</p> <p>These initiatives are also supported by the following actions in the draft CCMP to address these issues:</p> <ul style="list-style-type: none"> • Actions T3: Developing a policy to allow charging stations on public lands • Action T4: Pursue the installation of charging stations across the City. This will consider partnerships with State Government, charging companies or other sponsors to establish electric vehicle charging stations. 	No action required.
26	Community engagement	40	<ul style="list-style-type: none"> • The changes needed will not necessarily be easy. The community will need strong leadership and support if we are to move forward in this area. • Appeals to only community members with shared values - needs to establish connections across the whole community and achieve that second more impactful 	<p>Council recognises that working with our community is essential to reduce emissions and this initial two-year Draft CCMP has actions relating establishing partnerships and engaging with our community on climate change.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p>	No action required

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
			<p>form of leadership where people change their minds and adopt the plan through their own actions</p> <ul style="list-style-type: none"> • More could be done here to educate and incentivise residents to take action. It's not just up to the council to reduce emissions, but a lot of people don't bother with even small changes to behaviour that could make a difference. Messaging needs to be more front of mind and clear easy ways to help reduce emissions should be pushed out to residents. • Reducing emissions hints and tips for the community and businesses would be a start, even an achievement or reward system may be worth considering too. • Engage local schools and UOW • Work collaboratively with expert community group who have identified 3 priority projects. • Peer educator programs are well established as a community capacity building approach and would work well in Council's work with communities on CCM. • I believe there is a need for more democratic processes of public participation in local decision making around climate action. This should not just be tokenistic consultation and placation of concerned citizens. All citizens should be considered partners in this process, with the power affect decision- 	<ul style="list-style-type: none"> • Action C10 (C12): An Environmental Education Plan is currently being developed that aims to provide the long-term framework and rationale for designing effective education programs. It will include a particular focus on understanding contemporary behavioural change methodologies and staging of education, engagement and communications delivery to achieve Council's strategic and operational objectives. The plan will also investigate opportunities to engage with local schools. The feedback received will be passed on to the relevant staff to assist the development of the Environmental Education Plan. • Actions C1-C10 (C12): involve creating partnerships, engagement and education of businesses and the community, and continuous engagement with our Aboriginal communities. • Action C14 (C16): is a pilot project to partner with NSW Department of Education. • Actions L18 (L20) and L20 (L22): details that Council will investigate ways to work with the University of Wollongong. 	

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response <i>(Blue text represents the new action number in the final document)</i>	Proposed changes
			<p>making. Whatever form this takes, every effort must be made to ensure that it is accessible to all citizens, especially under-represented minorities, with multiple opportunities to contribute (i.e. not just one-off planning nights). Furthermore, there must be processes put in place to ensure that the decisions made in these spaces are acted on. There needs to be an iterative process of follow-up and follow-through.</p> <ul style="list-style-type: none"> • A greater respect for the First Nations People and making sure their voices are heard when it comes to what we are doing on Dharawal country. • Greater promotion of Council's 'opt-in' environmental and climate change initiatives. 		
17	Council fleet	28	<ul style="list-style-type: none"> • Acquire lower emission Council vehicles • Would be great for Council to take a leadership role in adopting EVs - it is not only a better environmental choice, it is likely to be cheaper in the longer term 	<p>Wollongong City Council has a 'Vehicle Acquisition Strategy Management Policy' that states Council will address environmental considerations in the performance of the fleet, and will consider alternatively powered vehicles, including those that are petrol hybrid, electric vehicles, and alternative fuel powered as markets mature.</p> <p>Council is considering the provision of EV charging infrastructure in key locations in Wollongong.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p>	No action required.

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
				<ul style="list-style-type: none"> Action T1: aims for Council to prioritise low emissions and fuel-efficiency when purchasing vehicles and will include hybrid and electric vehicles as part of our fleet. Action T2: Council will also investigate the feasibility of low-emissions vehicle standards for plant fleet. 	
27	Emission tracking visible to residents	23	<ul style="list-style-type: none"> Emissions tracking visible to residents. Ongoing emissions tracking. Clear and accessible reporting to the community. Publicise journey. Scoreboard, visual display in Crown St Mall, council website. Establish a mechanism that reports tracking of planned and actual CO2 reductions against the CO2 budget adopted in December 2019 for the LGA zero net emissions by 2050, and The Council, Zero Net emissions by 2030. Establish a waterfall chart for the major actions proposed in the CCMP. 	<p>Council will continue to undertake an emissions inventory for the city every two years, consistent with our GCoM commitments, in order to track progress towards the 2050 target.</p> <p>It is important to note that community emissions will be recalculated every two years according to specific (and GCoM certified) methodology and thus this information will be unable to be reported on in real time. Communication methods are likely to be through Council's website, Climate Emergency Updates that are currently produced every 3 months, Council's social media platforms and through community newsletters.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> Action C17 (C19): monitoring of emissions and sharing of information. Wording updated see next column. Action L27: emissions data management system for Council's greenhouse gas emissions. Wording updated see next column. 	<p>Action wording updated:</p> <ul style="list-style-type: none"> Action C19: Continue to monitor the emissions Wollongong LGA and share it with the community <i>including the data used to develop the emissions profile</i> Action L27: Continue to maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and <i>Council's journey towards corporate goals and will be shared with the community</i>

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3	Council to advocate for Green jobs	19	<ul style="list-style-type: none"> • Advocacy for green jobs (renewable jobs). • Port Kembla to become a hydrogen hub, green jobs. • Conversion of Tallawarra power station to hydrogen. • Council has the opportunity to invest in local jobs by that improve energy efficiency and reduce GHG emissions. Now is the time to support the community and improve the city's future. • Clear plan for a just transition of coal workers into new jobs. 	<p>The Economic Development Strategy 2019-29 has a target of creating 10,500 net new jobs for the Wollongong LGA by 2028. The strategy proposes a number of action items to support an innovative and sustainable economy for Wollongong. The focus of the strategy is to increase the number of high-quality jobs in Wollongong, which will have flow on benefits such as reducing the cost of commuting and increasing the work/life balance of commuters. The strategy identifies a number of key sectors for Wollongong, which includes advanced manufacturing and opportunities in emerging fields such as renewable energy. Council through its participation in the Invest Wollongong partnership (along with the NSW Government and University of Wollongong), has identified clean energy as a target investment sector. Wollongong is envisaged to play a key role in Australia's decarbonised energy future, with Port Kembla identified as a superior location for Australia's first large scale hydrogen facility.</p> <p>A key aim of the draft CCMP is to establish a strong foundation for how Council intends to move forward with meeting the emissions reduction target and supporting the city to meet its target. In doing this Council needs to understand opportunities to engage with businesses and industry and how council can support them to be more environmentally sustainable. The draft CCMP proposes actions to establish partnerships with government, business, industry and community groups and</p>	<p>Inclusion of new actions as follows:</p> <ul style="list-style-type: none"> • Action L19: Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area. • Action C6: Design and implement a business engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps.

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				<p>undertake research and pilot projects within our community, all of which will help to reduce emissions and inform actions in subsequent CCMPs. This is anticipated to be achieved through delivery of actions C1-C6.</p> <p>Despite these actions it was recognised that there was an opportunity to introduce new actions in response to the feedback (see next column).</p>	
18	Active transport	18	<ul style="list-style-type: none"> • Better active transport options are needed • Implementation and further extension of Wollongong Bike Plan and Pedestrian Plan • Cycling should be the focus, and improved public transport links and frequency. The better east-west cycling links are the better our transport will be. More shared paths. • I do agree with this, but think this could be even stronger. I'd like to council implementing initiatives that make public transport and self-transport (cycling, walking etc) the preferred choice for more people. For example, a free public bike system like in Ljubljana (Slovenia), more efficient public transport to the suburbs, car sharing services. • Pedestrianisation of the CBD. The amount of access to cycling is paltry and car users attitudes to cyclists are poor and dangerous. Cycle paths from train stations to central destinations. 	<p>The following actions in the draft CCMP seek to address these issues:</p> <ul style="list-style-type: none"> • Actions T7-T9: are aimed at improving active and sustainable transport options. In particular finalisation and adoption of the Wollongong Cycling Strategy 2030, review of the Wollongong City Centre Access and Movement Strategy 2013 and the review of the City of Wollongong Pedestrian Plan 2017-2021. <p>These strategies will be used to inform future town centre and precinct planning and promote walkability and sustainable transport options.</p> <p>Noted. The Austroads' Guide to Traffic Management has been updated and addresses speed zones. In the updated guide there is a reference to lower speed limits as low as 10km/h. The advice from Transport for NSW hasn't lowered default speed limits and the subsequent guide for setting speed limits hasn't been updated. Council is managing speeds by</p>	No action required

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			<ul style="list-style-type: none"> Implementing 30km/h zones in residential streets and school zones will encourage walking and cycling and reduce community transport emissions 	way of traffic facilities that require drivers to slow down.	
4	Changes to Development Control Plan / Planning issues	17	<ul style="list-style-type: none"> Review of DCP to align with emission reduction goals and strengthen DCP Chapter 2. Building development standards - advocate to State Government about building in zero emissions requirements into state planning law and regulations that underpin DCP. All new housing should be energy efficient and again council should lead by example, not only of their own buildings but also to make sure all new housing/ buildings use renewable energy and are self-sustainable (e.g. solar, battery storage, grey water tanks). Wollongong Council needs to push even harder on planning and development restrictions. The strategy should restrict the residential developments to smaller, more efficient residential buildings that use less concrete in construction, and use less energy in heating and cooling. Incorporate considerations of opportunity cost and carbon budget impact in LSPS and LEP. Council should more rigorously enforce the provisions of the LEP in regards to sensitive 	<p>Council will consider housing density as part of the Housing Strategy. It should also be noted that the state government has a Low Rise Housing Diversity Code which allows for the development of medium density dwellings as complying development.</p> <p>In assessing development proposals Council considers their alignment with the Illawarra Escarpment Management Plan, Natural Resources Sensitivity Layer as well as compliance with relevant conservation and biodiversity protection legislation and policy.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> Action L11: Council will undertake a review of the Wollongong Development Control Plan Chapter A2 -Ecologically Sustainable development to ensure alignment with the Climate Emergency and net zero emissions targets. Action L12: Council will also amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Constructions Code. Action L13: Council will commence an investigation into how to encourage 	<p>Action wording updated:</p> <ul style="list-style-type: none"> Action L12: Amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Construction Code <i>and the outcomes of the 'Energy efficiency and emissions standards for new commercial buildings' survey being undertaken by the Department of Industry, Science, Energy and Resources.</i>

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			areas such as the Escarpment, and natural areas.	<p>sustainable development outcomes, including but not limited to community education, broad ranging incentives and property marketing tools.</p> <ul style="list-style-type: none"> Action L15 (L16): Council will continue to advocate to State and Federal Governments to consider climate change impacts when developing new and revised planning instruments, guidelines and legislation, including thresholds and standards in NSW BASIX and the National Construction Code. <p>Despite these actions it was recognised that there was an opportunity to enhance wording of a current action in response to the feedback (see next column).</p>	
5	More ambitious targets	17	<ul style="list-style-type: none"> Having targets set in place provides the baseline for reducing emissions. These targets can incentivise more private investment into climate change mitigating technologies, making it more likely that we meet our targets more quickly. Net zero by 2030 for the whole community. Not ambitious enough but I will support it as it goes in the right direction. Act sooner – time is running out. Numerical targets against actions e.g. how many hybrid cars will Council buy. 	<p>This is the first of many CCMPs that will be prepared, and these will be informed by regular re-inventories of Council and City emissions to track our progress and will benefit from previous success stories, learnings and new technological advances. Emission profiles will be re-calculated in 2021/22 to track how the City of Wollongong is tracking and Council's own profiles are changing and thus determine new targets and actions.</p> <p>In adopting the Emissions Reduction Targets at its meeting on 9 December 2019, Council resolved (in part) that the community target is to be reviewed in five (5) years with a view to reduce the timeline from 2050 to 2030 in line with Council's target.</p>	No action required.

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			<ul style="list-style-type: none"> Plan too weak - no real and urgent priorities. Actions, objectives and CPP pledges too weak. 		
12	Community renewable battery	14	<ul style="list-style-type: none"> Feasibility studies on community renewable battery installation. Localised grid system for neighbourhoods that facilitate rooftop solar and battery systems across street and suburb networks. Facilitate feasibility study for community battery project by July 2021. Facilitate options workshop, carry out request for Expression of Interest for the project RFEOL. 	<p>This action is not feasible in the timeframe of this draft CCMP. This action will be included for consideration in the next CCMP 2022-2026. Promotion of the benefits of solar will be addressed through the Environmental Education Plan currently being developed.</p> <p>The NSW Government are also active in promoting the benefits of solar power through their 'Energy Saver' program.</p>	No action required.
21	Support for Food Organics Garden Organics (FOGO)	13	<ul style="list-style-type: none"> Implement FOGO to all households Glad Fogo is finally being rolled out The new FOGO scheme should significantly reduce methane output at landfill and help residents responsibly deal with food waste. More could be done to educate residents on proper waste disposal Support Community initiatives and run Council programs that provide Community members with the skills to plan a menu, store and cook to minimise their potential food waste in the first place. FOGO is great, but still a sign of a malfunctioning food system when food that has been grown is not valued. Expand community information sessions and demonstrations on storing food and 	<p>The following actions in the draft CCMP seek to address these issues:</p> <ul style="list-style-type: none"> Action W4: Implementation of FOGO across Wollongong. This will be accompanied by an extensive Education program. Action W8: Council will design and deliver a 'War Against Food Waste' campaign that focuses on known behaviours and limited knowledge on food waste. Action C10) (C12): Council is currently developing an Environmental Education Program focusing on the key environmental issues of waste management, urban greening and climate change. 	No action required.

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			composting at home incl. rebates for households to purchase compost bins and worm farms.		
13	Increased use of Renewable Energy	11	<ul style="list-style-type: none"> The future is renewable. Investing in renewable energy will not only improve our climate change resilience outcomes but will also pay for itself in a short period, unlike fossil fuels which will only become more expensive and less reliable, going forward. Council should be powering its entire energy facilities from renewable energy. It's not just better environmentally but also would be a cheaper option!! Council should also support local businesses and residences to adopt renewable energy via bulk buys, facilitating local businesses through education and linking with renewable energy suppliers. Renewable energy is safer and will eventually be cheaper. 	<p>Council has installed 327kW of solar PV systems on its facilities and is installing a solar system on the multi-story Stewart St carpark early 2021.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> Actions E9 (E10) and E10 (E11): Council has a "Solar on Council" buildings project and is also pursuing the feasibility of a Whytes Gully Renewable Energy facility with a 1MW Power station. Action E12 (E13): Council is investigating accessing renewable energy for its electricity contract as part of a regional PPA Actions C1-C6: Actions to support businesses and industry access renewable energy will be explored through future CCMPs as Council works to understand opportunities to engage with businesses and industry and how council can support them, through establishment of networks and partnerships proposed in this draft CCMP. 	No action required.
22	Extend FOGO	11	<ul style="list-style-type: none"> Extend FOGO to cafes and restaurants, and supermarket chains Require all leases to have a FOGO contract Install public place recycling/FOGO collection 	Private businesses do not pay the Council waste levy and hence the FOGO program for the Wollongong LGA is for residents only. Commercial businesses such as cafes and restaurants are responsible for their own waste management. There are several local	<p>Inclusion of new action as follows:</p> <ul style="list-style-type: none"> Action C6: Design and implement a business engagement program to determine how to

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			<ul style="list-style-type: none"> Lead the adoption of food waste reduction targets in the commercial sector and support pilot programmes that help the commercial sector to improve their food waste avoidance practices and facilitate the transition to alternatives to landfill disposal. 	<p>contractors that can accept organic waste dependent on the waste stream.</p> <p>Notwithstanding this the following actions in the draft CCMP seek to address these issues:</p> <ul style="list-style-type: none"> Action C3: Council also intends to engage with businesses through the Illawarra Business Chamber to identify and understand how we can assist them to adopt more sustainable practices. Actions C4 and C5: Explore opportunities for small businesses to use and participate in the NSW Government's Sustainability Advantage Program and NSW Energy Savings Scheme. <p>Despite these actions it was recognised that there was an opportunity to introduce a new action in response to the feedback (see next column).</p>	best assist them in emissions reduction, including determining needs, barriers and knowledge gaps
6	Sustainable Procurement	10	<ul style="list-style-type: none"> Prioritise low emissions suppliers in council supply chains. Review of WCC procurement policy to encourage climate mitigation by its prospective suppliers. Supporting supply chains who are carbon neutral is a start. Require recycled content in procurement including post-consumer recycled paper. 	<p>Council's Sustainable Procurement Policy supports sustainable practices and minimises environmental impact in the procurement of goods and services.</p> <p>Council also has a Procurement Procedure Management Policy which states Council staff must follow the waste hierarchy of avoid, reduce, reuse and recycle to endeavour to minimise the volumes of goods and services procured. When undertaking procurement activities environmental considerations should be part of the overall assessment including, but not limited to: only purchase goods or services when necessary, where available purchase</p>	No action required.

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				<p>goods with recycled content, are recyclable, have minimal and recyclable packaging, are energy and/or water efficient, minimise greenhouse gas emissions, are sustainably produced (for example food, timber, paper etc), and minimise transport impacts.</p> <p>Council's copy paper is Planet Ark 100% recycled content carbon neutral paper.</p> <p>The following action in the draft CCMP also seeks to address this issue:</p> <p>Action L9: Council will strengthen the sustainability provisions and procedures in its Sustainable Procurement Policy.</p>	
19	Public transport	10	<ul style="list-style-type: none"> • Council has an important role in educating and advocating for better public transport in Wollongong • What's missing from the transport statement is master planning a city to reduce the reliance on cars. • Transport is important but a large emitter of greenhouse gases. Council could encourage Transport NSW to use Electric or biofuel buses, encourage Transport NSW to schedule more buses, more trains, even a metro style service, and campaign to encourage more public transport use • Sydney has shown its ability to use electric buses. This is absolutely something we should at the very least trial. 	<p>Council will continue to support efficient and effective public transport will continue, the following actions in the draft CCMP also seek to address this issue:</p> <ul style="list-style-type: none"> • Action T10: Council to continue to pursue the State Government investment in improved public transport services, particularly the improved efficiency of current train system and commute to Sydney; increase number of trains, commuter parking and faster rail; improved accessibility of all public transport services for people of all abilities; better connectivity between different modes of public transport; and, increase funding provided to local councils for active transport and public transport options. • Action T11: Council will lobby the NSW Government to implement actions from 	No action required.

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			<ul style="list-style-type: none"> Public Transport options are inadequate and important for equity and the climate. Train from Wollongong to Campbelltown and Parramatta, better train services to Sydney Efficient clean affordable public transport is essential in providing an alternative to the private vehicle. I love and regularly use the free bus to Fairy Meadow. Extend the shuttle buses to southern areas Improvements in public transport go hand-in-hand with discouraging the use of private vehicles - not everyone will be able to cycle 	<p>Future Transport Strategy 2056, which is aimed at harnessing rapid change and innovation.</p> <ul style="list-style-type: none"> Action T5: continuation of the Wollongong Free Shuttle Bus. Action T6: Council will work with Transport NSW to explore opportunities to enhance the free shuttle bus route to other areas. 	
7	Council staff initiatives	9	<ul style="list-style-type: none"> Train Council staff in carbon accounting and ensure full staff climate change in-servicing. E-bike salary package for council staff. Add KPIs relating to climate change actions to Senior staff linked to salary. Increased resourcing for mitigation actions. WFH policy developed for Council and major city employers. 	<p>Council is committed to building the internal capacity of staff on climate change mitigation, the is demonstrated by the following actions in the draft CCMP:</p> <p>Action L23 (L25): aims to raise awareness to ensure that climate change is embedded into policies, strategies and service delivery.</p> <ul style="list-style-type: none"> Action L24 (L26): aims to educate staff on waste education, resource recovery and energy savings behaviours within the workplace. Action L4: Council will initiate an organisational review of Council decision making processes, policies and operational practices to ensure alignment with the 	No action required.

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
				<p>Climate Emergency Declaration and net zero emissions targets.</p> <ul style="list-style-type: none"> Action L2: Council will establish a steering committee with representation from senior management across all divisions of Council to have responsibility for the implementation of climate change actions. A Project Steering Committee, and three project control groups addressing climate action have already been formed and are working towards implementing actions from this Draft CCMP. 	
28	Community Forum / Summit	9	<ul style="list-style-type: none"> Enhance community education by conducting regular community forums and workshops to share Council's vision for meeting its targets, provide information and strategies for individual, household, business and community climate change mitigation and to foster preparation around future climate change impacts. Host climate mitigation forum/summit for business and education institutions. Sponsor Business Renewables Centre to run a PPA boot camp for business in Wollongong. 	<p>The following action in the draft CCMP seeks to address this issue:</p> <ul style="list-style-type: none"> Action C6 (C7): Council will design and implement a community engagement program to determine how best to assist them in emissions reduction, including determining needs, barriers and knowledge gaps. <p>The comments on climate change mitigation forum/summit and information sessions for business, residents and education institutions will be passed on to the relevant staff to be considered as part of the engagement program.</p>	No action required
8	Expert Reference Group	7	<ul style="list-style-type: none"> Establish and fund an expert-led Climate Change taskforce. Expert reference group - council, groups, academics, community to review best practice. 	<p>Council is committed to regional collaboration and working closely with our community and businesses.</p> <p>The following action in the draft CCMP also seeks to address this issue:</p>	No action required.

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			<ul style="list-style-type: none"> Zero emissions task force that enables collaboration and information sharing between businesses and community organisations. 	<ul style="list-style-type: none"> Action L21 (L23): Council will continue to work with other agencies including Local and State Government, universities, industry and community organisations to network, learn and share information on low carbon strategies. <p>Where required, Council will seek recommendations from scientific and carbon mitigation experts.</p>	
14	Solar on Council buildings	7	<ul style="list-style-type: none"> More solar on Council buildings. 	<p>As highlighted above, Council has already installed 327kW of solar PV systems on its facilities, further work in this area is supported by the following actions in the draft CCMP:</p> <ul style="list-style-type: none"> Action E9 (E10): Implementation of a 'Solar on Council Buildings' project. Action E13 (E14): Council will monitor the performance of its solar PV systems. This will allow Council to undertake further cost-benefit analysis for other buildings to ensure the best use of Council resources. 	No action required.
23	Waste Infrastructure	6	<ul style="list-style-type: none"> Council should advocate for a comprehensive modern facility for waste processing, recycling and alternative product manufacturing Support the set-up of a PV recycling industry in Wollongong Renovate the Whytes Gully Community Recycling Centre to be best practice. Currently range is very limited 	<p>The Wollongong Waste and Resource Recovery Strategy addresses both infrastructure and education needs.</p> <p>Wollongong City Council's Economic Development Strategy (EDS) 2019-29 sets out a plan to grow 10,500 net new jobs within the Wollongong LGA by 2028. The EDS recognises Wollongong's fast changing and diversifying advanced manufacturing sector, with significant operations in industrial, chemicals,</p>	<p>Inclusion of new action as follows:</p> <ul style="list-style-type: none"> Action L19: Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area.

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			<ul style="list-style-type: none"> Support the expansion of an undercover storage at the Wollongong Revolve shop so that more furniture can be rescued and sold. 	<p>mining, defence, construction, textiles and food and beverage as well as exploring opportunities in emerging fields such as renewable energy.</p> <p>Despite these current Council activities, it was recognised that there was an opportunity to introduce a new action in response to the feedback (see next column).</p>	
9	Partnership with University of Wollongong	5	<ul style="list-style-type: none"> Partner with UOW to find innovative solutions to emissions reduction. Use their expertise, access data and research which otherwise might be costly to obtain. It would be great if these activities of council could be used to encourage similar actions from UOW. Establish a Climate Innovation program between Council and UOW to create mutually beneficial outcomes across all disciplines. 	<p>The following action in the draft CCMP seeks to address this issue:</p> <ul style="list-style-type: none"> Action L21 (L23): Council will continue to work with other agencies including Local and State Government, universities, industry and community organisations to network, learn and share information on low carbon strategies. 	No action required.
15	Solar program for residents	5	<ul style="list-style-type: none"> Develop and deliver a community program to at least 2000 residents encouraging the installation of new solar panels by July 2022. More solar across residential, commercial and industrial. WCC should consider a loan facility to encourage this. 	<p>The delivery of the suggested program is not considered feasible in the timeframe of the draft CCMP. This action will be included for consideration in the next CCMP 2022-2026. Awareness of the benefits of solar will be addressed through the environmental education plan currently being developed.</p> <p>The NSW Government are also active in promoting the benefits of solar power through their 'Energy Saver' program.</p>	No action required.

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25	Community gardens / local food production	4	<ul style="list-style-type: none"> Community gardens A focus on local and public food growing would reduce food miles and encourage productive greening of public and private spaces. Subsidising and encouraging local food production. Urgently update the Illawarra Regional food strategy 2013 – 2018 and resource the implementation of the many strategies in plan that are relevant to a reduction of greenhouse gas emissions. Adequately support and resource regional food collaborations 	<p>Council's Environmental Sustainability Strategy is currently under review and will examine actions that Council can take to promote food security, within Council's sphere of influence and area of responsibility.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> Actions C12 (C14) and C13 (C15): Continued support for establishment and operation of community gardens on public lands and review of Community Gardens Policy and procedures. Action C10 (C12): The Urban Greening Strategy is investigating the establishment of food trees on verges. Action C10 (C12): The Environmental Education Plan will consider food security awareness. 	No action required.
29	Adaptation	3	<ul style="list-style-type: none"> Fire, coastal inundation. Lobby to State Government and make public on the legal cost of climate change and adaptation costs and risks. I really strongly believe that climate justice should feature in this plan - it is not enough to act on climate change if those actions reinforce the injustices that already exist in our society. Frontline communities are feeling the impacts of climate change first and worst - their voices must be at the centre of climate action, and we must work 	<p>A contemporary Climate Change Adaptation Plan is currently being developed that is envisaged will address these issues.</p> <p>The following actions in the draft CCMP also seek to address these issues:</p> <ul style="list-style-type: none"> Action L14 (L15): Council will advocate to the State and Federal Governments to declare and act on the climate emergency. Actions C6 (C7): Council will design and implement a community engagement program to assist them with emissions 	<p>Inclusion of new action:</p> <ul style="list-style-type: none"> Action C10: Consider the establishment of a climate action community reference group following the 2021 Local Government elections, to provide input, feedback and community perspective on

Issue No.	Issue/Theme	No. of Submissions	Key Comments	Response (Blue text represents the new action number in the final document)	Proposed changes
			towards environmental and climate justice so we can all enjoy a green future.	<p>reduction, including determining needs, barriers and knowledge gaps.</p> <ul style="list-style-type: none"> Action C7 (C8): Continue to engage with the Aboriginal communities to learn from their practices and incorporate into sustainable living programs. Action C8 (C9): Connect with community groups to share information and work together. <p>Despite these actions it was recognised that there was an opportunity to introduce a new action in response to the feedback (see next column).</p>	Council's climate action activities and programs
	Other Comments		<ul style="list-style-type: none"> Electric vehicles get power from burning coal. When you consider the cost to the environment of producing the vehicle and getting rid of it at the end of its life, petrol cars are more environmentally friendly than hybrid or electric. Stop using concrete in footpaths and buildings 	<p>Council understands that the environmental benefit of electric vehicles is somewhat dependent on the source of energy. The electricity grid continues to increase its access to renewable and green electricity, consequently the emissions produced by electric vehicles will reduce over time. Council is being proactive in this regard and facilitating the provision of infrastructure in order to support this evolution.</p> <p>In addition, research has identified that EVs produce less emissions than standard internal combustion engine (ICE) vehicles in their operation due to their efficiency in converting fuel energy into power.</p>	No action required
			<ul style="list-style-type: none"> Ensure Council is engaged with the Office of NSW Chief Scientist and Engineer. Inform 	Noted. Council staff continue to monitor and research initiatives that have the potential to	No action required

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			and be informed by NSW Decarbonisation Innovation study	improve council operations and reduce emissions for Council and the city.	
			<ul style="list-style-type: none"> Renew Illawarra has two websites developed- The MOST EFFECTIVE pathways to zero emissions; Wollongong Community Power 	Noted.	No action required
			<ul style="list-style-type: none"> Council has poor sustainability record 	<p>Council has gone above and beyond the commitments required under the Global Covenant of Mayors, in adopting an emissions reduction target for its own operations as well as a target for the city. By committing to an aspirational target of net zero emissions by 2030 for Council operations, Council is demonstrating leadership for the city and supporting its recent declaration of a State of Climate Emergency.</p> <p>In developing and delivering on the CCMP Council is aiming to reduce emissions for its operations and city. Moreover, Council has reviewed its Environmental Sustainability Strategy with the view of providing contemporary strategic guidance for Council's operations and services.</p>	No action required

Summary of proposed changes to draft CCMP

As identified above, a number of changes to the draft CCMP are proposed in response to the feedback from public exhibition. These changes include both wording modifications to actions and the addition of new actions and are detailed in Tables 5 and 6 below.

Table 5: Proposed wording changes to draft CCMP

Original action wording	New action wording
L12 Amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Construction Code.	L12 Amend the Wollongong Development Control Plan to ensure it supports any future updates to the energy efficiency requirements within the National Construction Code and the outcomes of the 'Energy efficiency and emissions standards for new commercial buildings' survey being undertaken by the Department of Industry, Science, Energy and Resources.
L20 Pursue the inclusion of a sustainable home in an urban release display village.	L20 Pursue the development of a virtual sustainable home to promote sustainable urban residential building options.
L25 Maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making and help track on individual projects and towards corporate goals.	L27 Continue to maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and Council's journey towards corporate goals and will be shared with the community.
C3 Work collaboratively with Illawarra Business Chamber to assist their members to adopt more sustainable practices and promote positive outcomes.	C3 Work collaboratively with Illawarra Business Chamber to assist their members to adopt more sustainable practices and promote positive environmental and financial outcomes.
C17 Continue to monitor the emissions Wollongong LGA and share it with the community.	C19 Continue to monitor the emissions Wollongong LGA and share it with the community including the data used to develop the emissions profile.
E17 Continue the monitoring and review of quarterly energy consumption data from energy providers to track growth and energy use over time. removed and incorporated into: L25 (now L27) Maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making and help track on individual projects and towards corporate goals.	L27 Continue to maintain and monitor an energy and emissions data management system for Council's greenhouse gas emissions. This data will inform decision making, help track individual projects and Council's journey towards corporate goals and will be shared with the community.

Table 6: Proposed new actions for inclusion in draft CCMP

New Actions
L14 Prepare subsequent Climate Change Mitigation Plan 2022-26.
L19 Council will advocate and investigate opportunities to attract green industries to the Wollongong Local Government Area.
L29 Monitor and report on the implementation of the Climate Change Mitigation Plan 2020.
L27 Support Council facility managers to understand and implement sustainability practices such as reduced energy, water use and waste.
E3 Investigate opportunities for Council to participate in the 'Sustainability Advantage' program for its facilities.
C6 Design and implement a business engagement program to determine how to best assist them in emissions reduction, including determining needs, barriers and knowledge gaps.
C10 Consider the establishment of a climate action community reference group following the 2021 Local Government elections, to provide input, feedback and community perspective on Council's climate action activities and programs.

Recommendation

An updated draft CCMP has been prepared based on the outcomes of the public exhibition process (Attachment 2). The updated draft CCMP identifies 98 actions for Council to deliver over the next two years to reduce its emissions and to support the community to reduce their emissions. It includes actions to establish partnerships with government, business, industry and community groups, undertake required research and pilot projects within our community and to roll out some key projects to reduce Council's emissions.

Actions are classified as either:

- Direct actions to reduce emissions (eg installing solar panels, diverting organic waste from landfill, landfill gas capture), or
- Enabling actions to provide support and frameworks for Council and the community to reduce emissions (eg implementing strategies, policy change, collaboration and education).

Emission reduction projections remain the same in the updated draft CCMP. Delivery of direct actions alone, is expected to reduce the annual emissions of Council operations by 25% (~35,200 tonnes CO₂-e pa). In addition, there is a significant number of direct actions where projected emissions reductions are unable to be calculated at present but once implemented and operating, savings will be more easily calculated. There is a vast array of enabling actions, all of which will contribute to achieving Council and the Wollongong LGA's emissions reduction targets.

A subsequent CCMP will be prepared for 2022 and beyond, informed by the updated emissions profiles, project status, the availability and feasibility of new technologies, any new opportunities or threats and ongoing collaboration with the community of Wollongong.

Appendix A: Frequently Asked Questions

FAQs

What is Climate Change Mitigation?

Climate change mitigation refers to efforts to reduce or prevent emission of greenhouse gases. There are several different pathways that we as a community can take to reduce emissions. This includes renewable energy sources, energy efficiency programs, reducing waste, reducing transport emissions and carbon capture technologies.

What does our emissions inventory look like?

An emissions inventory is essentially a stocktake of our city's current greenhouse gas generations by source and sector, which shows how and where emissions are being generated. Across our Local Government Area our largest source of emissions is electricity and gas generation, which is also known as stationary energy. Given our strong industry base, up to 72% of our community emissions total emissions are from industry related activities. Council operations are responsible for only 5% of our city-wide emissions but Council is committed to demonstrating leadership on climate change.

What types of actions are in the Plan?

This Plan is for the period 2020-2022 and there are 92 actions for Council to reduce its own emissions and to support the community and businesses to reduce theirs. The actions are separated into 6 themes - Climate Change Leadership and Planning, Energy efficiency and Renewable energy, Transport, Waste, Trees and Vegetation and Working with our Community. This Plan prescribes actions for delivery for the next two years and includes actions to establish partnerships with government, business, industry and community groups, undertake required research and pilot projects within our community, and to roll out some key projects to reduce Council's emissions.



Who is responsible for implementing the actions in the Plan?

This Plan is a Council focused action plan to reduce greenhouse gas generation in line with the emission reduction target of net zero emissions by 2030 for Council operations. We will lead by example and implement actions to reduce our environmental impact and emissions from Council operations.

No actions have allocated to other organisations or groups but there are many actions involving creating partnerships, collaboration and engagement with all sectors. Council will also fill a stewardship and advocacy role to assist the community, business and industry to reduce their emissions to move towards the net zero emissions by 2050 for the City of Wollongong.

Why is it only two-year Plan?

It is an initial two-year Plan (2020-2022) to focus on important actions and projects happening right now, and the development of important collaborations, partnerships, research and strategies that will be required for us all to move towards net zero emissions. We know this is a short timeframe, but the Plan aims to set the scene for how Council intends to move forward with meeting the emissions reduction targets and supporting the city to meet its targets.

It is the first of many plans to strive to meet the targets, with each new plan being informed by regular re-inventories of Council and City of Wollongong emissions. The next inventory of emissions is set to be conducted in 2022. A new Climate Change Mitigation Plan for 2022-2026 will then be developed based on these new inventories, progress from this current plan, success stories, and research. As new technology evolves, we will be seeking opportunities to use it to assist in achieving our target.



What impact will implementation of this Plan have on our emissions?

Where adequate information was available, actions aimed at directly reducing emissions from Council's operations were subject to a calculation of the expected emissions reduction. From these actions alone, it is expected that the annual emissions of Council operations will be reduced by 25% in the next two years, many attributed to management of waste.

The Plan also includes a vast array of enabling actions, which will indirectly contribute to Council's and the City of Wollongong emissions reduction targets through supporting strategies, education, monitoring and reporting. While the impact of these actions is not currently able to be quantified, future plans will further investigate expected emissions reductions as monitoring tools and data become more readily available.

What engagement have we done to date?

Community engagement on climate change mitigation was undertaken through the engagement activities for the draft Sustainable Wollongong 2030: A Climate Healthy City Strategy and for the emissions reduction targets. The community told us their priorities are renewable energy used in Council operations, businesses and the community, sustainable transport options, less waste to landfill including FOGO, landfill gas capture, more trees planted and for Council to demonstrate leadership in relation to climate change. We have used this feedback and priorities to develop the 6 themes and actions for this Plan. A refining workshop was also held to further review community ideas and strategies to shape the draft Plan. We now want to hear your thoughts and check that we got it right.

What happens after the public exhibition period ends?

All feedback received will be used to make amendments to the draft Plan, which will then be submitted to Council for endorsement later in the year.

What about climate adaptation?

This Plan focuses on climate change mitigation only i.e. reducing greenhouse gas emissions. A separate 'Adaptation' plan will be prepared to address adapting to any unavoidable impacts of climate change as they occur.

Appendix B: Online Feedback Form

☒ 1. Do you support the implementation of the draft Climate Change Mitigation Plan?

☐ 2. Please tell us why?

☒ 3. **Climate Change Leadership and Planning**

This theme relates to: *Council will demonstrate leadership and improve planning processes to encourage reduction of greenhouse gas emissions*

Do you support this theme?

☐ 4. Please tell us why?

☒ 5. **Energy and Efficiency**

This theme relates to: *Council will reduce greenhouse gas emissions by using renewable energy and improving energy efficiency of its buildings, facilities and streetlights*

Do you support this theme?

☐ 6. Please tell us why?

☒ 7. **Transport**

This theme relates to: *Council will reduce greenhouse gas emissions from its fleet and support the community to reduce emissions through their transport choices*

Do you support this theme?

☐ 8. Please tell us why?

☒ 9. **Waste**

This theme relates to: *Council will reduce greenhouse gas emissions from waste in landfill through waste avoidance, minimisation, diversion and gas capture*

☐ 10. Please tell us why?

☒ 11. **Trees and vegetation**

This theme relates to: *Council will protect and enhance vegetation to cool our city and increase absorption of greenhouse gases*

Do you support this theme?

☐ 12. Please tell us why?

☒ 13. **Working with our community**


This theme relates to: *Council will support the community of Wollongong to reduce emissions . Do you support this theme?*

Do you support this theme?

☐ 14. Please tell us why?


☐ 15. Do you have any other comments on the draft Action Plan that are relevant to the two year time frame?

Appendix C: Social Media


City of Wollongong

26 June · 🌐

From beautiful beaches to a striking escarpment, Wollongong has a lot to love and look after when it comes to sustainability and climate change. The draft Climate Change Mitigation Plan 2020 and draft Sustainable Wollongong 2030: A Climate Healthy City Strategy will be both up for discussion at Monday night's Council Meeting. To read up on what the Council will be considering, head to our business papers at <https://www.wollongong.nsw.gov.au/.../c.../councilbusinesspapers>






3,636

173

Boost Post

People reached

Engagements





Tim Buckley, John Mit and 36 others


5 Comments 1 share

Like

Comment


Share




City of Wollongong

2 July · 🌐

We've got a community that has proven that they are passionate about sustainability and climate change and we want your comments on our draft Climate Change Mitigation Plan 2020 and draft Sustainable Wollongong 2030: A Climate Healthy City Strategy to help shape the future of our city. Join the conversation on our greener future at <https://our.wollongong.nsw.gov.au/>






6,416

671

Boost Post

People reached

Engagements




168

6 Comments 23 shares



Appendix D: Media Coverage

Media promotions are related to the exhibition of the Sustainable Wollongong 2030: A Climate Healthy City Strategy and the Climate Change Mitigation Plan, through various forums, as outlined in Table 7.

Table 7: Media promotion links

Media Forum	Link
Bang the Table website mention	https://www.bangthetable.com/blog/how-community-is-shaping-wollongong-city-councils-net-zero-future/
National Tribune	https://www.nationaltribune.com.au/fired-up-for-fogo-this-november-wollongong/
Mirage	https://www.miragenews.com/fired-up-for-fogo-this-november-wollongong/
Illawarra Mercury	https://www.illawarramercury.com.au/story/6006925/learn-about-sustainable-living-at-wollongong-forum/
Global Covenant of Mayors Blog	https://www.gcom-oceania.org/news-blog/2020/8/25/community-the-heart-of-wollongongs-sustainability-future
Illawarra Mercury	https://www.illawarramercury.com.au/story/6802624/how-wollongong-will-change-over-next-2yrs-to-tackle-climate-emergency/
ABC news	https://www.abc.net.au/news/2019-12-11/wollongong-steel-city-commits-to-become-carbon-neutral/11785378
CPP website mention	https://citiespowerpartnership.org.au/partners/wollongong-city-council/
The Greens website mention	https://www.illawarragreens.org.au/our_successes
GCoM website mention	https://www.globalcovenantofmayors.org/cities/wollongong/
Why Not Wollongong	https://whynotwollongong.wixsite.com/climateplan/our-story
Wollongong Power	https://www.wollongongpower.org/
Wollongong Council	https://www.wollongong.nsw.gov.au/whats-on/news-and-alerts/news/news/august-2020/solar-panels-to-be-installed-on-council-carpark
Wollongong Council	https://www.wollongong.nsw.gov.au/whats-on/news-and-alerts/news/news/june-2020/boosting-wollongongs-liveability

Appendix E: List of external stakeholders emailed regarding the exhibition

Landcare Illawarra	Corrimal High School
Helensburgh & District Landcare Group	Corrimal Public School
Tullimbah Land Care	Craig Davis College
Stop CSG Illawarra	Cringilla Public School
AYCC	Dapto High School
Wollongong Climate Action Network	Dapto Public School
Illawarra National Parks Association	Edmund Rice College (Boys)
Surfrider Foundation	Elonera Montessori School
Illawarra First members	Fairy Meadow Public School
Peabody Metropolitan Mine	Farmborough Road Public School
Illawarra Coal - South 32	Figtree Heights Public School
Wollongong Coal	Figtree High School
UOW	Figtree Public School
Port Authority of NSW	Five Islands Secondary College
Bluescope	Good Samaritan Catholic Primary School
Illawarra Business Chamber	Gwynneville Public School
i3net	Hayes Park Public School
UDIA	Helensburgh Public School
Property Council	Holy Cross Catholic Parish Primary School
RDA	Holy Spirit College
Renew Wollongong	Illawarra Christian School
Wilderness Society Illawarra	Illawarra Hospital School
Wollongong Climate Action Network (WCAN)	Illawarra Sports High School
Bella and the Break Free Illawarra Climate Coalition	Kanahooka High School
Sustainable Illawarra Julia Barnes	Keira High School
Food Fairness Illawarra	Keiraville Public School
Lee Evans MP	Kemblawarra Public School
Stephen Jones MP	Koonawarra Public School
Ryan Park MP	Lake Heights Public School
Paul Scully MP	Lakelands Public School
Gareth Ward MP	Lindsay Park Public School
Hon Sharon Bird MP	M.E.T. School
Anna Watson MP	Mount Brown Public School
Wollongong City Lord Mayor and councillors	Mount Keira Public School
ALESCO Illawarra	Mount Kembla Public School
Aspect South Coast School	Mount Ousley Public School
Austinmer Public School	Mount St Thomas Public School
Balgownie Public School	Nareena Hills Public School
Bellambi Public School	Otford Public School
Berkeley Public School	Para Meadows School
Berkeley West Public School	Pleasant Heights Public School
Bulli High School	Port Kembla Public School
Bulli Public School	Primbee Public School
Cedars Christian College	Russell Vale Public School
Coledale Public School	Scarborough Public School
Coniston Public School	Smiths Hill High School
Corrimal East Public School	St Brigid's Catholic Parish Primary School
	St Columbkille's Catholic Parish Primary School

St Francis of Assisi Catholic Parish Primary School
St John's Catholic Parish Primary School
St Joseph's Catholic Parish Primary School
St Mary Star of the Sea College
St Mary Star of the Sea College (Girls)
St Michael's Catholic Parish Primary School
St Patrick's Catholic Parish Primary School
St Pius X Catholic Parish Primary School
St Therese Catholic Parish Primary School
Stanwell Park Public School
Tarrawanna Public School
The Illawarra Grammar School
Thirroul Public School
Towradgi Public School
Unanderra Public School

Waniora Public School
Warrawong High School
Warrawong Public School
Windang Public School
Wollongong Flexible Learning Centre
Wollongong High School of the Performing Arts
Wollongong Public School
Wollongong West Public School
Woonona East Public School
Woonona High School
Woonona High School
Woonona Public School
Woonona East Public School
11 individuals that have provided previous
submissions or correspondence

Email

Good afternoon

I am writing to let you know that Council has two documents on public exhibition that may be of interest to you.

- [Draft Climate Mitigation Action Plan](#)

We've developed a Draft Climate Change Mitigation Plan 2020-2022 in a commitment to reduce emissions from Council operations and for the City of Wollongong to move towards becoming a low emissions City. [Let us know whether you support the Plan](#) and six themes for action by **12 August 2020**.

- [Draft Sustainable Wollongong: A Climate Healthy City Strategy](#)

With ideas from the community, we've developed a strategy to focus our environmental sustainability priorities and provide direction for Council's operations. We'd like to find out whether you support the vision and priority areas. [Read the draft Strategy](#), then complete the survey by **12 August 2020**.

We look forward to receiving any feedback you may have.