The NMC climate program covers:

Theme	Corporate/Community	Description
Leadership	Community (municipal / regional)	As the tier of government closest to, and most trusted by, communities lead and share knowledge/expertise across communities to: • Lead and share knowledge and expertise across communities to build capacity; • Coordinate local actions and avoid duplication of effort in mitigation and adaptation responses; • Develop responsive, community-informed policy; and • Advocate effectively to state and federal governments, the research sector, and peak organisations.
	Organisational Leadership	Provide authorizing environment within council that enables and supports the integration of climate action across the organisation's governance, strategic and operational functions, through top-down and bottom-up engagement and reporting.
Adaptation	Corporate (council) adaptation	Increase the capacity of councils to: • Protect and future proof their assets/services; • Respond to increased and intensified natural hazards: flooding, bushfire, sea level rise, heat and storms; • Reduce exposure to potential liability in decisions making; and • Minimise financial risks which arise from the transition to a low carbon economy and increased natural disasters
	Community (municipal / regional)	Assist and facilitate community resilience building and adaptive capacity by providing information on local climate change risks to enable informed decision making and risk assessment
Emissions and energy reduction (Mitigation)	Corporate (council)	Emissions and energy reduction reducing energy and emissions across council owned assets, buildings, fleet and services; to realise cost savings
	Community (municipal / regional)	Provide and support programs to influence and assist households, business, commercial and community groups to reduce emissions and energy use and realise cost savings

The NMC climate principles:

Governance: Ensure jurisdictional policies and regulations incorporate climate change considerations and are consistent with the Tasmanian and Australian government approaches to adaptation and mitigation,

Advocacy: develop policy and advocate to State and Federal Government, the research sector and peak organisations,

Information: Facilitate resilience building and adaptive capacity in the local community by providing information on local climate change risks and mitigation,

Resources: Contribute appropriate resources to prepare, prevent, respond and recover from detrimental climatic impacts and to reduce greenhouse gas emissions.

Organisational: Manage risks and impacts, and consider opportunities for assets and provided services,

Regional: Work with other local governments in educating communities at the municipal and regional level on climate change as a risk, and options for adaptation and mitigation,

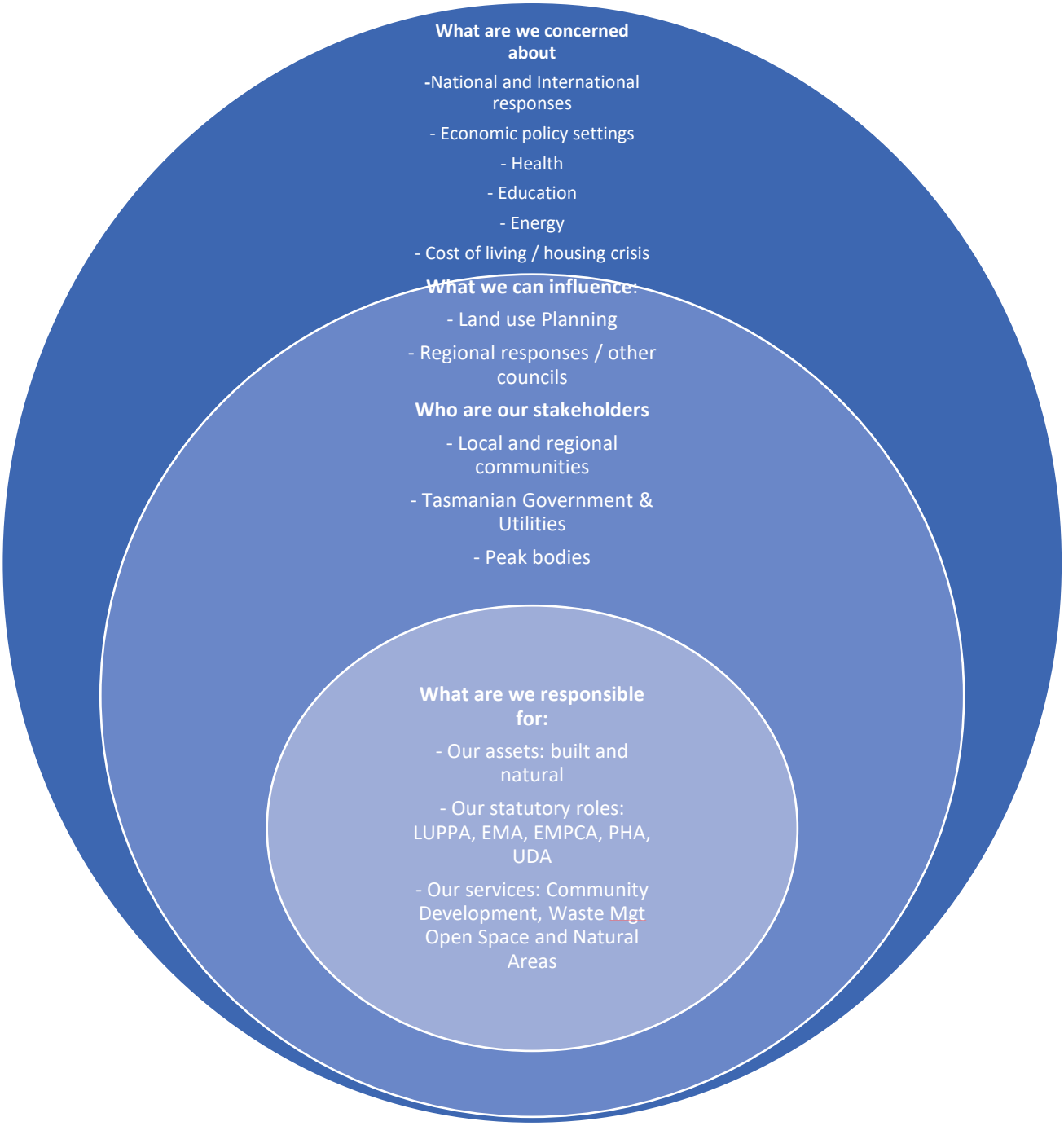
Community: Work in partnership with the community, local non-government organisations, businesses and other key stakeholders to implement adaptation and mitigation initiatives,

Leadership: Provide leadership and collaborate across all governments to act on climate change

What is our obligation to act?

We need to act, but it is critical that we know when, how and who can act

Below shows councils role of what we ae responsible for, what we can influence through our role and what we are concerned about



These roles and responsibilities are summarised here.

Australian Government

- Provide leadership on national adaptation reform.
- Manage Australian Government assets and programs, including embedding climate change impacts into existing risk management frameworks and working with all governments to manage climate risks to nationally significant public assets.

- Provide and manage national science and information that is high quality and includes national and regional climate projections to allow Australia to effectively adapt.
- Maintain a strong, flexible economy and a well-targeted social safety net to ensure resources are available to respond to climate change and climate change does not disproportionately affect vulnerable groups.

State and territory governments

- Deliver adaptation responses in their areas of policy and regulation. This includes service delivery and infrastructure. For example, emergency services, health system, the natural environment, planning and transport.
- Provide local and regional science and information through collaboration with all governments to develop and implement a consistent approach.
- Working with the Australian Government to implement national adaptation priorities and monitoring and evaluation arrangements.
- Encouraging climate resilience and adaptive capacity.

Local governments

- Deliver adaptation responses that align to state and Australian Government legislation to promote adaptation as required including the application of relevant codes, such as the Building Code of Australia.
- Provide information about relevant climate change risks and contribute appropriate resources to prepare, prevent, respond and recover from detrimental climatic impacts.
- Inform other levels of government about the on-the-ground needs of local and regional communities.
- Manage risks and impacts to public assets owned and managed by local governments and to local government service delivery.

All governments

- Help build the adaptive capacity of individuals, groups and businesses, in particular vulnerable communities.
- Provide accurate climate information for private parties to adapt.
- Ensure that regulatory arrangements and policy settings do not distort private incentives and market signals and facilitate climate change adaptation.
- Provide public goods and services and manage public assets.

Who does what

Bushfires

Due to changing temperature and rainfall patterns, climate change will result in a longer fire season with an earlier start. Places with high fire danger ratings are projected to get worse more rapidly. Bushfires damage buildings, roads and other public infrastructure, adversely affect human health

through poor air quality caused by smoke, and leave topsoil's exposed and vulnerable to erosion from loss of groundcover vegetation.

Who does what?

Responsibility for preparing for, responding to and recovering from bushfires is shared. For example:

- The Tasmanian Government operates the Tasmanian Fire Service, the peak organisation for fire-fighting that prepares for, combats and coordinates responses to bushfire.
- Local governments assist in the preparation for and recovery from bushfires, manages assets and open space areas to reduce bushfire hazard, and through planning and development ensures compliance with bushfire standards and development of bushfire management plans.
- Individuals are responsible for the preparation of bushfire action plans and ensuring that fire hazards, such as dry fuel or long grass on their properties, are minimised

RAINFALL AND FLOODING

There has been a reduction in total annual rainfall in Tasmania and a change in year-to year rainfall variability since 1974. Across the Northern Midlands, climate change will result in an increase in summer and autumn rainfall and a decline in winter and spring rainfall, which should be apparent from around 2025 onward.

Who does what?

Responsibility for preparing for, responding to and recovering from rainfall-induced flooding is shared. For example:

- the Tasmanian Government, through the State Emergency Service, provides essential support to communities during flooding and storm events.
- Local governments manage assets and open space areas to best reduce flooding hazard, maintains and manage stormwater assets and catchments, and through planning and development manages local flood risks and hazards.
- Individuals can assess whether their private property is vulnerable to flooding hazard and implement actions to reduce the impacts, such as ensuring vegetated buffers are maintained to minimise the potential for erosion and scouring, and stormwater drainage is not impeded.

Temperature

The Northern is becoming warmer as the climate changes over the coming century. The average temperature will increase by 1.5 °C by mid-century, and by 3.3 °C towards the end of the century.

Who does what?

Responsibility for preparing for, responding to and recovering from extreme heat is shared. For example:

- The Tasmanian Government provides public health alerts for extreme heat and information on how to avoid and manage heat stress.
- Local governments provide information on suitable actions and behaviours for heatwaves and provides a safe work environment for its workforce, in particular those who work outdoors.

- Individuals can inform themselves about recognising heatwaves and appropriate actions, such as drinking extra water and seeking out shaded areas to avoid heat stress

What we know so far: our changing climate

How our climate is changing

Modelling, by the UTAS Climate Futures Tasmania shows how Northern Midlands climate is changing. This can be used to support good decision making, by the council and community on how to respond, and realise opportunities to manage increasing risks and hazards, and thrive and create resilience.

Temperature	Baseline 1961-1990	Current 2020-2040	Mid-century 2040-2060	End of century 2080-2100
Average daily maximum temperature (℃)	15.6	16.7	17.4	19
Average annual hot days (above 30℃)	3	5	7	12
Average annual cumulative Forest Fire Danger Index	1406	1531	1657	2059
Asphalt - critical viscosity	59200	87900	112600	190800

Rainfall	Baseline 1961-1990	Current	Mid-century 2040-2060	End of century 2080-2100
Average annual rainfall (mm)	654	616	605	596
Average annual evaporation (mm)	968	1012	1062	1201
Extreme rainfall - 24hr AEP 1%	186 mm	196 mm	202 mm	216 mm

Current climate and recent trends

The Northern Midlands experiences a relatively temperate, maritime climate. Inland areas experience wider temperature variations, including cold overnight temperatures and frosts. Long-term average temperatures have risen in the decades since the 1950s, at a rate of up to 0.15 °C per decade

The Northern Midlands receives some of the **lowest average annual rainfalls** of any area in Tasmania (generally <600 mm), with **no significant seasonal cycle**. There is **slightly higher average annual rainfall** in the **west** where the midlands borders the Great Western Tier and also in the **east** around Lake Leake. There has been a **decline** in **average annual rainfall** since the mid 1970s, with the decl**ine strongest in autumn.**

Projected change in conditions by 2100 (A2 emissions scenario)

Projected changes For Northern Midlands by 2090 - 2099 relative to the baseline period (1980-1999)

Climate Change Variable	Change

Temperature (annual average)	+2.6 to 3.3°C
Summer days (>25°C)	+25 days (+100%)
Warm spells (days)	up to 3 days longer (+50%)
Hottest day of the year	+3-4°C
Frost risk days/year	90 down to 40
Rainfall (annual average)	Annual rainfall is projected to increase slightly across all seasons. Rainfall is expected to trend towards heaver events interspersed by longer dry periods.
Rainfall (wettest day of the year)	+25%
Rainfall extreme (ARI-200)	>30 mm +50%
Evaporation	+19%
Runoff	Increase in all seasons, by up to 30%
River flows	

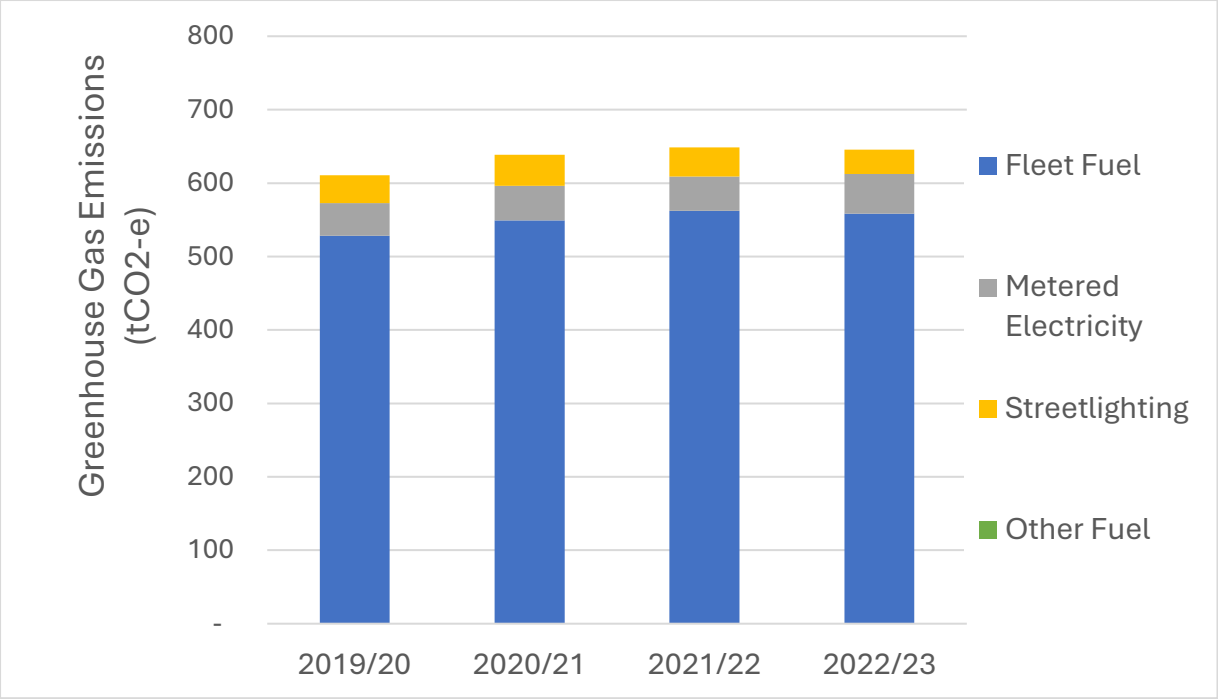
Extreme events

The temperature of **very hot days** to **increase by up to 4°C. Warm spells** (days in a row where temperatures are in their top 5%) currently last around 6 days and will **increase by up to 3 days**
Extended **heat waves** and more **extreme temperatures** are likely to enhance the **occurrence and intensity of bushfires**
Rainfall will trend towards **heavier events** interspersed by **longer dry periods**. **High daily runoff** events are likely to **increase**, including those that may lead to **erosion or flooding**. Rainfall **volume** in a **200-year average recurrence interval** (ARI) event will **increase by up to 50%.**

Our carbon footprint

The greenhouse gas emissions from Northern Midlands Council's corporate operations totalled 645.7 tonnes carbon dioxide equivalent (tCO2-e) in the 2022/23 financial year.

The largest category of emissions was from fuel being used by vehicles and plant. The emissions generated from this source were 558.4 tCO_2-e in 2022/23 (87% of the total), with all of that generated from use of diesel, with no petrol consumption.



The greenhouse gas emissions were allocated to various council activities and this is summarised for 2022/23 in the table below. Civil works is the activity with the highest amount of emissions, as is typically the case due the fuel use by trucks and plant. General fleet operations is the next highest and this category is used for vehicles, trucks and plant which are used across different activities

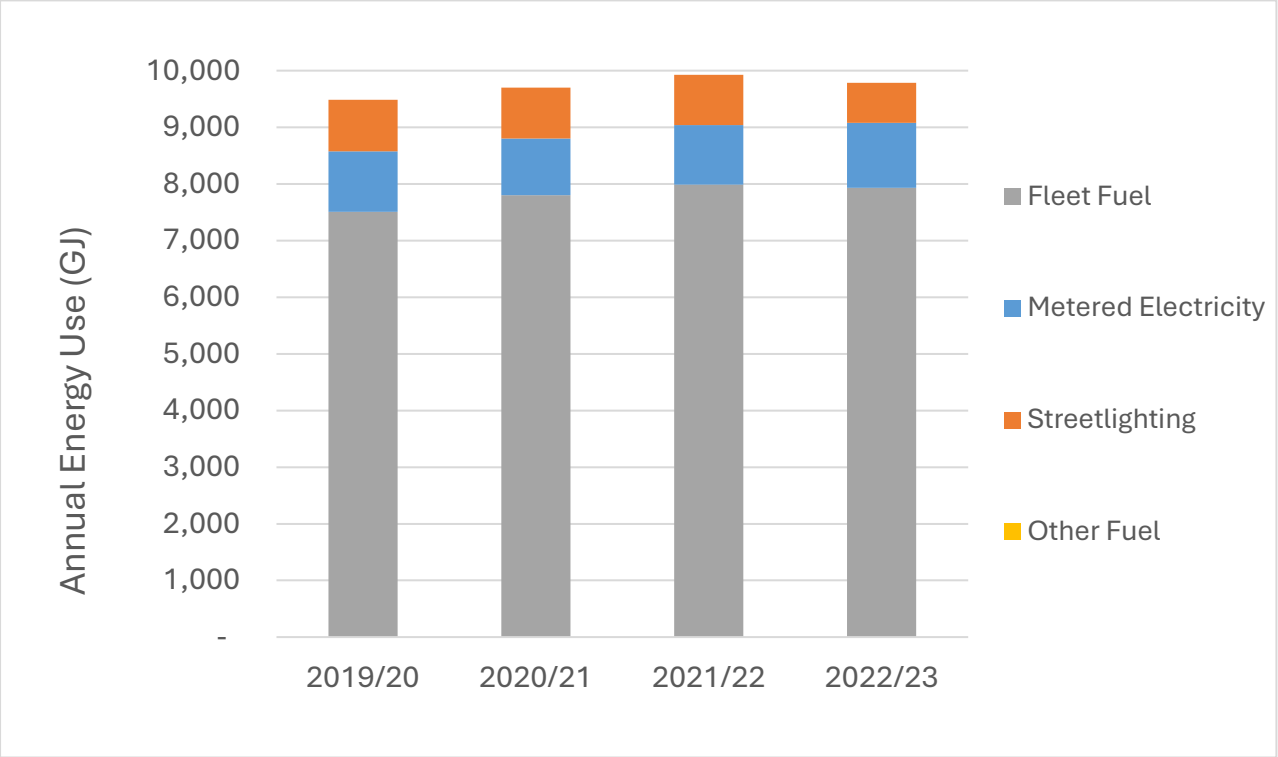
Table 1: Greenhouse Gas Emissions in 2022/23 by Council Activity

Activity Category	**GHG Emissions (tCO_2-e)**	**% of Total**
Office & Administration	63.3	9.6%
Depot Operations	7.1	1.1%
General Fleet Operations	82.8	12.6%
Parks	50.8	7.7%
Outdoor Sporting & Clubrooms	25.6	3.9%
Community Services & Halls	36.3	5.5%
Street Lighting (incl Metered)	33.2	5.0%
Civil Works	259.6	39.4%
Waste Facilities & Transport	24.7	3.8%
City Cleansing	36.2	5.5%
Other	39.7	6.0%

Energy Use

The total net energy use in corporate operations was 9,782 gigajoules (GJ) in 2022/23. For comparison the typical energy usage of a household with a three-bedroom house and two cars is

about 100 GJ, with annual usage of about 30 GJ for electricity in the house and about 35 GJ of fuel per car.



The split of use by energy type was 81% fuels and 29% electricity.

Fleet fuel was the single biggest category with usage of 7,934 GJ equivalent to 81.1% of total energy use (being all diesel), while there was negligible use of fuel at facilities.

Metered electricity had a usage total of 1,145 GJ (11.7% of the total) and unmetered streetlighting was 703 GJ (7.2% of the total).

While electricity is measured in kilowatt-hours (kWh) this unit is specific to electricity only. To more generally compare the different types used of energy by the council the unit of gigajoules (GJ) is used in this report, with 1,000 kWh equating to 3.6 GJ.

The fuel and electricity use was allocated to different activity categories as for greenhouse gas emission and the table below shows a similar pattern of energy use to that of emissions in Table 1.

Table 2: Energy Use in 2022/23 by Council Activity

Activity Category	Energy Use (GJ)	% of Total
Office & Administration	928	9.5%
Depot Operations	72	0.7%
General Fleet Operations	1,177	12.1%
Parks	739	7.6%
Outdoor Sporting & Clubrooms	300	3.1%
Community Services & Halls	707	7.2%
Street Lighting (incl Metered)	703	7.2%
Civil Works	3,689	37.8%
Waste Facilities & Transport	352	3.6%

Activity Category	Energy Use (GJ)	% of Total
City Cleansing	514	5.3%
Other	579	5.9%

The percentages for each activity is slightly different to those in Table 1 as there are less greenhouse gas emissions per unit of energy for electricity, and so activities which use more electricity have relatively less in the way of greenhouse gas emissions.

Our climate risk

Key climate change vulnerabilities identified for Northern Midlands Council

The key climate change vulnerabilities, the likelihood that exposed assets, services and communities will be adversely impacted, identified for the Northern Midlands Council are:

- Increasing volume of flood water in the South Esk, and other catchments, resulting in greater potential for significant flooding in Longford, and other towns in close proximity to rivers, having consequences for asset management (particularly levees), development decisions in relation to the dynamic nature of flood prone areas, and emergency response.
- Increase in the frequency and magnitude of flood events leading to road inundation, risk to road users and implications for emergency response capacity.
- Increasing rainfall intensity exacerbating the risk of landslip impacting council infrastructure (Roads/bridges) creating disruptions to the road network and significant costs for clean-up and repair.
- Increasing frequency and intensity of bushfires will result in greater likelihood of damage to infrastructure and assets such as community halls, road surfaces, and signage - and extensive additional resources for clean-up, having consequences for budgets.

Key drivers of Northern Midlands Council's climate adaptation planning:

The key drivers of the Northern Midlands Council climate adaptation planning, to mitigate climate impacts and increase resilience include:

- observed impacts to council infrastructure and disruptions to services from extreme events, and emerging conditions that have not been experienced before;
- managing the financial consequences of escalating extreme events;
- meeting expectations of Council's insurers in mitigating climate impacts;
- managing legal liability in relation to development decisions and asset performance; and
- meeting community expectations.

More information

Links

Climate change science | ReCFIT

What are the projected climate change impacts for Tasmania? | ReCFIT

Understanding Climate Change - City of Launceston

Climate change in Australia – CSIRO BOM Australia Climate Service

Climate change in Australia Southern Slopes (Tasmania East)

Climate Futures for Tasmania - climatefutures.org.au

Home | NRM North

Our Climate Glossary and Acronyms

CCAP	Council Climate Change Adaptation
CCEF	Council Carbon and Energy Footprint
GHG	Greenhouse Gas Emissions
GJ	Gigajoules
NTARC	Northern Tasmanian Alliance for Resilient Councils