

Huon Valley Council
Climate Change Strategy

PART A – Mitigation Plan

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Part A – Mitigation Plan

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Background

Huon Valley Council ('Council') has recognised the importance of taking action on climate change. There has been broad consensus amongst the scientific community for some time now that the rapid climate change experienced over the past century is primarily caused by the additional release of greenhouse gases into the atmosphere from human activity.

Long-term air and ocean temperature records clearly show the Earth is warming. The global average temperature has already risen by 1.1°C since the pre-industrial period. While the Earth's climate has changed throughout history, recent warming is happening at a rate that is much faster than previous climatic changes. The excessive amount of greenhouse gases entering the Earth's atmosphere since the Industrial Revolution (which began in the mid to late 1700s), is trapping more heat close to the Earth's surface, causing our climate to change dramatically¹. The rate of warming is expected to increase from 2020 onwards².

Processes such as the digging up and burning of coal, oil and gas, as well as the scaling up of agriculture and land-clearing (deforestation) and increasing waste to landfill, all result in greenhouse gas emissions³.

Carbon dioxide is the most significant of all the greenhouse gases, followed by methane. Carbon dioxide levels in the atmosphere have increased by more than 45% since the Industrial Revolution and are now the highest they have been for at least 800,000 years⁴.

While climate change has been known about for many decades, the effects are beginning to be felt now. Across Tasmania, there has been a decline in average annual rainfall since the 1970s, with the most notable decline in autumn. Increasing evaporation from a warming climate, longer dry periods and more extreme temperatures are likely to increase the occurrence and intensity of bushfires⁵. In January 2019, the Huon Valley experienced this firsthand, with large bushfires impacting the region for several weeks. Sensitive vegetation usually too wet to burn (and not adapted to survive fire) became available fuel due to lack of moisture. The 2018-19 summer was Tasmania's second warmest on record, with the mean temperature 1.6°C above average. During January 2019, Tasmania only received one fifth of the average rainfall, making it the second driest January on record⁶.

As well as increased evaporation and longer dry periods, climate change⁷ is expected to increase the frequency of days above 40°C, increase the intensity of rainfall events (leading to erosion and flooding) and result in the inundation of coastal areas due to sea level rise⁸. The impacts of these phenomena cut across ecological, social and economic values.

¹ See: <https://www.climatecouncil.org.au/resources/what-is-climate-change-what-can-we-do/>

² Remenyi, T. et al. 2020. *Climate Change Information for Decision Making – Huon Valley*. University of Tasmania.

³ See: <https://www.climatecouncil.org.au/deforestation/>

⁴ See: <https://www.climatecouncil.org.au/resources/what-is-climate-change-what-can-we-do/>

⁵ Remenyi, T. et al. 2020. *Climate Change Information for Decision Making – Huon Valley*. University of Tasmania.

⁶ See: http://www.fire.tas.gov.au/userfiles/AFAC/AFAC_Review.pdf

⁷ Following a RCP 8.5 scenario (low effort to curb emissions)

⁸ Remenyi, T. et al. 2020. *Climate Change Information for Decision Making – Huon Valley*. University of Tasmania.

Council has been proactively involved in the Regional Climate Change Initiative (RCCI), a committee of the Southern Tasmania Councils Authority (STCA) for several years. In 2017, 'Climate Change' was added as a discrete business unit – an important step towards supporting the integration of climate change actions throughout the Council. Council also joined the Cities Power Partnership in 2017, pledging to work towards five actions alongside councils across Australia. Council then identified a need to develop a Climate Change Strategy, and in May 2019 passed a motion that the development of this strategy commence in July 2019.

This mitigation plan forms Part A of Council's Climate Change Strategy. Part B will focus on adaptation to the effects of climate change. In the absence of significant effort to reduce greenhouse gas emissions, we can expect between 2.2°C and 3.7°C of warming within the next 60 to 80 years. Thus, adaptation is crucial⁹. Equally, working towards mitigating climate change by reducing the amount of greenhouse gas emitted into the atmosphere is important. Limiting the extent of warming can dramatically affect what the community need to adapt to, and the impact to people and the environment across the globe.

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⁹ See: <https://coastadapt.com.au/sites/default/files/infographics/15-117-NCCARFINFOGRAPHICS-2-UPLOADED-WEB%2827Feb%29.pdf>

UN Sustainable Development Goals

In 2015, the United Nations States adopted the 2030 Agenda for Sustainable Development, containing the UN Sustainable Development Goals¹⁰. The 17 UN Sustainable Development Goals, pictured below, are a useful reference as context for climate change actions. As well as Goal 13 specifically focusing on climate action (“Take urgent action to combat climate change and its impacts”), all the goals relate to important issues that need be addressed as part of taking action on climate change. To achieve a better and more sustainable future for all, the goals need to be addressed concurrently and in a holistic manner. In other words, addressing the other goals is crucial for achieving Goal 13. Conversely, in achieving Goal 13, the other goals shouldn’t be adversely impacted.

Goal 11 references the term “sustainable urbanism”. This term allows inter-related factors such as business hubs, active and public transport, and community safety, to be considered at the same time. Local Government can have a central role in working towards this goal, by looking for opportunities for strategic town planning and influencing the design of public infrastructure. Goal 11 reads: “Make cities and human settlements inclusive, safe, resilient and sustainable”.

Goal 12 is focused on responsible consumption and production. Local Government plays an important part in this area too, as both a consumer of products and manager of municipal waste.

SUSTAINABLE DEVELOPMENT GOALS



¹⁰ See: <https://sustainabledevelopment.un.org/>

Definitions and abbreviations

Adaptation: refers to actions to support adaptation to the effects of climate change

Carbon sink: the ability of plants, soil and oceans to sequester carbon dioxide from the atmosphere

CO₂-e: carbon dioxide equivalent, a standard unit to compare different greenhouse gases' global warming potential¹¹, expressed in this document as kilograms or tonnes

Divestment: the process of removing financial business interest from companies or investments (including banks and insurers), that support and/or profit from businesses or industries that significantly contribute to climate change and/or are not taking appropriate action to support the mitigation of GHG emissions

FOGO: Food and garden organic waste

Fossil fuel: hydrocarbon fuels, primarily coal, oil or natural gas, formed from the remains of ancient plants and animals

Fugitive emissions: GHG emissions released from pressurised equipment due to leaks, or during venting or flaring

GHG: Greenhouse gas

GWP: Global warming potential

Mitigation: refers to actions to reduce greenhouse gas emissions

RCP: standing for 'representative concentration pathways', these are modelled scenarios of global warming designed to help plan for climate change¹²

Refrigerants: substances used in cooling appliances for heat exchange such as chlorofluorocarbons and hydrofluorocarbons, many of which have very high global warming potential

Renewable energy: energy from a source that cannot be depleted, such as the wind or the sun

Sustainable urbanism: the application of sustainability and resilient principles to the design, planning, and administration/operation of cities¹³

¹¹ See page 212: <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf>

¹² See: <https://coastadapt.com.au/sites/default/files/infographics/15-117-NCCARFINFOGRAPHICS-01-UPLOADED-WEB%2827Feb%29.pdf>

¹³ Sharifi, A. 2016. 'From Garden City to Eco-urbanism: The quest for sustainable neighbourhood development'. *Sustainable Cities and Society* 20: 1-16.

Work To Date

Regional Climate Change Initiative

A committee of the Southern Tasmanian Councils Authority, the Regional Climate Change Initiative was established in 2010. The Regional Climate Change Initiative aims to provide leadership, and facilitate collaboration on and coordination of climate change activities across the Southern region.

Examples of previous projects include the Home Energy Audit Toolkit (still available for loan by residents), bulk purchase programs of household energy efficiency products, and the Regional and Municipal Community Energy and Emissions Profiles. Current projects include the Southern Regional Coastal Hazards Strategy, the Regional and Municipal Council Climate Profiles and the Regional Climate Change Strategy and Council Action Plans.

Huon Valley Council is an active participant and contributor to the Regional Climate Change Initiative.

Cities Power Partnership

The Cities Power Partnership program was launched in 2017 by the Climate Council. The program is designed to accelerate, celebrate and promote local government successes in achieving emission reductions and transitioning to clean energy.

Council was an 'early adopter' of this program, signing up in Round 1 to become a partner 30 May 2017. In signing up to the partnership, Council committed to striving to achieve pledges. At the 31 January 2018 Council meeting the following pledges were adopted:

1. Ensure Council fleet purchases meet strict greenhouse gas emissions requirements and support the uptake of electric vehicles
2. Provide fast-charging infrastructure throughout the city at key locations for electric vehicles
3. Adopt best practice energy efficiency measures across all Council buildings, and support community facilities to adopt these measures
4. Public lighting can use a large proportion of a city's energy budget – roll out energy efficient lighting (particularly street lighting) across the municipality
5. Install renewable energy (solar PV and battery storage) on Council buildings for example childcare facilities, libraries, street lighting, recreation centres, sporting grounds, and Council offices.

Energy Efficiency

Council has undertaken a number of energy efficiency retrofits over the past decade. These include an upgrade in 2013 of the heating system at the Huonville Swimming Pool from an inductive 132kw direct element heating system to two heat pumps that are supported by a thermal piping system that heats the pool water during sunny days. The element heating system was costly to operate and failed frequently. The new system has an automated thermostatically controlled system that turns the heat pumps off at 26.5°C thus maximising the solar hot water system.

The recent renovation at the offices at 23 Main St in Huonville had a skylight and LEDs installed, with energy efficiency a priority. Other lights in Council buildings have been replaced with LEDs, and there is a general commitment to preference energy efficient options where viable when fixtures and appliances are due for replacement.

Streetlights

In 2017, the Local Government Association of Tasmania (LGAT) commissioned Ironbark Sustainability to review the business case for councils in the Southern region to replace streetlights. The report found that there were 577 streetlights in the Huon Valley area that were of a type that a more energy efficient replacement option was available. Two scenarios were compared: Council immediately funding the conversion of lights to LED before the end of their asset lives, and TasNetworks funding the conversion to LED as lights fail. Scenario one had a substantial upfront capital cost, lower on-going maintenance and electricity costs, and saved approximately 505 t CO₂-e over 20 years. Scenario two had a zero upfront capital cost, greater maintenance and electricity costs, and saved approximately 462 t CO₂-e over 20 years. It should be noted that energy prices are difficult to forecast and are predicted to increase. Currently, Council is subscribed to scenario two, a decision that was largely based on the significant upfront cost of scenario one.

This report also earmarked that more lights are expected to become available as LED technology improves, as well as technology relating to light control and data management.

Renewable Energy

A solar photovoltaic system was installed on top of the Huonville Town Hall and Council Chambers in 2019. The system delivers approximately 43 kilowatts of power a day and has approximately a five-year payback period. For this installation, Council was required to carefully consider the best location for the panels and ensure the heritage values of the Town Hall were not impacted.

Council has investigated the viability of installing solar photovoltaic systems on several other Council buildings. These include the Depot and the Huonville Visitor Centre. Current challenges to these installations include poor payback periods for sites that use comparably less electricity (electricity

generated cannot be transferred to another meter), and complications with roof design. Other Council sites that have high daytime energy usage are flagged for future considerations for solar photovoltaic systems.

Fleet

Council was accepted into the 'Smarter Fleets Program – Electric Vehicles in Local Government' on 28 August 2018. This program was an initiative of the Department of Premier and Cabinet's Tasmanian Climate Change Office and was delivered by Sustainable Living Tasmania. The program provided Council with tailored advice and support, including an analysis of the current fleet and a personalised Electric Vehicle Integration Plan with recommendations (received 25 March 2019).

In February 2020, Council purchased its first fully electric fleet vehicle – a Hyundai Ioniq. While this purchase cost more than an equivalent combustion engine car at the time, it is expected to cost less to run and maintain. These cost savings on fuel and maintenance can bring the overall cost of an electric vehicle closer to that of an equivalent combustion engine car the longer the electric vehicle is retained in the fleet. Council also sees this purchase as an important step to consider operational factors, train staff in the use of electric vehicles and to take the lead in moving away from combustion engine vehicles.

Currently, the viability of a fast transition to electric vehicles is limited by the availability of specific plant equipment, ability to tow, capital cost and fringe benefit tax considerations. However, the range of models available is expected to rapidly expand over the next five years, with costs reducing as the market expands. Council will be well placed to expand on its transition to electric vehicles with the experience gained through the current vehicle and the establishment of local charging infrastructure.

Electric Vehicle Chargers

Council received a \$5,000 ChargeSmart Workplace Grant in 2018, for the installation of a 22kW electric vehicle charger in Huonville. This charger is situated in the public carpark behind 23 Main St and is available for staff use as well as public use.

In 2019, Council was successful in an application for a \$50,000 ChargeSmart Fast-charging Grant. This grant is partially funding a 50kW electric vehicle fast charger in Geeveston, expected to be operational some time in 2020/21.

Council Emissions

In 2020, a greenhouse gas inventory for Huon Valley Council operations was completed by Sustainable Living Tasmania. This data is critical to understanding the sources of GHG emissions from Council operations and subsequently where mitigation actions should be targeted. A number of recommendations have come from this inventory, of which many are incorporated into this mitigation plan.

The key findings include:

- Total GHG emissions for the 2018-19 financial year were 963,407 kg CO₂-e
- GHG emissions were 5% lower than the previous year (2017-18) due to a reduction in fuel use
- Fuel use (Scope 1 GHG emissions) accounted for over 77% of emissions (see Fig.1 below), with road works using the most fuel
- Electricity use (Scope 2 GHG emissions) was the next greatest contributor, with street lights, sports facilities (such as swimming pools) and the Huonville offices using the most energy
- Some potentially significant sources of GHG emissions that were not included in the inventory require further investigation – including those related to refrigerants, landfill sites, roads, and additional Scope 3 GHG emission sources (i.e. indirect sources excluding electricity use from the grid).

Tasmania generally enjoys a low emission factor¹⁴ compared with mainland Australia for electricity use, due to the majority of electricity being hydro-generated. However, some of Tasmania's power demands are met by imported electricity that is generated by burning coal, and the use of natural gas at the Tamar Valley Power Station¹⁵. When considered cumulatively across Council's electricity use, the associated GHG emissions are still significant.

¹⁴ Emission factors are a way of estimating the GHG emissions (kg CO₂-e) associated with a unit of a specific activity, such as electricity used (kWh) in the Tasmanian grid in a given year – see: <https://publications.industry.gov.au/publications/climate-change/system/files/resources/cf1/national-greenhouse-accounts-factors-august-2019.pdf>

¹⁵ See page 23 of the Tasmanian Greenhouse Gas Emissions Report:
http://www.dpac.tas.gov.au/_data/assets/pdf_file/0005/473774/Tasmanian_Greenhouse_Gas_Emissions_Report_2017.pdf

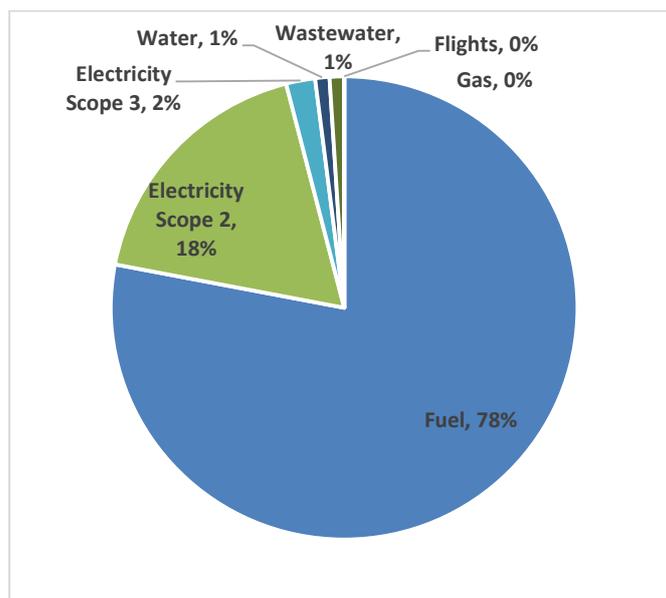


Fig.1 Sources of GHG emissions (kg CO₂-e) for Council operations, data from the Huon Valley Council Greenhouse Gas Inventory 2018/19.

Community Emissions

In 2018, Council participated in the Southern Tasmania Regional and Municipal Energy and Emissions Project. This project was funded by the STCA through the RCCI. It looked at the source of GHG emissions in the community (relating to energy use; excluding methane from wastewater and agriculture, and carbon from land clearing) for the Southern region and participating Councils. This data is critical to understanding the sources of GHG emissions in the broader community and subsequently where education or advocacy efforts should be targeted to support a reduction in the community's emissions.

Key findings¹⁶ for the Huon Valley included:

- Solar is popular, with over 1,200 solar photovoltaic installations and 400 solar hot water systems
- Industry accounted for 45% of GHG emissions (see Fig.2 below)
- Energy use for transport has reduced by 21% but still accounts for at least a third of community emissions
- A high percentage of vehicles over 10 years old (67%) and high emissions intensity vehicles
- Increasing energy use in the residential, commercial and agricultural and forestry sectors contributed to higher overall emissions
- Electricity use in the commercial sector doubled between 2006-07 and 2016-17
- Residential wood use decreased 32% but still accounts for over a third of residential energy use (see Fig.3 below)
- Energy efficient products and behaviour are helping to slow the increase in overall energy use

¹⁶ Johnson, A. 2019. 'Huon Valley Council Community Energy Use and Greenhouse Gas Footprint', Southern Tasmanian Councils Authority.

- GHG emissions increased by 9% from 142,832 t CO₂-e in 2006-07 to 156,841 t CO₂-e in 2016-17.

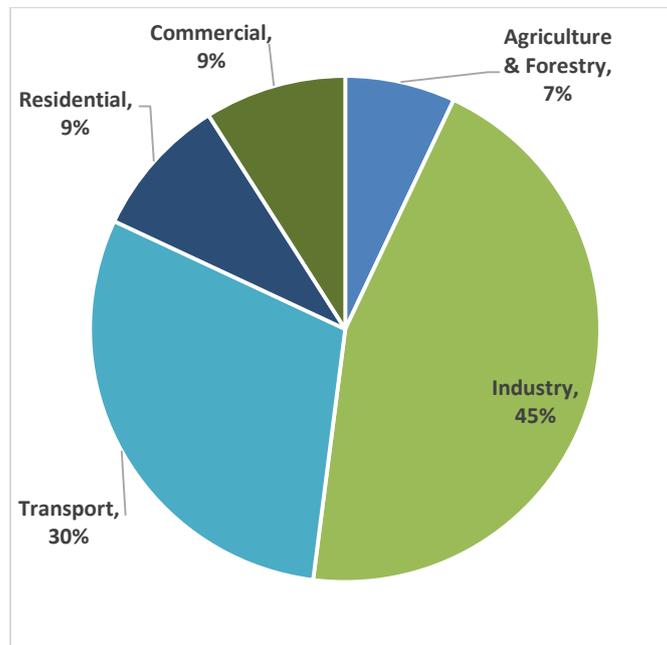


Fig. 2 GHG emissions (t CO₂-e) by sector in the Huon Valley Local Government area, from the Huon Valley Council Community Energy Use and Greenhouse Gas Footprint Summary Report May 2019 (STCA). Data sources: Australian Energy Statistics 2018, TasNetworks 2018, National Greenhouse Accounts Factors 2016.

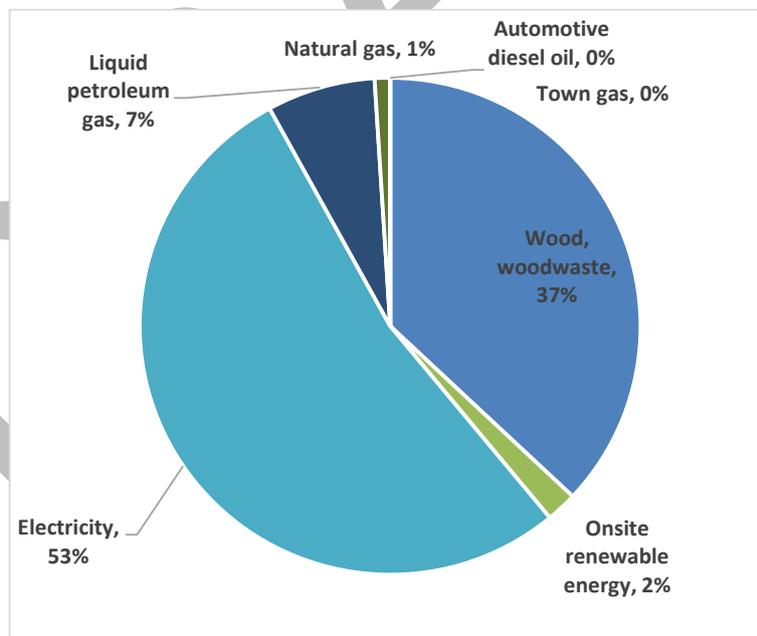


Fig.3 Residential energy use in the Huon Valley Local Government area, from the Huon Valley Council Community Energy Use and Greenhouse Gas Footprint Summary Report May 2019 (STCA). Data sources: Australian Energy Statistics 2018, TasNetworks 2018, National Greenhouse Accounts Factors 2016.

Strategy Context

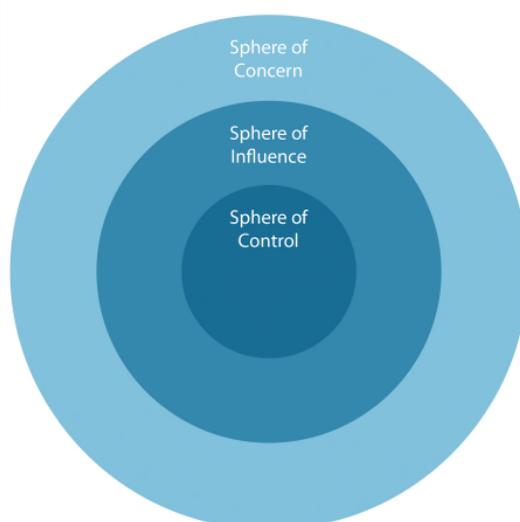
The actions in this document, Part A – Mitigation Plan, are based on several key areas for the mitigation of greenhouse gas emissions: energy efficiency, renewable energy, transport, refrigerant, ethical investment, organic waste, carbon sinks and data. These key areas were primarily informed by two projects: the Council’s greenhouse gas inventory; and the Southern Tasmania Regional and Municipal Energy and Emissions Project.

Part B of Council’s Climate Change Strategy (Adaptation Plan) will be completed later, in conjunction the Regional Climate Change Strategy and Council Action Plans project. The Regional Climate Change Strategy and Council Action Plans project is overseen by the Regional Climate Change Initiative, and will be delivered in partnership with the University of Tasmania.

Council’s Climate Change Strategy Consultative Group reviewed this Mitigation Plan and provided feedback before it was released for public consultation.

In order to prepare a realistic and achievable mitigation plan, potential actions were assessed for where they sit in Council’s spheres of control, influence and concern. Actions within the sphere of control are often easiest for Council to have the most impact and is consistent with the principle of personal and corporate responsibility. For example, Council can make a decision to purchase an electric vehicle (sphere of control), can make it easier for the community to use electric vehicles by supporting the early installation of charger infrastructure (sphere of influence), and can hope for the unit price of electric vehicles to decrease (sphere of concern). There can still be limitations to actions within the sphere of control – for example, while Council has the ability to make fleet purchasing decisions, the cost of electric vehicles may be prohibitive, or there may not be an electric vehicle that fits the purpose it is required for.

The actions listed under Objectives one and two below fall within the spheres of control and influence.



OBJECTIVE 1: Reduce Council's contribution to greenhouse gas emissions

Actions – Energy Efficiency	Milestone	Timeframe (subject to funding)	Responsibility
1.1.1 Implement energy efficiency measures in Council buildings as opportunities are identified <i>Energy efficiency measures reduce electricity use, saving money and GHG emissions associated with electricity use</i>	Measures implemented annually	On-going	Infrastructure Services
1.1.2 Conduct precision sub-system energy audits ¹⁷ for swimming pools <i>After streetlights, Council's Huonville and Port Huon swimming pools are the next biggest users of electricity</i>	Audits conducted	By 2025	Recreation Services
1.1.3 Conduct detailed energy audits ¹⁸ for other electricity connections using more than 50,000 kWh/y <i>These connections include the Council Offices, Chambers and Town Hall in Huonville</i>	Audits conducted	By 2028	Infrastructure Services
1.1.4 Conduct basic energy audits ¹⁹ for other electricity connections using more than 15,000 kWh/y <i>These connections include the Huonville Childcare Centre, Southbridge Waste Transfer Station, Geeveston Medical Centre, Judbury Community Centre, both Visitor Centres and the Depot</i>	Audits conducted	By 2030	Infrastructure Services
1.1.5 Investigate water saving opportunities, including at unmetered sites <i>Delivering water and handling wastewater contribute to GHG emissions through electricity use and the production of nitrous oxide and methane²⁰</i>	Opportunities investigated Unmetered sites listed	On-going By 2022	Infrastructure Services
1.1.6 Revisit the streetlight replacement program and assess feasibility of converting lights to LED before they require replacement <i>Streetlights are Council's biggest user of electricity - revisiting the cost and decision to replace with LED only when lights fail is a check to make certain the situation has not changed since that decision was made</i>	Feasibility reassessed	By 2022	Environmental Services
Actions – Renewable Energy			

¹⁷ Precision subsystem energy audits are detailed audits for complex subsystems that consume a lot of power – for more information on types of audits, see:

<https://www.eec.org.au/uploads/Sector%20Development/Quick%20Reference%20Guide.pdf>

¹⁸ Detailed energy audits are detailed audits that look across a whole site.

¹⁹ Basic energy audits are simple audits that use rules of thumb for estimating costs and benefits.

²⁰ See page 76 of the Tasmanian Water and Sewerage State of the Industry Report 2017-18:

<https://www.economicregulator.tas.gov.au/Documents/19%20656%20Water%20and%20Sewerage%20State%20of%20the%20Industry%20Report%202017-18.PDF>

<p>1.2.1 Investigate options to install renewable energy generation on Council facilities, including methane capture</p> <p><i>As well as continuing to look for options to install solar photovoltaic systems on Council buildings, Council may be able to capture methane at old landfill sites to convert it to less damaging carbon dioxide</i></p>	<p>Methane capture for Southbridge Waste Transfer Station investigated</p> <p>Solar PV investigated for additional Council sites that have high daytime energy usage</p>	<p>By 2023</p>	<p>Environmental Services</p> <p>Infrastructure Services</p>
<p>Actions – Transport</p>			
<p>1.3.1 Transition the Council fleet and plant away from combustion engine vehicles</p> <p><i>Fossil fuel use in fleet and plant is Council's greatest single contribution to GHG emissions, transitioning to non-combustion engine vehicles such as electric vehicles and other technologies reduces fossil fuel use</i></p>	<p>Increase percentage of non-combustion engine vehicles</p>	<p>On-going</p>	<p>Infrastructure Services</p>
<p>1.3.2 Prioritise lower emissions intensity when selecting new fleet vehicles, including when the only current option fit-for-purpose is a combustion engine vehicle</p> <p><i>Vehicles with lower emissions intensity produce less GHG emissions per unit of activity (i.e. per km)</i></p>	<p>Lower emissions intensity prioritised</p> <p>Procurement policy updated</p>	<p>On-going</p> <p>By 2021</p>	<p>Infrastructure Services</p> <p>Corporate Services</p>
<p>1.3.3 Train staff in eco-driving techniques</p> <p><i>Eco-driving considers behavioural aspects of driving such as smooth anticipatory driving, speed control, avoiding unnecessary idling, air conditioner use and cargo, tyre pressure and trip planning, to reduce fuel or battery use per km</i></p>	<p>Pilot training program completed</p>	<p>By 2022</p>	<p>Environmental Services</p>
<p>1.3.4 Seek out ways to support staff ride share, online meetings, work arrangements and other practices that minimise travel or fuel use</p> <p><i>Minimising travel and fuel use reduces GHG emissions and can improve productivity</i></p>	<p>Initiatives to minimise travel and fuel use documented</p>	<p>On-going</p>	<p>Corporate Services</p>
<p>Actions - Refrigerant</p>			
<p>1.4.1 Investigate the service protocol and fugitive emissions associated with cooling equipment in offices and facilities</p> <p><i>Investigating the service protocol and detecting opportunities for improvement to equipment maintenance can result in leaks, faults and service quality issues being detected sooner, and thus less fugitive emissions</i></p>	<p>Protocol and emissions investigated</p>	<p>By 2022</p>	<p>Environmental Services</p>

1.4.2 Investigate replacing refrigerants in existing equipment with low GWP alternatives <i>Replacing existing refrigerants with low GWP alternatives may reduce the GHG emissions associated with fugitive emissions because each unit of gas that escapes has a lower CO₂-e value</i>	Replacement investigated	By 2022	Infrastructure Services and Recreation Services
1.4.3 Add the prioritisation of low GWP refrigerants when purchasing new equipment to Council's procurement policy <i>Purchasing equipment with low GWP refrigerants reduces the GHG emissions associated with fugitive emissions because each unit of gas that escapes has a lower CO₂-e value</i>	Procurement policy updated	By 2021	Corporate Services
Actions – Ethical Investment			
1.5.1 Review Council investments, banks and insurers and build positive relationships with those that are taking appropriate actions to support the mitigation of GHG emissions <i>Encouraging positive relationships with banks, insurers and other businesses that show commitment to climate change action, and/or divesting from those that do not, shows them that it is undesirable to invest in projects that contribute to climate change, and it can help drive investment in more sustainable projects that help or reduce harm to the environment and people</i>	Current investments and insurance policies reviewed	By 2022	Corporate Services
Actions - Data			
1.6.1 Maintain Council's greenhouse gas inventory <i>Council's greenhouse gas inventory is an important source of information summarising the GHG emissions associated with Council operations</i>	Updated biennially	On-going	Environmental Services
1.6.2 Investigate and add emissions from other Scope 3 sources ²¹ and roads to Council's greenhouse gas inventory <i>GHG emissions are divided into scope 1 (direct emissions i.e. fuel use), 2 (electricity from the grid) or 3 according to auditing standards; scope 3 emissions are indirect emissions excluding electricity use from the grid</i>	Scope 3 sources added to inventory	On-going	Environmental Services

²¹ See: <http://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme/Greenhouse-gases-and-energy>

OBJECTIVE 2: Influence others to reduce their contribution to greenhouse gas emissions

Actions – Energy Efficiency	Milestone	Timeframe (subject to funding)	Responsibility
<p>2.1.1 Provide the Home Energy Audit Toolkit for loaning to the community <i>The Home Energy Audit Toolkit continues to be available for loan to the community, to assist residents in identifying opportunities for improved energy efficiency in their homes</i></p>	Toolkit available for loan	On-going	Environmental Services and Customer Service
<p>2.1.2 Seek funding to update the Home Energy Audit Toolkit and purchase additional sets <i>Since the Home Energy Audit Toolkits were produced some items have been lost, similar products that are easier to use have become available and it has been identified that the accompanying information could be made clearer</i></p>	Funding sought	By 2022	Environmental Services
Actions – Renewable Energy			
<p>2.2.1 Support bulk buy and community energy initiatives when possible <i>Through the RCCI, Council has supported bulk buy of products such as solar panels and heat pumps As well as supporting renewable energy, in some circumstances community energy initiatives also assist with the resilience of small communities to disasters</i></p>	Initiatives supported and promoted	On-going	Environmental Services
Actions – Transport			
<p>2.3.1 Integrate sustainable urbanism principles when conducting strategic town planning (e.g. encourage active transport, public transport, hubs); and advocate for sustainable transport improvements where outside of Council control <i>Town planning is an important mechanism to promote more sustainable lifestyles through the interconnectedness and design of key infrastructure, services, homes and the environment. Some matters such as public transport will sit outside of Council's sphere of control where Council will instead seek to influence through advocacy.</i></p>	<p>All strategic town planning</p> <p>Advocacy for sustainable transport improvements</p>	On-going	General Manager
<p>2.3.2 Encourage the early uptake of electric vehicles in the community by supporting the installation of chargers <i>Supporting the early installation of chargers helps to eliminate the perceived or real lack of chargers as a barrier to residents purchasing an electric vehicle Later installations will be driven by the private sector</i></p>	Charger installation supported	During the early phase	General Manager
Actions - Refrigerant			

2.4.1 Ensure retired cooling appliances presented at waste transfer stations are degassed <i>All retired cooling appliances are required to be degassed in accordance with National regulations²², due to the impact to the ozone layer or potent GWP of many refrigerants</i> <i>Any fridges presented without appropriate degassing evidence will be charged a fee for professional degassing to occur onsite</i>	All retired cooling appliances are separated and degassed	On-going	Waste Management
Actions – Organic Waste			
2.5.1 Investigate the feasibility of a local composting facility <i>Currently there are limited options for the composting of municipal FOGO in close range of the Huon Valley, and there may be local horticultural/agricultural uses for compost if it were available</i> <i>Composting is preferable to landfill because it converts methane (higher GWP) to carbon dioxide and avoids the loss of other nutrients</i>	Feasibility study completed	By 2022	Environmental Services
2.5.2 Investigate the feasibility of a kerbside FOGO service <i>A kerbside service to collect FOGO is a potential way to divert it away from the general waste stream</i>	Feasibility study completed	By 2024	Environmental Services
2.5.3 Provide advice to the community on ways to reduce food waste <i>As well as considering the treatment of FOGO, there are many ways to reduce the generation of it in the first place, such as home composting, chickens, and meal planning</i>	Advice proactively provided	On-going	Waste Management
2.5.4 Investigate and add emissions from municipal waste to Council's greenhouse gas inventory <i>It would be beneficial for decision making to gain understanding on the contribution of municipal waste to GHG emissions in the Huon Valley</i>	Emissions added to inventory	By 2022	Environmental Services
Actions – Carbon Sinks			
2.6.1 Enforce land use controls within Council planning scheme and LUPAA to prevent unapproved deforestation <i>Trees are important carbon sinks, absorbing carbon dioxide, as well as having other crucial functions such as maintaining soil moisture and clean air</i>	Land use controls enforced in accordance with planning scheme and LUPAA	On-going	Environment and Development Services
2.6.2 Provide native trees to the community	Native tree giveaway conducted	Annually	Natural Resource Management

²² See: <https://www.environment.gov.au/protection/ozone/rac>

<i>Trees are important carbon sinks, absorbing carbon dioxide, as well as having other crucial functions such as maintaining soil moisture and clean air</i>			
2.6.3 Initiatives to restore degraded land are supported <i>Restoring degraded land improves the land's ability to be a carbon sink, preventing GHG emissions associated with poor soil health and loss of vegetation</i>	Initiatives are supported	On-going	Natural Resource Management
2.6.4 A Biodiversity Offset Policy is developed and applied in accordance with Council planning scheme, LUPAA and the Guidelines for the Use of Biodiversity Offsets <i>A Biodiversity Offset Policy provides an offset framework for planning processes and provides opportunity to retain or purchase high value natural areas that act as carbon sinks</i>	Policy is endorsed and operational	By 2021	Natural Resource Management

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Review

It is intended that this mitigation plan be formally reviewed every five years. Changes between formal reviews may be required due to rapidly changing technology, information and opportunities.

Useful Links

Project Drawdown

A solutions-based book and website focused on reversing the build up of greenhouse gases in the atmosphere.

www.drawdown.org

2040

A solutions-based feature documentary motivated by the concerns the director had about the world his four year-old daughter would inherit.

www.whatsyour2040.com

Market Forces

A website that provides information about banks, insurers and institutions to help consumers prevent investment in projects that harm the environment and contribute to climate change.

www.marketforces.org.au

Plugshare

An online map of electric vehicle charging stations.

www.plugshare.com

As a member of the Cities Power Partnership, Council also has access to resources designed specially for the local government sector.

There are a number of reports available on Council's website, including the 'Huon Valley Council Community Energy Use and Greenhouse Gas Footprint'.