

ENVIRONMENT



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DISCUSSION STARTERS

ACKNOWLEDGEMENT

Traditional Owners

We acknowledge the Traditional Owners of the land and pay our respects to their Elders, past, present and emerging, and the Elders from other communities who may reside in the Moyne Shire.

INTRODUCTION

The Moyne environment is one of our most important and valued assets, supporting our way of life in many ways. Participants noted that protecting and supporting the long-term health of the environment will be important, as our community's health, wellbeing and prosperity is very much tied to our environment.

The shire's economy is heavily based on our environment, through the many agricultural and energy opportunities that abound, as well as the flow-on economic effects of tourism and visitors who are attracted to the area's stunning beaches, wetlands, natural bushland and pastoral and volcanic landscapes.

Looking to the future, a focus on sustainable living, and adaptation and mitigation approaches to climate change, were recognised as important for our community. This included increasing climate change awareness and building our collective capacity to adapt and respond to the challenges of a warming environment.

The ENVIRONMENT pillar includes the following themes and elements:

- Natural environment, trees and animals.
- Climate change and bushfires.
- > Waste, recycling, and sustainable living.
- > Farming/agriculture.







WHAT DOES OUR ENVIRONMENT AND RESPONSES LOOK LIKE TODAY?

Our environmental practices

59% household waste diverted from landfill*

232kg recyclables collected per household*



homes with solar installations*

Open space priorities



new / upgraded cycle and walking paths

41% N

improved pedestrian / cyclist connections between open spaces

34%

ф.

21

provision of places / facilities for young people

33% improved picknicking facilities

30% improved bushland maintenance management and conservation

Barriers to enjoying our open space





open spaces are poorly maintained

15%

there is a lack of links between open space

16% ΔΟ there is a lack of variety

> 2% there is a lack of public transport



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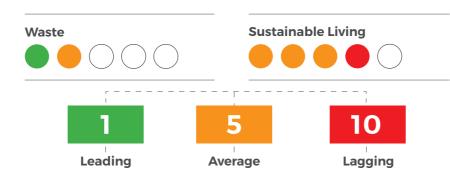
MOYNE IN COMPARISON

What does Moyne Shire look like compared to similar communities?

- > The proportion of waste that is diverted from landfill in Moyne is higher than similar areas.
- > Rates of cycling and walking for transport are higher in Moyne than in similar areas.
- > The kilogram weight of household waste in Moyne that gets recycled is about average compared to similar communities.
- > Use of public transport in Moyne is significantly lower than in similar areas.
- > Very few houses in Moyne have solar, with much lower rates of installations than similar areas.

The following presents a snapshot of how the people of Moyne compare to other similar communities.

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Diversion Rate: proportion of waste which is diverted from landfill (to other sources).



More details on these indicators and how Moyne is trending over time are provided in the separate *Community Profile* report.

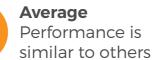
Where is Moyne Shire leading, average and lagging?



Leading (Decile 1/2) compared to other large rural shires

Active Transport: rates of walking / cycling to work is higher.





Recycling: kgs per household



Lagging (Decile 9/10) compared to other large rural shires

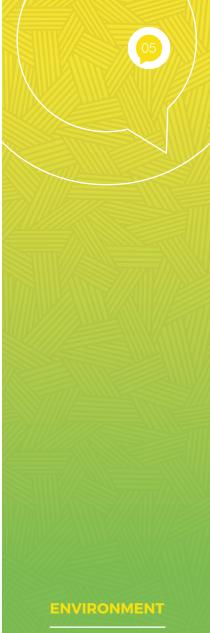
Use of Public Transport: proportion of residents who use public transport is low.

Solar Installations: small residential solar projects.











TAKING IT TO THE STREETS

What our community had to say

The following provides a a snapshot of some of the key feedback about the environment that we heard during the community engagement program. The full My Moyne, My Future **Community Engagement Summary** report provides further detail and community commentary.

We went out into the Moyne Shire community and asked people the following questions:

- Thinking about the year 2040, what would you like Moyne to look, feel and be like?'
- > 'What do we need to start now, or change, to achieve the kind of community we want in the future?'
- > 'What do you value about the Moyne area and community?'
- > 'What is your biggest concern for Moyne's future?'

The top three environment priorities that arose were:

- > Natural Environment
- > Sustainable Living
- > Climate Change

The things about our community that participants said they most valued under this pillar were:

- > The country lifestyle, including the farming landscape and their access to an abundance of open space
- > The clean beaches combined with the hinterland, wilderness and forests
- > Indigenous cultural heritage areas within Moyne Shire



What did our community say was a priority for 2040?

When we asked the community of Moyne Shire what their priorities were, 20.1% of responses mentioned environment, making it the second highest priority pillar across the engagement responses.

20.1%

Priorities to achieve this future vision were:

- Caring for and appreciating our natural features and assets such as our bushland areas, coastal areas and nature trails including rail trails.
- Better long-term planning around environmental issues to prioritise the continuing whale and bird migrations and other priorities surrounding Moyne's unique and precious environmental features.
- Increasing tree-planting in streetscapes in Moyne to increase environmental value, shade canopy and habitat.
- > Indigenous recognition of land and culture.
- Some of the key gaps in achieving the vision were identified:
- > Fishing restrictions required in South Beach Reserve to recognise its importance as a fish nursery.
- Consideration of 40kph limits along the coastal areas to protect native fauna from traffic.
- > Better planning and management of waste in Moyne.
- Increased preservation of foreshore areas throughout Moyne.

Participants said we need to start:

- > Saving energy, converting housing from gas to electric and installing solar panels throughout Moyne Shire.
- Placing a larger focus on recycling and exploring options of using rubbish as power generation.
- Retaining our marine biodiversity, maintaining beaches and working on erosion of our beaches.
- > Plan for climate change and use our natural resources wisely.
- Stop cutting down trees and increase tree planting throughout the shire.
- Promoting the natural assets of the shire to bring tourists and increase the budget to prevent their degradation of our natural assets.
- Create volunteer groups to address environmental concerns across the Shire.

For some participants, their vision for a future Moyne Shire that reflected a healthy environment included a clean and sustainable environment that was free from pollution. Some participants wanted a future Moyne with more trees and open space to enjoy and appreciate nature.

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TAKING IT TO THE STREETS

What did our community say was a priority for 2040?

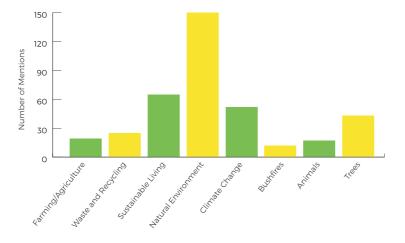
Participant concerns centred around our impact on the environment, with specific worries such as:

- > Storm water going into lagoons and impacting marine life.
- > Damage to our ecosystem from fossil fuels.
- > Impacts of housing development on bird populations.
- Increasing impacts of climate change such as drought and bushfires.
- > Illegal clearing of roadside vegetation.

Approaches to address these concerns included:

- > A greater focus on sustainable living.
- Prioritising ecological issues and renewable energy, and taking a local approach as well as a global one.
- A move away from cutting down established introduced trees and towards planning to gradually replace these with native trees.
- Good long-term regional planning, including green wedges, public transport, and avoiding ad hoc developments.
- Recognition that our natural environment and our tourism are interconnected.
- Retention of treed strips of land amongst housing developments for cooling effects, recreation and wildlife preservation.







Tree planting had the third highest mention under the pillar of Environment for things we need to start now, making up 3.7% of responses from the community engagement.



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REGIONAL PRIORITIES

What about our regional partners and agencies?

We also asked key organisations and services providers for our region what their priorities are for our community. These stakeholders will play an important part in supporting the 2040 Community Vision.

Partner agency environment-based priorities include:

- > Development of renewable energy sources - wind and hydrogen
- > Sustainable growth and business practices
- > Planning for climate change, impacts and adaptation - and taking action
- > Circular waste economy achieving reuse, recycling, and responsible manufacturing
- Sustainable and integrated management of the natural environment, weed reduction and habitat protection
- > Improve cross-regional public transport
- > Partnerships with Traditional Owners



Drawing from a student at Hawkesdale P-12 College



More information on regional priorities and partner agencies are presented in the *Strategic Community Profile Background* report.

The State of the Climate 2020 report released by the Australian Government, Bureau of Meteorology and CSIRO presents the following trends and forecasts for climate and climate impacts in Australia.

WHAT DOES OUR FUTURE CLIMATE LOOK LIKE?

- In the coming decades, Australia will experience ongoing changes to its climate. Australia is projected to experience:
- > Continued warming, with more extremely hot days and fewer extremely cool days.
- > A decrease in cool season rainfall across many regions of the south and east, likely leading to more time spent in drought.
- > A longer fire season for the south and east and an increase in the number of dangerous fire weather days.
- > More intense short-duration heavy rainfall events throughout the country.
- > Fewer tropical cyclones, but a greater proportion projected to be of high intensity, with ongoing large variations from year to year.
- > Fewer east coast lows particularly during the cooler months of the year. For events that do occur, sea level rise will increase the severity of some coastal impacts.
- > More frequent, extensive, intense and longer-lasting marine heatwaves leading to increased risk of more frequent and severe bleaching events for coral reefs, including the Great Barrier and Ningaloo reefs.
- > Continued warming and acidification of its surrounding oceans.

- > Ongoing sea level rise. Recent research on potential ice loss from the Antarctic ice sheet suggests that the upper end of projected global mean sea level rise could be higher than previously assessed (as high as 0.61 to 1.10 m global average by the end of the century for a high emissions pathway, although these changes vary by location).
- > More frequent extreme sea levels. For most of the Australian coast, extreme sea levels that had a probability of occurring once in a hundred years are projected to become an annual event by the end of this century with lower emissions, and by mid-century for higher emissions.

Projections of Australia's average temperature over the next two decades show:

- > Every year is now warmer than the range it would have been in a world without human influence, known as climate change 'emergence'.
- > The year 2019 was Australia's hottest year on record, due to the combination of climate variability and long-term warming. This is expected to be an average year in a world where the global mean temperature is 1.5 °C above the pre-industrial baseline period of 1850-1900.





WHAT DOES OUR FUTURE CLIMATE LOOK LIKE?

Specific climatic and weather events

TEMPERATURE

Australia's climate has warmed on average by 1.44 \pm 0.24 °C since national records began in 1910, leading to an increase in the frequency of extreme heat events.

FIRE WEATHER

> There has been an increase in extreme fire weather, and in the length of the fire season, across large parts of Australia since the 1950s, especially in southern Australia.

RAINFALL AND STREAMFLOW

- There has been a decline of around 16 per cent in April to October rainfall in the southwest of Australia since 1970. Across the same region May to July rainfall has seen the largest decrease, by around 20 per cent since 1970.
- In the southeast of Australia there has been a decline of around 12 per cent in April to October rainfall since the late 1990s.
- > Rainfall has increased across most of northern Australia since the 1970s.
- > Heavy rainfall events are becoming more intense.
- > Three quarters of hydrologic reference stations around Australia show a declining trend in streamflow.

TROPICAL CYCLONES

> There has been a decrease in the number of tropical cyclones observed in the Australian region since 1982.

SNOWFALL

A downward trend in maximum snow depth has been observed for Australian alpine regions since the late 1950s, with large year-to-year variability.

SEA SURFACE TEMPERATURE AND OCEAN HEAT CONTENT

- > Sea surface temperatures have risen around Australia; the ocean surface has warmed by over a degree since 1900.
- The world's oceans are taking up around 90 per cent of the extra energy stored by the planet as a result of enhanced greenhouse gas concentrations. Measuring changes in ocean heat content is therefore an accurate way to monitor global warming.
- > The rate at which the oceans are taking up heat has increased over recent decades

SEA LEVELS

- Global mean sea level has risen by around 25 cm since 1880; half of this rise has occurred since 1970.
- Rates of sea level rise vary across the Australian region, with the largest increases to the north and southeast of the Australian continent.

OCEAN ACIDIFICATION

The acidification of the oceans around Australia continues (pH is decreasing), and the impacts of these changes are detectable in areas such as the Great Barrier Reef.

ICE SHEETS AND SEA ICE (CRYOSPHERE)

> The ice sheets and ice shelves of Antarctica and Greenland are losing ice and contributing to global sea level rise due to a warmer climate.

The extent of sea ice in the Arctic has steadily reduced, while in the Antarctic there has been regional and seasonal variability in sea-ice cover.

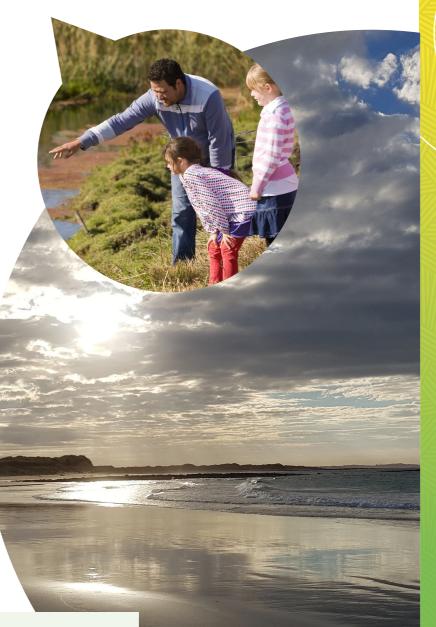
GREENHOUSE GASES

Clobal average concentrations of all the major long-lived greenhouse gases continue to rise in the atmosphere, with the global annual mean carbon dioxide concentration reaching 410 ppm and CO2 equivalent reaching 508 ppm in 2019.

> The rate of CO2 accumulation in the atmosphere has increased with every passing decade since atmospheric measurements began.

Despite the slow-down in global fossil fuel emissions of CO2 from early 2020 associated with the COVID-19 pandemic, there will be negligible impacts in terms of climate change. Atmospheric CO2 continues to rise, and fossil fuel emissions will remain the principal driver of this growth throughout 2020 and likely beyond.

The full version of the State of the Climate 2020 report is available here: http://www.bom.gov.au/state-of-the-climate/documents/State-of-the-Climate-2020.pdf



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DISCUSSION STARTERS

Some topics that arose from our community members and our regional partners include:

- > Making sure we have long-term planning around environmental issues to prioritise the unique and precious environmental features in Moyne. For instance, our whale and bird migrations and other features that are impacted by erosion, climate and development.
- > The main economic driver in Moyne is the environment through tourism and agriculture. How do we make sure we retain it and look after it so these still prosper in 2040?
- > The impacts that climate change, flood and fire are having on our communities and how we manage these impacts in the future.
- > Increased recognition and understanding of First Nations culture and environmental practices.
- > Carbon reduction approaches and actions.
- > Appropriate management and planning of our catchments, floodplain and drainage / stormwater systems and sustainable irrigation.
- > Co-ordination of environmental planning and management across communities, agencies and local government and alignment of priorities.



MOYNE SHIRE

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