

## **Climate Position Statement**

Bathurst Regional Council (BRC) accepts the overwhelming scientific evidence presented by the International Panel on Climate Change and acknowledges:

- the global climate is changing because of increased concentrations of greenhouse gases in the atmosphere, and that these increased concentrations are largely the result of human activity.
- the extreme risks climate change presents to the economic, ecological, and social futures of our region. BRC accepts the scientific consensus that responding to climate change requires 'rapid, far reaching and unprecedented changes to all aspects of society'.
- that some human-induced climate change is already having an impact on human and natural systems and that further climate change will occur because of past, present and future emissions. It is therefore necessary that BRC assesses and adapts to these changes.
- that delayed action on climate change mitigation and adaptation will increase costs and potential liabilities to Council in a range of areas, in particular planning and infrastructure management and risk management.
- that Australia has the capacity to contribute to global climate change mitigation, by reducing emissions now, in a way that creates positive opportunities for communities, industries and economic sustainability.

In response BRC will:

1. Take actions to mitigate how much our climate will change in the future by reducing emissions from its own operations. Council will align itself with the NSW Government's target for Net Zero Emissions by 2050 and set interim emissions reduction targets to help plan a rapid transition to a low emissions future;
2. Plan and act to effectively adapt to climate change which is already occurring; to protect employee health and safety and support public safety; and
3. Act to limit pressure on natural systems affected by climate change.

Specifically, Council will:

- Develop and adopt an Emissions Reduction Plan for Council activities.
- Use a risk assessment approach to develop a Climate Change Adaptation Plan.
- Incorporate climate change implications into urban development, land-use planning and infrastructure development.
- Incorporate climate change considerations into waste management, energy use and transport infrastructure.
- Collaborate with others to increase the effectiveness of climate action.
- Support the community to transition to a low emissions future by leading by example and by creating a policy framework that supports the community to transition.

## **Background and Council Strategic Alignment**

In June 2020 Council endorsed a Bathurst Regional Council Climate Change Response Framework which included the development of a Climate Change Position Statement. The Framework recognises that local government has a significant role to play in the reduction of greenhouse gases to mitigate further climate change, and in adapting to the impacts of climate change.

Our Region Our Future - Bathurst Community Strategic Plan 2022 (CSP) describes how the Bathurst community values and wants to strengthen environmental stewardship. The CSP acknowledges that climate change poses serious risks to ecological, economic, and social systems, including to future water security and community safety. The CSP affirms that Council will respond to the challenges of climate change by implementing the actions outlined in its Climate Change Response Framework, including the adoption of a Climate Change Position Statement.

The Bathurst Local Strategic Planning Statement (2040) (LSPS) highlights the need for Council to plan for a changing climate and to strive to improve the community's resilience to extreme weather events. It says that Council will invest in increased water security as a response to predicted climate impact on water availability and ensure that future land use and planning decisions reduce regional climate change vulnerabilities.

## **International Context**

### **Paris Agreement**

In 2015, at the twenty first Convention of Parties (COP21) 195 countries (including Australia) agreed on the United Nations Paris Agreement on climate change. The key objective is to limit the increase in global temperatures to well below 2 degrees and pursue efforts to limit the rise to 1.5 degrees. The commitment was to achieve net-zero emissions globally by 2050.

Under the Paris Agreement, Australia committed to reduce emissions by 26 to 28% below 2005 levels by 2030. In 2021 Australia expanded this commitment to achieve net zero emissions by 2050.

### **IPCC**

The Intergovernmental Panel on Climate Change (IPCC) is the leading world body for assessing the science related to climate change, its impacts and potential future risks, and possible response options. The IPCC most recent report is the Sixth Assessment Report - released as three working group reports in 2021 and early 2022. A summary of the predicted impacts of this report is found in the Global Impacts section below.

### **2030 Agenda for Sustainable Development**

In 2015 all United Nations (UN) Member States including Australia, adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDG's). The link between sustainable development and limiting global warming to the 1.5°C goal by 2050 is recognised by goal 13 for climate action (SDG 13) – 'Take urgent action to combat climate change and its impacts'.

## **National and State Context**

Council's activities and operations are guided and directed by State and Federal Government policy. As mentioned above Australia has now committed to net zero emissions by 2050. This occurred in 2021 in the lead up to the United Nations Convention of Parties (COP26) in Glasgow, however this target is not yet legislated.

The recently elected Federal Labour Government has a policy to reduce emissions by 43% of 2005 levels by 2030.

The NSW Government adopted a Climate Change Policy Framework in 2016 which contained an aspirational target to achieve net zero emissions by 2050 and an objective to be more resilient to the impacts of climate change.

In 2021 NSW announced an interim target of 50% emissions reduction by 2030 compared to 2005 levels and released its Net Zero Plan Stage 1: 2020-2030. The Net Zero Plan is the roadmap by which NSW aims to reach its 2030 target. The plan supports a range of initiatives targeting energy, electric vehicles, hydrogen, primary industries, technology, built environment, carbon financing and organic waste.

NSW Department of Planning and Environment is actively engaging with Council's in the Central West region to assist them to reduce operational emissions in support of the State's targets.

### **Community opinion**

A majority of the community is seeking more action on Climate Change. The Lowy Institute Climate Poll 2021 (Kassam, 2021) found:

- 60% of Australian's say 'global warming is a serious and pressing problem. We should begin taking steps now, even if this involves significant costs'
- Eight in ten Australians (78%) support 'setting a net-zero emissions target for 2050'
- 74% say 'the benefits of taking further action on climate change will outweigh the costs'
- 91% say they would support the federal government 'providing subsidies for the development of renewable energy technology' — a finding which aligns with previous Lowy Institute polls showing strong support for renewable energy.

Similar concern for Climate Action was shown in the 2021 Climate of the Nation report with 82% of Australians concerned climate change will result in more bushfires, more droughts and flooding, and animal and plant extinctions (Quicke, 2021).

### **Impacts and Vulnerabilities Document**

#### **Climate Change Impacts – Global and Local**

Climate change is a global problem with impacts being felt across the world. Impacts vary depending on location and ecosystem vulnerability.

#### **Global Impacts**

In August 2021, the Intergovernmental Panel on Climate Change (IPCC) released its sixth report, the first since 2013. The report is the work of 234 climate scientists from more than 60 countries, reviewing and evaluating more than 14,000 scientific papers. The key outtakes of the report (IPCC, 2021) are:

- The global climate has warmed 1.1° C on average since the pre-industrial era. The IPCC finds that less than 0.1° C is due to natural forcings, such as volcanos or variations in the sun, with the majority of warming unequivocally attributed to human activity.
- The world is on track to reach 1.5° C warming by 2040.
- The changes occurring are unprecedented in recent history and are affecting every region of the globe and all aspects of the climate system. For 1.5°C of global warming, there will be

increasing heat waves, longer warm seasons and shorter cold seasons. At 2°C of global warming, heat extremes would more often reach critical tolerance thresholds for agriculture and health.

- Climate change is intensifying the water cycle. This brings more intense rainfall and associated flooding, as well as more intense drought in many regions.
- Limiting global warming to 1.5° C by the end of the century is still within reach but requires transformational change. Unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions, limiting warming to close to 1.5°C or even 2°C will be beyond reach.
- Every fraction of a degree of warming leads to more dangerous and costly impacts.

The full report can be found at <https://www.ipcc.ch/assessment-report/ar6/>.

### **Local impacts and vulnerabilities**

Although climate change is a global phenomenon, its manifestations and consequences are different in different regions of the world. Impacts vary depending on location, regional climate systems and ecosystem vulnerability.

The IPCC as part of its sixth report has produced a regional fact sheet for Australasia which can be found at

[https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC\\_AR6\\_WGI\\_Regional\\_Fact\\_Sheet\\_Australasia.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Australasia.pdf)

It finds that in Australia:

- Heat extremes have increased, cold extremes have decreased, and these trends are projected to continue.
- Frequency of extreme fire weather days has increased, and the fire season has become longer since 1950 at many locations. The intensity, frequency and duration of fire weather events are projected to increase throughout Australia.
- Heavy rainfall and river floods are projected to increase
- An increase in marine heatwaves and ocean acidity is observed and projected
- Changes in several climatic impact-drivers (e.g., heatwaves, droughts, floods) would be more widespread at 2°C compared to 1.5°C global warming and even more widespread and/or pronounced for higher warming levels.

Here in the Central West, we are experiencing the impacts of climate change already with rising temperatures and changes to rainfall patterns and we will see further change. How much depends on what we, and the rest of the world, do to limit future greenhouse gas emissions.

Based on long-term (1910–2011) observations, temperatures have been increasing in the Central West and Orana since about 1970, with higher temperatures experienced in recent decades. The region is projected to continue to warm during the near future (2020–2039) and far future (2060–2079), compared to recent years (1990–2009). Maximum and minimum temperatures are projected to increase by 0.7°C in the near future and by 2.1°C in the far future. Spring and summer will experience the greatest changes in maximum temperatures, with temperatures increasing by 2.5°C by 2070. The number of hot days (>35°C) is expected to increase by 5-10 days per year by 2070. These increases are projected mainly in spring and summer although in the far future hot days will extend into autumn, resulting in lengthening of summers. The number of cold nights will decrease and result in fewer frosts. Rainfall is projected to decrease in spring and to increase in autumn.

Average and severe fire weather is projected to increase in summer, spring and winter. (Office of Environment and Heritage, 2014). The combination of these impacts is predicted to result in lower soil moisture, increased drought and increased fire weather.

Some of the ways climate change is being expressed in Australia and more locally in Bathurst are discussed below.

### Temperature

In Australia, the average temperature rise which has occurred already is approximately 1.4°C. Since 1950, every decade has been warmer than the decade before. Both day and night-time temperatures have increased. In 2019, Australia had both the driest and the hottest year on record (Australian Museum, 2022): the annual national mean temperature was 1.52 °C above average (Australian Government Bureau of Meteorology, 2020).

In January 2019, Bathurst experienced average daily maximum temperature 5.8°C above average (Australian Government Bureau of Meteorology, 2022). Daily temperature records were set on 21 December 2019 and 4 January 2020 with temperatures of 40.3°C and 41.0°C respectively (Bureau of Meteorology, 2020).

### Fire

From late 2019 to early 2020, fires burnt across many parts of Australia with an intensity, extent and duration not previously experienced. The fires were devastating to people, animals, birds, insects, habitats, homes, sacred sites and infrastructure. Permanently 'wet' forests that usually suppress fires burnt for the first time.

The Gospers Mountain bushfire which raged for weeks was less than 100km from Bathurst. It devastated unique ecosystems including Newnes Upland Swamps (Fryirs Kirstie A., 2021) and killed innumerable wildlife. From an economic point of view, it caused loss of property on a vast scale, loss of forestry timber resources and had smoke impacts on the grape growing industries of the Central West (Gregory, 2021).

### Drought

While there has always been drought in Australia, as climate change progresses and if temperatures in Australia rise as predicted, drought conditions are expected to worsen in Australia.

The years 2017 to 2019 were much drier than average in Bathurst (Bureau of Meteorology, 2020). Over these three years Bathurst experienced a rainfall deficit of almost 500mm compared to average. Combined with annual mean maximum temperatures for the three years which were more than 2°C higher than the long-term average, Bathurst experienced its most significant drought for decades and the introduction of extreme water restrictions for the city. Very high and extreme water restrictions lasted for more than two years.

### Intense Rainfall events

The timing of when rain falls, and its intensity is changing. This has been very evident in recent months, especially in Queensland and Northern NSW – so much so that a new term has entered the Aussie vernacular – 'Rain Bomb'. This term has been used to describe the unprecedented recent flooding in these regions, where torrential rain from 'atmospheric rivers' fell on already saturated catchments (Readfearn, 2022).

The Bureau of Meteorology, while not directly attributing these recent events to climate change, have stated that there is an observed increase in the intensity of rainfall events of around 10% or more in some regions in recent decades, with larger increases typically observed in the north of the country. A warmer climate can hold more water vapour than a cooler atmosphere, and this alone can increase water in the atmosphere by 7% per degree of warming. Increase atmospheric moisture also adds more energy to other climate processes which generate extreme rainfall events (Bureau of Meteorology, 2022).

Bathurst received record rainfall in November 2021, recording 241.6mm of rain and breaking the 113-year-old November record of 195.7mm (Bureau of Meteorology, 2022)

The proximity of the central business district and adjoining urban areas to the Macquarie River means that the implications of climate change for future flood predictions is a critical consideration for Council. While much of the urban flood prone land is now protected by levee banks, as has been seen in Lismore and other places, levee banks are not a guarantee against flood impacts. As part of its response Council is planning to update its flood model using the fourth edition of Australian Rainfall and Runoff which was released in 2019. This is a national guideline document, data and software suite that can be used for the estimation of design flood characteristics in Australia. The latest edition incorporates updated understanding of climate change and associated risks, including design rainfall, intensity-frequency-duration.

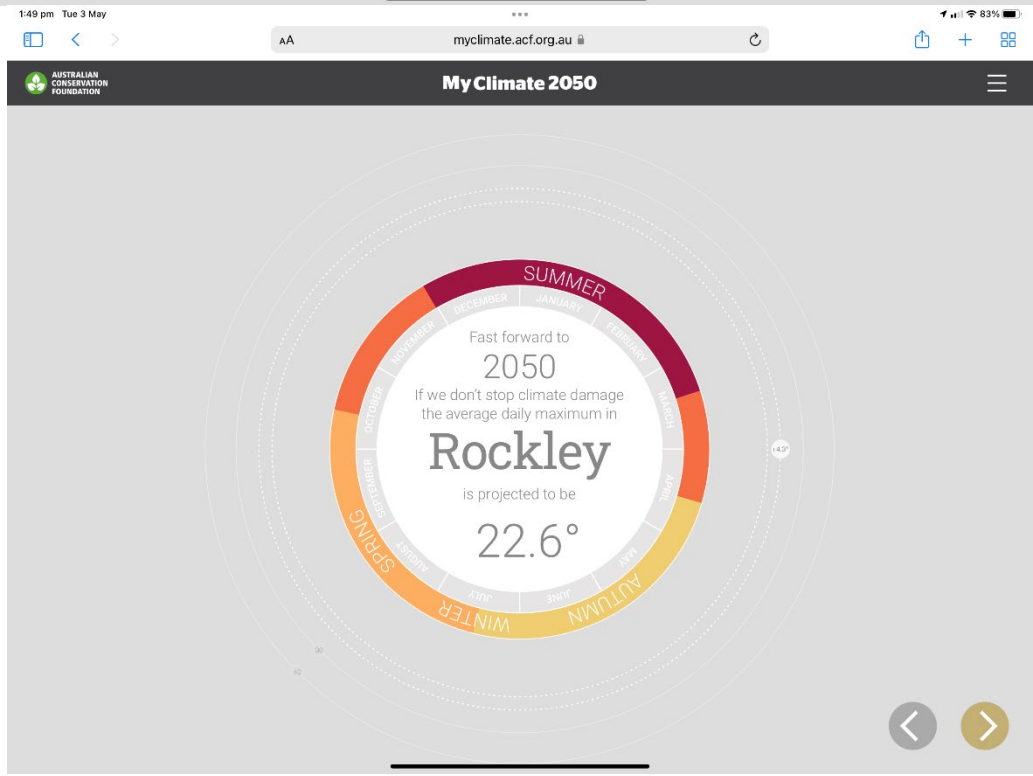
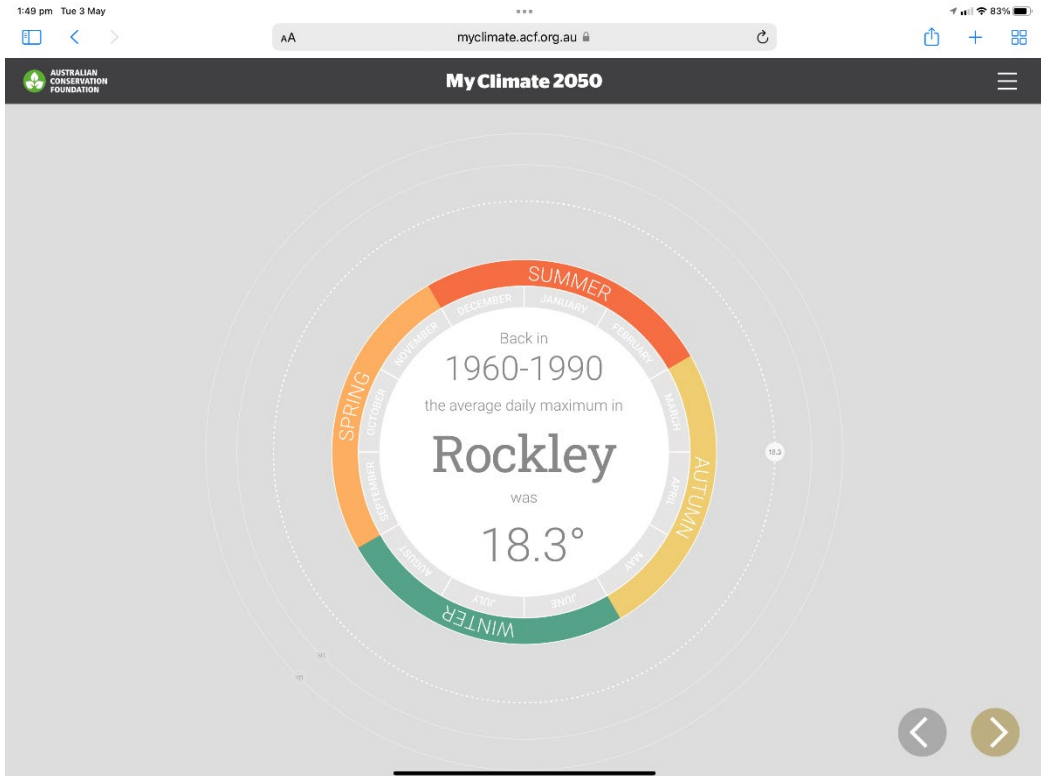
### **Tools to investigate predicted climate change impacts for towns and regions**

Adapt NSW has produced an interactive tool to allow members of the community to investigate predicted climate change impacts for their region.

Further detail on climate projections for the Central West and Orana region can be found at the Adapt NSW website at <https://www.climatechange.environment.nsw.gov.au/projections-map>

The Australian Conservation Foundation, working with the Australian National University has also produced an interactive tool for exploring predictions for specific localities in Australia. It can be found at <https://myclimate.acf.org.au>

As an example, temperature predictions for Rockley are provided below:



Links to these tools will be provided on Council's website.

**Recommendation**

It is recommended that Council adopt the Climate Change Position Statement as outlined at the start of this report. It is also recommended that the background and context information provided in this report be included as an appendix to the Climate Change Position Statement so that updated supporting data from the IPCC and other scientific organisations can be incorporated as required.

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