



Wollongong City Council

Climate Change Planning Summary

March 2022





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Climate change in our community

We are committed to doing as much as we can at a local level to move away from polluting energy forms and to address the threat of climate change for the Wollongong community.

To focus what we are doing, and how we will do it Council, has developed a Climate Change Mitigation Plan and a Climate Change Adaptation Plan.

The Mitigation Plan explains how we aim to reduce Council's emissions of carbon dioxide to zero by 2030, and what we will do to support the broader community reach this goal by 2050.

The Adaptation Plan looks at what we can do to prepare for likely changes to our climate due to the carbon dioxide already in the atmosphere.

What is climate change?

Climate change is the name given to changes in temperature and weather patterns over long periods of time.

Earth has a long history and in the past changes to the temperature or weather have been due to variations in earth's orbit around the sun, growth of new forms of life, or volcanic eruptions. The changes to the climate we are seeing now are predominately because of humans releasing carbon dioxide into the atmosphere through burning coal, oil and gas.

Changes to climate can only be detected by looking at lots of measurements of weather over a long period of time. This allows for changes in patterns outside of the weather's natural variability to be detected.

We know small climate changes such as average temperatures can lead to big changes in extreme weather events. These events might be floods, heat waves and storms. The changes we are seeing to our climate right now are putting the plants and animals that support life on earth under increasing stress. Global systems of food production are also threatened by the current rate of climate change.

Why is climate change happening?

Our current way of creating energy is largely from burning coal, oil and gas. These actions lead to carbon dioxide gas getting into the atmosphere and trapping heat from escaping - just like a warm blanket does in winter. This is called the greenhouse effect and it is changing our planet.

Methane gas, which is released from the breakdown of plant and animal waste also contributes to the problem. As does the release of gas normally stored underground, which happens as we extract gas and oil for use as an energy source.

The path to net-zero emissions

Council has two main pathways to net-zero carbon dioxide emissions. Our first focus is on our own operations and to get to net-zero by 2030. Our second is to work with our community so we can all achieve net-zero emissions by 2050.

To reduce our own emissions, we looked at what part of our operations put out the most carbon dioxide. The biggest by far (with 85 percent of emissions) comes from the rotting material at our landfill site, known as Whyte's Gully. Whyte's Gully is where all household waste from the weekly collections is taken. The next two highest sources of carbon dioxide emissions are from electricity for street lighting and for our buildings and facilities (6 per cent each). Our last 3 per cent comes from fuel and gas for cars and buildings.

To reduce the emissions from landfill, we introduced Food Organics Garden Organics (or FOGO) collections across the city to divert organic matter from Whyte's Gully to a composting facility.

We have also been developing a system to divert gas and use it to generate energy. This is not a project that can be finished quickly but it will ultimately reduce the amount of greenhouse gasses we are emitting and be a valuable, sustainable energy source.

To help reduce our pollution from use of electricity generated from burning coal and gas, we have entered a Power Purchasing Agreement to supply our operations with electricity generated from renewable energy such as solar, wind and hydro power. We have upgraded our streetlights to LED so they don't use as much electricity, and we support electric vehicle charging stations to be installed across the city.

By increasing the amount of plants, vegetation and canopy trees on public land through our Urban Greening initiative program we are helping decrease the amount of greenhouse gasses in the air and reduce climate change.

As we improve our own operations, we will share what we are learning with other community members, groups and businesses to support their transition towards net-zero emissions.



Why is Council focussed on climate change?

Climate change is going to affect every aspect of the way we live in Wollongong. We need to start acting now to transition to the new energy future and to adapt to changes that are expected this century.

Even with rapid reductions to carbon dioxide emissions from a transition to solar, wind and water power, there are likely to be some difficult times ahead from the gasses that are already in our atmosphere and the climate changes that are already locked in.



Image: Coastal protection measures

What is climate change adaptation?

Climate change adaptation is asking what we can do to minimise the harm to people and assets, and to prepare for a future where the weather is more extreme.

We are expecting more powerful storms, higher ocean water levels, more devastating bushfires and longer droughts. At a local level we want to prepare for these challenges as best as we can.

The Climate Change Adaptation Plan looks at each of the key climate hazards specific to Wollongong and what actions we can take to address them. Some of these adaptations will not need to happen for many years as some climate change impacts will occur relatively slowly, but we need to plan and be ready to act as conditions change.

Importantly, adaptation doesn't stop us working as hard as we can to stop making the problem worse. This is why we have set emission reduction targets and are developing and delivering on a series of Climate Change Mitigation Plans to guide us and the community in achieving these targets.

How have we prepared the Climate Change Adaptation Plan?

The Climate Change Adaptation Plan was written by researching at what scientific predictions have been made for our future climate.

Our next step was to talk with experts and council staff about how these changes might affect our community as well as, Council services and our assets. We needed to assess about what our future climate might mean for how we currently use our land and where our buildings, roads and other assets are.

With this research and technical assessments we could develop a plan as to ways we can reduce the worst effects, and what we can do to respond to these forecast changes.



Heat
Drought
Bushfire

Storms
Flooding
Sea-level rise



What are some of the key issues we are thinking about?

The Climate Change Adaptation Plan breaks down climate risk into 6 different hazards: heat, flooding, bushfire, storms, drought and sea-level rise.

HEAT: Will Wollongong get hotter?

Wollongong is expected to get hotter over the next 80 years. This will lead to more 'very hot' days and longer heat waves where it stays hot for several days at a time. We're lucky to have the ocean near us, but this doesn't always protect us from the stress of heat on our community. We particularly want to make sure that the vulnerable members of our community such as the very young and older residents can stay safe during heat wave conditions. The 'very hot' days are those that pose the greatest risk to our community, extreme heat is one of the biggest, yet least recognised, killers of vulnerable people.

Council response

Council is working better to understand the impact of heat on our community and develop approaches to reduce these impacts. We are also going to continue to consider heat in the types of materials we use in building roads and how we design community facilities.

FLOODING: Will Wollongong experience changes to flooding?

Rainfall is expected to be less in winter, but there is likely to be bigger downpour events in summer.

Council response

We are used to dealing with heavy rain and potential flooding events and we are in a strong position to deal with future flooding impacts. Our adaptation actions focus on continuing to make sure stormwater networks are maintained to handle storms and we are equipped to respond to flood emergencies.

We also need to help our community to understand and prepare for flooding events.



Image: Recent bushfires to the south of Wollongong in 2019 were devastating for local communities and ecosystems.

BUSHFIRE: What changes to bushfire risk do we expect?

The risk of major bushfire events, like we saw in the Christmas New-year period of 2019/2020, is likely to increase with hotter summers and drier winters. Wollongong has a lot of vegetation that could be subject to bushfire, so we need to plan carefully to manage this risk.

Council response

Our Adaptation Plan suggests that Council continues to update its safety and risk management approaches and work closely with other government agencies as we experience worsening bushfire conditions. It also calls on Council to begin working with First Nations traditional owners on managing bushland using traditional knowledge and practices.

STORMS: Will we have more storms?

With climate change, the storms we get may be more intense and happen more often. Because we're on the coast, our storms can also see large waves and higher tides which lead to coastal erosion and flooding. This means that buildings and assets like footpaths or roads that have been okay during storms in the past may be damaged by future storms.

Council response

To plan how we will manage this in the future we are developing and implementing an Open Coast Coastal Management Program over the next few years. This Program will guide where we build new infrastructure such as surf clubs, roads and bridges, and how we will manage infrastructure we currently have.

We will also continue to respond to emergencies and support the community to recover from storms.



DROUGHT: Will we have more droughts?

It's expected Wollongong will have less winter rainfall and more drought conditions in the future. We will likely see restrictions on the use of drinking water and increased stress on our playing fields and public spaces such as parks and natural areas from dry conditions.

Council response

To help protect against drought, Council will review how we use water, where we can make improvements and whether we can collect and store water for use in droughts.

SEA-LEVEL RISE: What changes in sea level rise can we expect?

As the earth warms, ice melts and flows into the sea which means the total amount of water in the ocean is increasing. This means the average height of the ocean is increasing each year.

A small change in the sea level can lead to big impacts on Wollongong's coastline. We will expect to see more intense storms and any increase to sea level can lead to more damage to the coastline such as beaches erosion and damage to coastal infrastructure such as cycleways, carparks, roads, stormwater networks and surf clubs.

Council response

We are researching and writing an Open Coast Coastal Management Program to guide how we respond to this risk. We will continue to consider work health and safety measures and ongoing improvements to our approach.

What can you do to help?

Adapting to climate change is a challenge for all of us and we all need to work together. It's a two-way conversation and we're keen to listen to ideas, areas you'd like us to focus on and ways we can do better.

Contact Council on 02 4227 7111 or email us at council@wollongong.nsw.gov.au to get in touch about our approach to climate change.

