Alice Springs
TOWN COUNCIL

Alice Springs Town Council – Climate Action Plan 2018–2021

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Foreword

I am pleased to release the first Alice Springs Town Council Climate Action Plan. By establishing clear priorities, ensuring equity in decision-making, and developing policies which provide alignment but also the ability to adapt based on local circumstances including our dry and arid climate.

The Alice Springs Town Council has long been a leader in renewable energy and climate action. Council was the first Northern Territory Member of the Cities for Climate Protection Program in 1998 and adopted its Local Action Plan to reduce greenhouse gas emissions in Alice Springs in 2006. Council was the lead agent in the Alice Solar City Project which ran from 2008 until 2013 and led to the installation of energy efficiency measures, solar PV systems and solar hot water systems for hundreds of homes and businesses across the municipality.

I wish to acknowledge the work of the Environment Advisory Committee in developing this document therefore ensuring the delivery the Climate Action Plan for the community of Alice Springs. Council through its numerous Committees has been proactive in reducing greenhouse emissions.

I truly believe that each of us, working together to achieve the goals in this plan, can strengthen the Alice Springs Community's environment and economy while making our community healthier and more equitable. This is a plan for all of us. It was written with special attention to the quality of life and engagement of those who are living in Alice Springs or are going to live in Alice Springs in the future.

At the same time, Council recognises that all of us can do our part. Achieving the goals of this plan depends on each of us making choices that reduce our negative impact on the environment. Council is reducing its overall level of greenhouse gas emissions and driving the reduction, reuse and recycling of materials that would otherwise go to landfill. Council is also putting in place actions to minimise environmental risks to our people, infrastructure and services.

This Climate Action Plan provides a starting point, identifying a critical framework and vision for the community's collective action by presenting a blueprint for the Alice Springs Town Council to become a leader in local, Territory, national and international environmental stewardship.

As a community, Alice Springs can continue to grow and prosper while reducing its emissions and demonstrating leadership to other communities in Australia and in advanced and developing economies around the world.

Addressing the challenge posed by climate change requires action by everyone in our community including all levels of government, business, community groups, households and individuals. We must all understand that while the impact of our individual choices may be small, together we can make a difference to enhance the future wellbeing of people and our environment.

Alice Springs Town Council is focused on addressing the specified strategies; as well as fulfilling and surpassing the desirable outcomes set out in this plan. Council has been proactive in reducing carbon emissions by planting trees, reducing fuel and water usage and installing solar panels Council's facilities.

As Council, we also believe it is important to be transparent and work collaboratively with our stakeholders that include visitors, ratepayers, residents, customers, communities, businesses and all tiers of government to ultimately drive environmental change within our small part of the world. Council encourages the community to join it on the journey to a more environmentally friendly Alice Springs.

Mayor Damien Ryan

Executive Summary

This Plan is about the future of our town – a future where, by 2070 Central Australia will experience six months of the year above 35^{o}C (Mathew, 2015), industries which the region depends on will become vulnerable, biodiversity loss and water shortages will increase– all due to human induced Climate Change. We need to embrace a low-carbon economy and the vast opportunities offered by renewable technology, especially in a location of unparalleled solar irradiance. Council aims to become a leader in adapting, mitigating and planning for climate change, and in doing so aims to provide guidance and inspiration to the broader community.

Climate change is human civilisations' greatest threat. If climate change remains unabated, weather events will become more catastrophic and irreversible damage will be made to global ecosystems. It is important that we keep warming temperatures below the 'tipping point' of 2 °C. This poses immense challenges to communities around the globe and their way of life. Climate Change response requires a reduction in emissions, behaviour change, economic restructuring and social resilience.

Despite the immensity of the problem, and the relatively small impact that the Alice Springs population will make on a global scale, our efforts over the next four years and beyond will combine with the global efforts to tackle anthropogenic climate change. It is at the level of individual towns and cities around the world that we will see the greatest impact on addressing Climate Change. This sun-drenched, creative and resilient outback community will surely provide some of the answers.

The *Climate Action Plan 2018-2021* will provide a clear direction for responding to Climate Change. Council's emission reduction target is a reduction of 30% on 2016 levels by 2021. To achieve this target, Council is dedicated to following its actions put forward in the Plan. To enable Council to monitor and measure its progress towards achieving its actions, quarterly reporting against the actions will ensure both transparency and accountability to the community.

Section 1- Climate Change Policy

1.1 Global Context

The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC) dealing with greenhouse gas emissions mitigation, adaptation and finance. In 2015, nearly 200 countries agreed to work towards limiting warming to 2^{o}C and pursue efforts to limit the temperature increase to 1.5^{o}C. Limiting warming of 1.5^{o}C to 2^{o}C requires global emissions to fall below zero and carbon to be removed from the atmosphere (The Climate Institute, 2015). With the understanding that stronger targets than those put forward in Paris are needed to avoid the worst impacts of climate change and to limit warming to 1.5^{o}C, signatory nations will review their individual targets every 5 years and work to strengthen action over time.

1.2 Australian and Northern Territory Context

Australia adopted an emissions reduction target of 26-28% below its 2005 levels by 2030 at COP21 in Paris. The Climate Change Authority advised that this was not in line with science and that a reduction of 45-63% was required by Australia.

In the absence of strong federal targets, all states and territories except Western Australia have a target of net zero emissions by 2050 and/or a renewable energy target (Climate Council of Australia, 2017). The Northern Territory Government has set a target of 50% renewable energy by 2030 and has recently released a Roadmap to Renewables plan. In 2018, The Northern Territory government released the *Northern Territory Climate Change Discussion Paper*, which quantified industry emissions and discussed possible mitigation strategies for each sector.

1.3 Local Government Context

A suite of climate change policy and action responses are being delivered at the municipal level as local governments around the world are recognising the important role they play in contributing to meaningful mitigation and adaptation to climate change in their local communities.

An estimated 70% of the world's energy-related emissions come from cities. It is the responses of urban settlements that are critical in meeting the global climate agreements made at COP21 (Climate Council of Australia, 2017). Inspiring actions from local governments come from remote towns like Uralla working towards zero net energy, to Australia's largest council, Brisbane City Council which has achieved carbon-neutral status, to the 100% solar-powered Sunshine Coast Council. Organisations such as the Local Government Association of Northern Territory (LGANT) are assisting local government bodies by developing climate change policies and strategies on how to reduce emissions. These policies provide overarching statements but do not offer tangible outcomes or targets.

The Alice Springs Town Council's sustainability goals listed in the strategic plan (sections 3.1-3.3) lie at the heart of this Plan. The *Climate Action Plan 2018-2021* follows on from the *Local Action Plan to Reduce Greenhouse Gas Emissions in Alice Springs 2006.* The Climate Action Plan together with Council's Environment Advisory Committee will guide and inform Council for the next four years.

Section 2- Climate Change Background

2.1 What is Climate Change?

Weather is the state of the atmosphere; its temperature, humidity, wind, rainfall over a period of time. It is influenced by the oceans, land surfaces and ice sheets, which together with the atmosphere form what is called the 'climate system'.

While 'weather' refers to short-term atmospheric conditions, 'climate' refers to patterns of weather over a long period of time. There is natural *variability* in climate, such as year-to year variations,

meaning no one summer is the same as the last, and that average rainfall differs each year. *Climate Change* refers to shifts in long-term patterns of our climate.

The earth has warmed by an average of 1.1°C in the last century (Climate Council of Australia, 2017). This can have large impacts on weather events and earths ecosystems. Rising temperatures means more extreme and unpredictable weather. Alice Springs has a semi-arid climate with pronounced wet and dry seasons, with most rainfall occurring between the months of October to March, and warm rainless days from April to September. Climate change will alter these weather patterns by making rainfall events less frequent and dry hot periods more frequent.

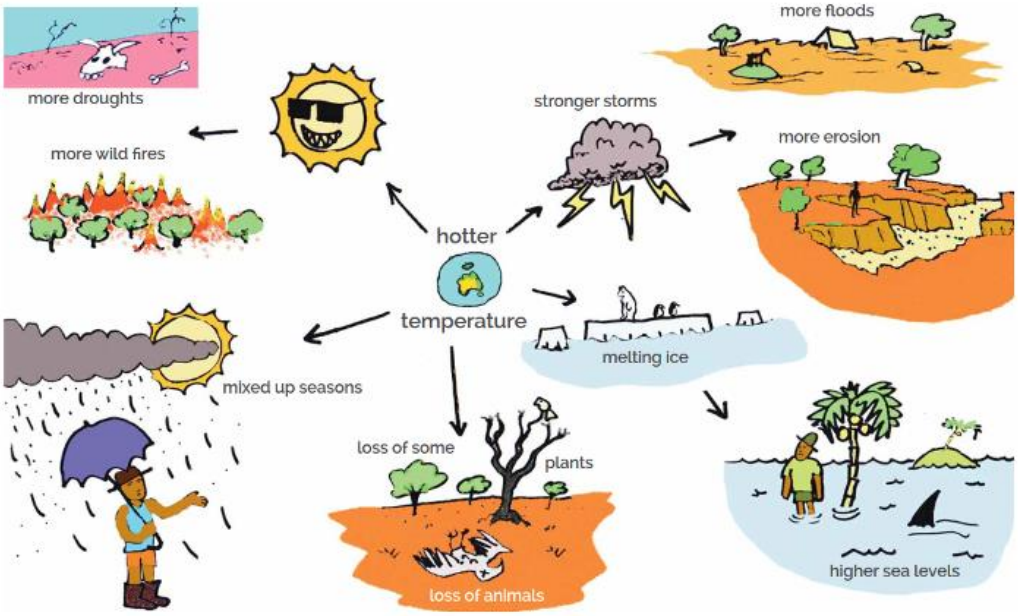

Figure 1: Implications of climate change for Central Australia (Mike Carmody, 2014)

2.2 What Causes Climate Change?

Climate change is defined by the Intergovernmental Panel on Climate Changes (IPCC) as 'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere' (Intergovermental Panel on Climate Change, 2007).

Human activities, such as burning fossil fuels, agriculture, and land clearing, all release gases into the atmosphere, known as greenhouse gases. These gases insulate the earth, by trapping heat from the sun in the global atmosphere. Releasing more gases into the atmosphere will cause more heat to be trapped. This is referred to as the *Enhanced Greenhouse Effect*.

2.3 What is the Greenhouse Effect and how does it change the Climate?

There are several greenhouse gases (GHG) which create the greenhouse effect; carbon dioxide, water vapour, methane and ozone are some of the most important. The major GHG is carbon dioxide, produced mainly by the burning of fuel fuels. All gases vary in their warming effect. For example, methane (CH4) has a warming effect 25 times that of carbon dioxide (CO2) (Intergovermental Panel on Climate Change, 2007).

When sunlight hits the Earth's surface the light is radiated back into the Earth's atmosphere as heat. The GHG in the atmosphere absorb some of the heat and the remainder gets absorbed by the Earth's surface. This is known as the Greenhouse Effect. Increasing the amount of GHG will increase the amount of heat retained in the earth's atmosphere, also known as *Global Warming*.

Since the mid 1800's the average concentration of CO2 in the earth's atmosphere has risen from about 280 parts per million (ppm) to just over 410ppm in 2018 (Loria, 2018). While these changes represent only a very small change to the overall composition of the earth's atmosphere, it is a significant change to its capacity to absorb and emit heat.

2.4 Australia and Northern Territory's Emissions

Australia's annual emissions in 2017 were estimated to be 556.4 Mt CO2 –e (Climate Council Australia, 2018). This is approximately 1.3% of global emissions. Australia's greenhouse gas emissions are very close to all-time highs, with the electricity sector being the biggest contributor, accounting for 33% of our emissions (Climate Council Australia, 2018).

Total emissions for the Northern Territory in 2016 were 16.5 Mt CO2-e (a 27.6% increase from 2005) (Northern Territory Goverment, 2018). Annual emissions from 2016 and emissions by sector for the Territory are shown in Figure 2. The Northern Territory has a unique emissions profile as we have a vast land mass and small population. Some of the major contributing factors include high rates of savannah burning and land clearing, making up almost half of the Territory's emissions.

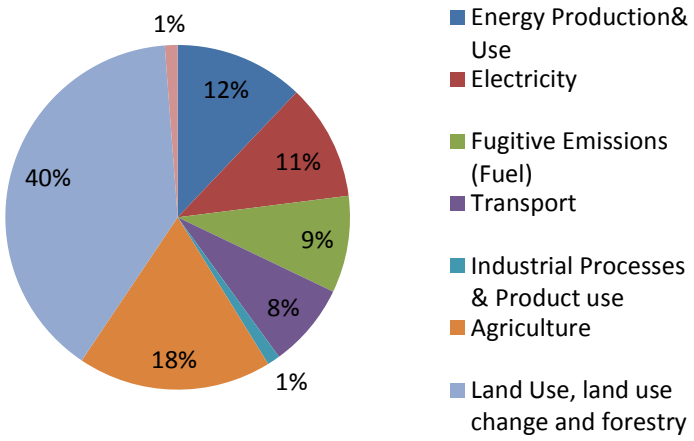

Figure 2 Northern Territory's Greenhouse Gas Emissions **(Northern Territory Goverment, 2018)**

2.5 Alice Springs Town Council's Emissions

Council's emissions are mainly produced by electricity, streetlight electricity and waste (landfill). Figure 2 shows the breakdown of Council's emissions. Waste creates 85% of Council's emissions, of which 31% is organic waste. Figure 3 provides a further breakdown of Council's emissions excluding waste, where electricity from facilities and streetlights account for 33% of emissions respectively.

Energy audits undertaken in 2016 show that Council's emissions amounted to 19,975tCO_2e for the year. This figure has been independently verified by Ironbark Sustainability. Since 2016 Council has implemented a significant number of energy efficiency and solar projects across its facilities. It is estimated that these will reduce emissions by 360tCO_2e, approximately 2% of the 2016 emissions.

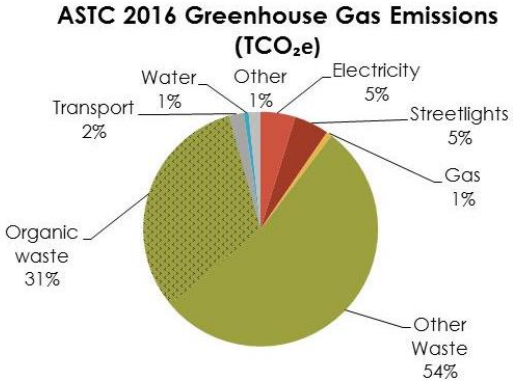

Figure 4 Council's Greenhouse Emissions in 2016

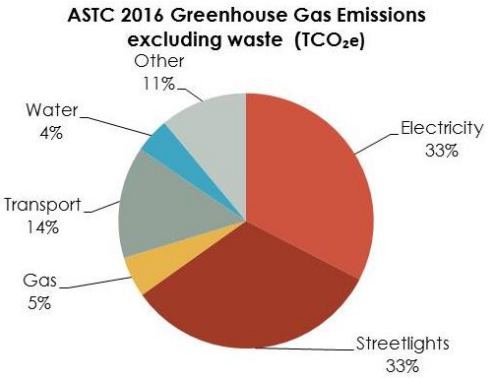

Figure 3 Council's Greenhouse Emissions breakdown excluding waste 2016

2.6 Alice Springs Community Emissions

In 2016, the estimated population size of Alice Springs was 26,823 (Australian Bureau Statistics, 2017). Emissions from the community have been profiled by Ironbark Sustainability, using the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), an internationally accepted reporting standard for community emissions.

The community's emissions amounted to 352,274 TCO_2e, with electricity, transport and gas being the key emission contributors (Figure 4). This is almost a tenfold increase when compared to Alice Springs emissions in 1996; 2,222 TCO_2e (Centre for Sustainable Arid Towns, June 2016). This increase can be attributed to new developments and infrastructure to accommodate for population growth.

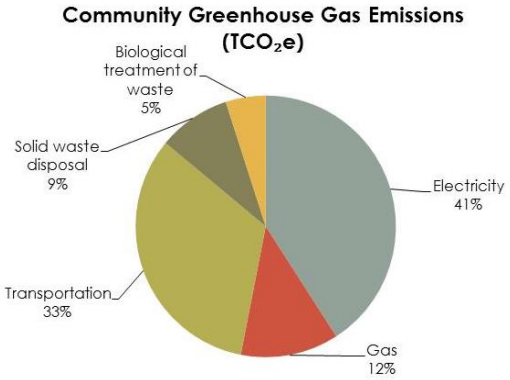

Figure 5 Alice Springs Community Emissions in 2016

2.7 Climate Change and its effect on Alice Springs

Central Australia is already known for its high temperatures, droughts and occasional floods –all of which will be exacerbated by climate change. In Alice Springs, seasonal temperatures are increasing with summer averages already 1°C warmer since 1943, and winter temperatures 1.5°C warmer (Mike Carmody, 2014).

This trend is consistent with climate change projections, that show inland Australia is likely to experience a greater degree of warming than coastal areas. Worryingly, days over 35°C are becoming more frequent and estimated to double from 90 per year to 182 by 2070, if no global emissions reduction efforts are made (Elizabth Hanna, 2018). Winter temperatures are likely to experience similar differences, with the number of days below 0°C expected to reduce from 16 to 9 or less (Yiheyis Taddele Maru, 2012). A trend of dry years and big rains is also becoming more apparent, but projected changes in rainfall are less certain on a local scale.

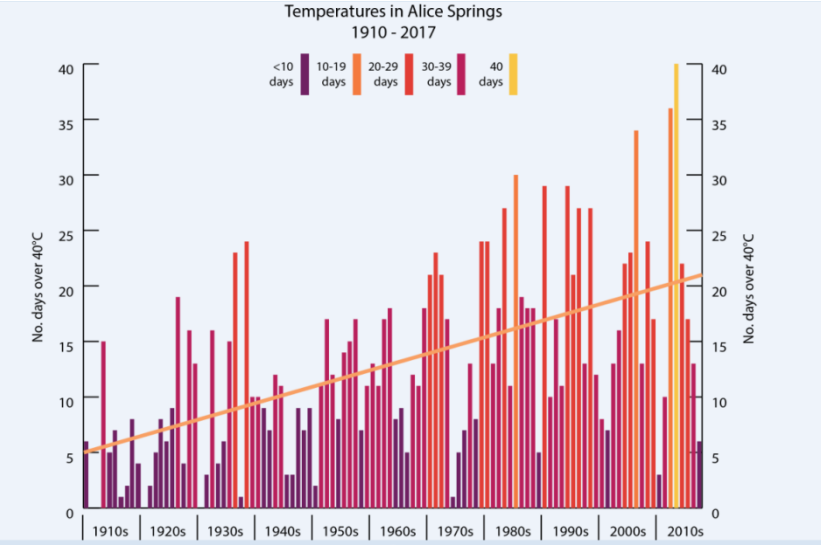

Figure 6 Number of days per year over 40°C in Alice Springs (Bureau of Meteorology, 2018)

Alice Springs is a culturally and economically diverse community, servicing many remote communities containing a large portion of the Centres disadvantaged population. It is important to acknowledge that these communities may disproportionately experience the effects of Climate Change, which has the potential to exacerbate the gap between disadvantaged and more advantaged. It is important that at all levels of government take a holistic communication approach as a 'one size fits all' approach may not be appropriate across cultural and language divides (Arusyak Sevoyan, 2013). Economically, it is important to support low carbon enterprise and diversify the local economy to reduce exposure to the worst impacts of climate change. Encouraging a sustainable economy in the Central Desert, utilising the regions natural values and thriving population is critical.

Other predicted effects include:

- Increased bushfire intensity
- Intensity of extreme weather events
- Increased droughts
- Loss of and risk to biodiversity
- Higher chance of mortality and exacerbated health conditions during heatwaves.
- Events such as sporting or cultural events cancelled during extreme weather
- Economic cost due to drop in tourism
- Population decrease in Alice Springs

Section 3- Targets

3.1 Alice Springs Town Council Emissions Target

The Alice Springs Town Council is committed to reduce emissions by 30% on 2016 levels by 2021. This requires a reduction of 3,037 TCO_2e by 2021. The year 2016 was used as a baseline for the *Climate Action Plan* due to the availability of data.

Achieving zero emissions by 2050 is widely acknowledged as necessary for keeping below a 2°C temperature rise, but interim targets are needed to stay on track to meet this long-term goal. If Council exceeds their emissions targets, a more ambitious target could be adopted; a reduction of 50% and 5,062 TCO_2e by 2021.

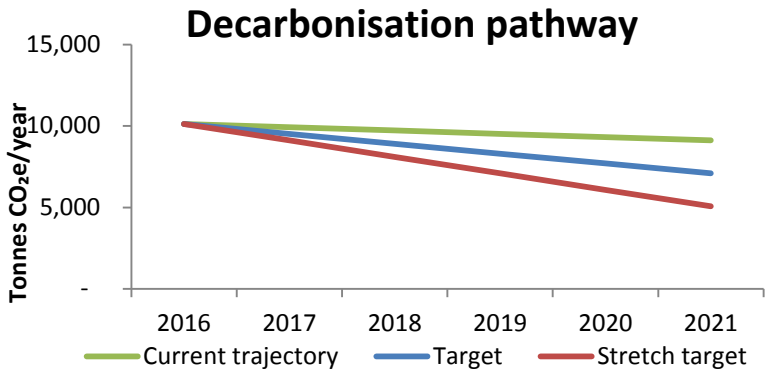

Figure 7 Projected pathways for Council emissions reductions 2016-2021.

A renewable energy target is incorporated into the action plan to align with Council's Strategic Plan 2018-2021. This target aims to source 50% of energy from a renewable source by 2021 across all Council's facilities. This target can be achieved through energy efficiency measures to reduce electricity consumption, installing solar directly onto facilities, or purchasing solar from community energy or large-scale renewables projects.

3.2 Targets to Influence Northern Territory's Reduction in Emissions

To expand our sphere of influence on climate action, Council is in a position to lobby the NT Government to provide stronger support on climate action through a number of means which could include: grant funding for community-wide actions, publishing Territory-wide emissions data, providing incentives for electric vehicles; trialling electric buses; or prioritising investment in waste management services that reduce emissions such as diverting food and garden organics from landfill.

Furthermore, Council could collaborate with other councils in the Northern Territory, the Local Government Association Northern Territory, Tourism NT and the Northern Territory Government to set up a linked network of electric vehicles in central Australia. Council is already part of a growing number of councils across Australia that have signed up to the Cities Power Partnership - a program of mentoring, leadership and action to promote and accelerate action on emissions reduction at the local government level.

3.3 Targets to Influence Alice Springs Community's Reduction in Emissions

Council aims to be a leader in mitigating against climate change and in engaging, mobilising, and facilitating action in the community. Community engagement will be vital to realising improvements in the community emissions profile in the coming years. Nonetheless, reducing emissions from the community is an enormous task and one that needs to be addressed at the individual, household, and community level, as well as all levels of government. Large-scale solar projects, increased use of public transport and alternative transportation such as cycling and a reduction of waste to the landfill are some of the initiatives to reducing emissions from the community.

A community emissions reduction target can be difficult to achieve due to the limited influence Council can have on the residents of Alice Springs. However, setting a specific electricity target or other qualitative targets could be an effective way of addressing a community emissions reduction.

Section 4- Climate Change Action Plan 2018-2021

Alice Springs Town Council is committed to reducing its carbon footprint through the establishment of the *Climate Action Plan 2017-2021*. For Council to achieve its emissions target, actions have been put in place, see Sections 4 and 5.

There are economic, social and environmental benefits that will result from the implementation of the *Climate Action Plan 2017-2021*. The Council and community will benefit from energy efficiency initiatives; flow on effects from the development of new renewable energy markets will create local job opportunities. Reduction in waste will increase the lifespan of the landfill; and reduction in fossil fuel powered vehicles will improve air quality and improve public health.

Implementing actions will be dependent on Council's budgets and will require forward planning. By the same notion, efficiency can lead to reduced costs and future proof for price spikes in electricity, fuel and gas. The question "what will it cost us? Could equally be replaced with "what will it save us?" and what other benefits will the community receive? All actions listed are nonetheless aspirational yet achievable.

Costs associated with each measure are defined as being low, medium, high or very high as follows:

Low cost:	<$10,000
Medium cost:	$10,000 - $100,000
High cost:	>$100,000
Very high cost:	>$1,000,000

Section 5- Council Actions

5.1 Energy

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost rating	Cost	Priority
1.	Source 50% of renewable energy by 2021.	Additional 248kW solar energy.	2021	Emissions reductions, leadership and long-term leadership. Cost reductions over a 4-6 year time frame.	**306**	High initial investment, but savings over a 5 year period.	$600,000 price based on existing solar PV systems at Council.	Very High
2.	Implement LED street lighting changeover, regardless of ownership.	All streetlights in Alice Springs changed to LEDs.	2021	Lower emissions, higher light output and lower maintenance requirements.	**370**	Very high	$2,000,000 estimated price. Recommend approaching the NTG. PWC may be willing to change like for like replacements prior to completing a full changeover.	High
3.	Introduce user-pays systems and user-agreements for energy use in Council-owned facilities.	User-pays systems are in place for energy used across Council facilities. Introduce a tenancy partnership program to ensure users of Council facilities take responsibility for energy use.	2019	Fair and equitable terms and conditions for user groups. Accountability by user groups. Tenants take ownership for energy used on Council facilities. Energy savings.	**30**	Low	$0	High
4.	Replace all inefficient lights in Council buildings with LEDs.	All lights in Council-owned buildings LEDs.	2021	Significant electricity savings. Improved light output. Lower maintenance costs.	**77**	High	Very difficult to estimate. Most light changeovers can be done over time during regular replacement/maintenance. Estimated costs $50,000 for facilities and $150,000 for ASALC.	Medium

5.	Financial support for sports and other user groups to become energy efficient or install renewable energy.	Excess fridges and freezers are removed. Push-button timers on lights. Solar PV where appropriate.	2018	Electricity savings. Accountability by user groups. Tenants take ownership for energy used on Council facilities. Energy savings.	**30**	Medium	Suggest 10 grants of $500. Will enable sports to install more energy efficient fridges etc. Will need to be done after user agreements are in place.	Medium
6.	Consider sustainability issues in the decision-making process of planning including a forecast of estimated energy use for all new facilities. Ensure new buildings are appropriately insulated and shaded.	Environmental assessments for new developments and for significant projects. Ecological sustainable development principles considered.	2018	Sustainability considered in design phase. Energy efficiency measures put in place prior to developments.	-	Low-High	Decision making costs low unless external consultant is required or sustainable design considerations add significant costs.	Medium
7.	Undertake an energy audit of key Council facilities.	Audit of key facilities undertaken every 3 years. List of prioritised action items.	2018-2021	Cost effective energy efficiency measures across Council facilities are identified. Baseline established from which improvements to energy efficiency can be made.	-	Low-medium	Can be done by staff at a basic level, by an independent consultant, or bit by bit with local contractors quoting on individual elements.	High
8.	Establish a rolling fund for financing energy efficiency projects and renewable energy.	Fund established based on allocating 25% of Council's facilities electricity expenditure. $170,000 allocated to support renewable energy projects with a return in energy savings over a 1-5 year period. Number of projects paid for from fund.	2018	Budgets available to allow for forward planning. Rolling fund will enable energy efficiency/solar actions from this Plan to be completed.	-	High	Medium costs on an annual bases ~$160,000/annum with reductions in electricity bills each year due to energy savings)	Very High

5.2 Gas

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost		Priority
9.	Pool blankets for indoor heated pools at ASALC.	Indoor pool blankets installed.	2018	Reduced gas consumption.	**45**	Medium	$100,000.	High

5.3 Transport

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost		Priority
10.	Replace one Council vehicle with an electric vehicle per year (when vehicles are due for renewal). Provide a charge point for the electric vehicle.	4 electric vehicles in Councils fleet by the end 2021. Electric vehicle charge points are installed.	2021	Reduced fuel use from Council fleet. Leadership in reducing emission from transport.	**8 tonnes per year by 2020**	High	Medium cost per vehicle (estimated $60,000). Assume electric vehicle would replace existing vehicles at time of renewal. Charge point already installed.	High
11.	Introduce an active transport policy for Council staff. Incentivise active transport.	Policy implemented and actively supported by each Department. Annual increase in the number of staff walking, cycling or taking public transport to work and during work trips.	2018	Leadership in reducing emission from transport.	**Savings linked to previous action**	Staff cost: low-medium	$0 Staff cost only.	High
12.	Ensure bicycles and electric bicycles are available for transport during work hours and encourage their use.	Distance travelled by staff on foot or bicycle	2018-2021	Leadership in active transport, reduction in emissions from Council's fleet.	**2**	Low	1 electric bicycle available already. Potentially introduce additional bicycles at the Civic Centre/Library, ASALC, and Depot if required.	Medium
13.	Reduce fuel use at landfill by adopting GPS monitoring for compactor at landfill.	GPS unit installed in compactor.	2019	Reduced fuel usage. Improved compaction of waste in landfill.	**2**	High	$120,000 Co-benefit of reducing staff hours, reduced machinery use, more accurate compaction levels.	Low
14.	Introduce a green fleet policy.	Minimum fuel efficiency standards introduced to all new Council passenger vehicles.	2018	Decrease in emissions from transport.	**-**	Low (similar replacement costs)	Similar replacement costs for low emissions vehicles.	Low

15.	Introduce minimum fuel efficiency standards for waste-contractor vehicles.	Provide minimum standards for fuel efficiency for major contractors.	2020	Decrease in Scope 3 transport emissions	**1**	Low	No cost to Council. Onus is on waste contractor.	Low

5.4 Waste and Recycling

	Action	Performance indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost rating	Cost	Priority
16.	Trial commercial food waste composting systems.	50 tonnes of food and green waste is trialled using a low-cost, low technology method (e.g. open windrows). Report to Council on trial outcomes.	2019-2020	Food waste composting trial is assessed for suitability to being scaled up.	**140**	Low-Medium	$20,000 if consultant fee required. Otherwise (high) staff costs only.	High
17.	Reduce pallets going to landfill by 50%.	225 tonnes reduction in pallets going to landfill.	2021	Emissions savings from wood waste going to landfill, less stockpiling.	**125**	Low	$0	Low
18.	Identify cost-effective measures to reduce food waste and garden waste going to landfill.	Options for reducing food waste and garden waste presented in business case to Council.	2018	Feasible options adopted by Council.	**-**	Low	$20,000. Business case (grant funding already requested).	High

5.5 Policy

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost rating	Cost	Priority
19.	Embed sustainable practices and carbon reduction measures into all staff KPIs (Key performance indicator).	Sustainability KPIs for each staff member e.g. sustainable procurement from finance team, sustainable vehicle purchasing from mechanics, reducing paper use from administration staff.	End 2018	Bottom up approach. Greater ownership from staff. Greater knowledge sharing within the organisation.	-	Staff cost: medium	$0 staff cost only	High
20.	Facilitate staff training in energy efficiency, energy auditing, eco-driving, waste management etc.	-Staff training opportunities provided -Information on Council's climate action work in staff recruitment and induction process	2018	Awareness and education	-	Staff cost: medium	$0 staff cost only unless Council undergoes a specific training program.	Medium
21.	Collaborate with other Councils to share and contribute advice through the Cities Power Partnership.	CPP goals are set and achieved. Semi-regular sharing of information with partner councils.	Start 2018 and ongoing	Leadership and learning.	-	Staff cost: medium	$0	High
22.	Sustainable purchasing policy.	Sustainable procurement policy created and implemented.	2020	Lower indirect emissions and waste to landfill.	-	Staff cost: medium	$0	Low

Section 6 – Community Actions

6.1 Energy

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost		Priority
23.	Lead, advocate for or assist with community-owned solar.	Community-owned solar projects supported by Council – either actively or in-kind. Partnerships formed with community groups. Working model or community energy project developed.	2018 and ongoing	Community members can more easily access solar energy.	-	Low- high	Staff costs only to support community –owned solar e.g. through in-kind support. Leading on community-owned solar would incur sots due to consultancy fees, set-up fees.	High
24.	Provide information on household and business solar.	Information on Council's website. Community information session or event. Information booklet on solar PV.	2018	Actively support the transition to a renewable energy future.	-	Low	Cost of printing materials, hiring experts for workshops.	High
25.	Open up unused Council land for solar projects.	Land available for solar projects is identified.	2018	Land accessible for community energy projects.	-	Staff cost: Medium + medium costs	Staff costs + development approval costs. Additional expenses if Council is required to alter land e.g. for drainage etc.	High
26.	Engage with and lobby the Northern Territory Government, electricity generators and retailers and other relevant stakeholders to ensure a smooth transition to a renewable energy powered network is feasible. Transition to include innovative technologies to support renewable energy such as peer to peer trading.	Number meetings or advocacy actions.	Ongoing	Renewable energy targets made achievable Leadership.	-	Staff cost: low	Staff time	High

27.	Attract a service that enables billing of renters for solar to make it more attractive for home-owners to install solar.	Number of businesses approached to offer a service for home-owners. Service available to charge renters for solar.	2019	Solar more accessible for a wide cross-section of the community. Greater uptake of solar.	-	Staff cost: low	Staff cost only.	High

6.2 Transport

	Action	Performance Indicator	Time frame	Outcome		Cost		Priority
28.	Set a target for active transport (walking and cycling) and commit to developing a bicycle plan.	Target set. Bicycle plan commenced or planned.	2019	Improvement in cycling and walking rates.	-	Medium	Consultancy fee if plan goes ahead $30,000. Otherwise staff time only to develop a target.	Medium
29.	Expand provision of safe, secure infrastructure for cyclists and pedestrians.	Bicycle symbols painted in key areas 'Share the road' signage Remove obstructions to safe riding. Additional bicycle racks.	2018-2021	Improvement in cycling rates. Reduction in emissions from transport. Reduced road congestion.	-	High-very high	$5,500 for bicycle symbols and signage in key areas of CBD. Larger areas of footpaths and signage would need to be costed.	High
30.	Develop and identity as a bike-friendly town.	Education output and signage on sharing the road with cyclists. Cycling maps available Work with the NTG to counter negative driver sentiment and misinformation towards cyclists. Provide support for new riders through: Rusty riders workshops	2018-2021	Positive attitude towards cyclists. Improved perception of safety. Increase in cycling rates.	-	Medium	Signage, driver awareness/education/media output $30,000.	High
31.	Facilitate meetings with key stakeholders to progress the incursion of electric vehicles in central Australia.	Meetings with stakeholders. Key actions to support electric vehicles are identified. Sufficient charge points installed to allow for travel	2018-2019	Remove barriers to driving an electric vehicle in central Australia Increase awareness of electric vehicles.	-	Low	Staff costs	High

	Lobby NT Tourism and the NTG to set up a linked network of electric vehicles in central Australia. Desert Knowledge Australia.	between key destinations and between Adelaide and Darwin. Sufficient charge points for electric vehicle tourism in central Australia.		Barriers to driving an electric vehicle in central Australia are lessened. Barriers to electric vehicle tourism are removed.				
32.	Install electric vehicle charging stations in a central location.	2 slow charge electric vehicle charge stations installed. 2 fast charge stations installed.	2018 2021	Remove barriers to driving an electric vehicle in central Australia. Increase awareness of electric vehicles.	-	High	$100,000 for two fast charging stations. Costs likely to come down by 2021.	High

6.3 Waste and Recycling

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost rating	Cost	Priority
33.	Implement a kerbside recycling service for residents and businesses.	Kerbside recycling service implemented. High percentage of household paper and cardboard removed from domestic waste stream.	2018	Reduced emissions from reducing paper and cardboard going to landfill. Co-benefits: reduced waste to landfill, conserving resources, additional employment.		Very high	Kerbside recycling already being actioned. Budget separate to this Plan.	Very High
34.	Pending outcome of business case (action item 3), implement a food and garden organics kerbside collection service.	Organics collection service implemented. Compost system in place.	2021	Large reduction in emissions. Co-benefits: waste diverted from landfill, compost product available for re-sale to the community.	**1907**	Very high	$1 million in new facility. Possibly grant dependent. Co-benefit of diverting approx. 5,000 tonnes waste from landfill.	High
35.	Home composting program implemented.	Discounted home composting bins provided to 500 residents Composting workshops and ongoing education program.	2020	500 additional households are composting. Householders are upskilled in composting.	**5**	Medium	$22,000 Discounted compost bins to 500 households + series of workshops.	High

6.4 Wastewater

	Action	Performance Indicator	Time frame	Outcome	Tonnes GHG saved per annum	Cost rating	Cost	Priority
36.	Lobby Power Water Corporation to reduce emissions from wastewater by investigating water efficiency programs and wastewater treatment.	Correspondence with Power Water Corporation.	2018	Reduction in emissions from wastewater.	-	High	$0 staff time only	Medium

6.5 Leadership, Awareness and Education

	Action	Performance Indicator	Time frame	Outcome	Cost	Comments	Priority
37.	Lobby the NT Government to provide strong leadership on climate action.	Meetings and correspondence with NT Government. Number of specific actions requested. Alignment between Climate Action Plan and NTG climate policies.	2018-2021	Greater support for Council and communities initiatives. Reduced emissions across the Northern Territory.	Staff time: low-medium	Staff time only.	Very high
38.	Partner with key local organisations to develop or progress action on climate change initiatives.	Meetings with desertSMART. Roadmap stakeholders. Actions identified and progressed.		Momentum maintained in community. Collaborative approach across Alice Springs. Spread responsibility for action across different organisations.	Staff time: medium	Staff time only.	Medium

39.	Engage with and support the community on climate change issues through the arts and through community events.	Art event or collaboration focusses on climate change. Public art with a climate change focus.		Cross departmental collaboration with environment and arts from within Council. Inspiration and community education.	Staff time: medium	Council could tie climate change theme in with an existing arts events (e.g. Recycled Arts Prize) or create separate arts events and/or artwork/sculptures/digital art/performance art. Alternatively, Council could sponsor a particular arts even in the Desert Festival etc.	Medium
40.	Establish an environmental grant under Council's Community Grants Program.	Amount of funding allocated to community groups for sustainability initiatives.	Annual	Greater capacity for action from community organisations. Emissions reductions from community sector.	Low-medium	Existing community grants budget - allocate a proportion of funding to environment-specific projects. Or, separate funding of $10,000 per annum.	High
41.	Increase awareness of the science of, potential impacts, and mitigating actions of climate change within Council staff and within the community of Alice Springs.	Section on climate change made available on Council website. Council staff trained in climate change awareness. Mail out to residents. Community forums. Community awareness education displays. Library, community events. Engage with schools. Survey residents to find key barriers to sustainable living and main areas of interest. Increase percentage (>75%) of public aware of the impacts of climate change at a local and global level.	Ongoing	Community is made aware of the impacts of climate change.	Staff time: medium	Key dates such as Earth Hour, World Environment Day to focus specifically on climate-change initiatives. Information on Council website, and regular posts on social media and with key Council figures (Mayor). Inform sports of the effects of climate change on sporting events etc.	High
42.	Support innovation through local responses to climate change.	Annual competition with a prize to kick-star innovative responses.	End 2018 then ongoing	-Maintain momentum and interest. -Awareness and education. -Adaptation.	Staff time: low-medium Cost: Low-medium	E.g. $2500 prize/grant as a local kick-starter.	Medium

Section 7-Reporting

Achieving deep emissions reductions through the action items will require a diligent approach over coming years from Council and collaboration across the community. The leadership already shown by Council puts it in good stead to influence and advocate for climate action through various levels of government.

This section lays out the monitoring, reporting, and evaluation required to ensure the Action Plan stays on track and that momentum is maintained to meet the emissions reduction target and progress actions.

	Monitor	Report	Evaluate
2018	• Monitor Council's environmental footprint in the areas of electricity, gas, waste, transport, and water.	• Quarterly update on progress of action items reported via Council reports and Environment Advisory Committees. • Report 2017 Council emissions inventory to general public and via Council reports and Environment Advisory Committee. • Report 2017 community emissions profiles to the general public. • Provide ongoing information/education about climate change and updates of Council and community progress.	• Annual review of progress on actions and emissions reductions via Council reports and Environment Advisory Committee meeting.
2019	• Re-profile community and corporate emissions for the year 2018. • Monitor Council's environmental footprint in the areas of electricity, gas, waste, transport, and water.	• Quarterly update on progress of action items reported via Council reports and Environment Advisory Committee meetings.	• Annual review of progress on actions and emissions reductions via Council reports and Environment Advisory Committee meeting.
2020	• Monitor Council's environmental footprint in the areas of electricity, gas, waste, transport, and water. • Re-profile community and corporate emissions for the year 2017.	• Quarterly update on progress of action items reported via Council reports and Environment Advisory Committee meetings. • Report 2017 Council emissions inventory to general public and via Council reports and Environment Advisory Committee meetings. • Report 2017 community emissions profiles to the general public.	• Annual review of progress on actions and emissions reductions via Council reports and Environment Advisory Committee meeting
2021	• Final emissions inventory for Council and community	• Report 2020 Council emissions inventory to general public and via Council reports and	• Evaluate success of the plan by comparing emissions for Council and the community for

	emissions profile for the year 2020.	Environment Advisory Committee meetings. • Report 2020 community emissions profiles to the general public • Establish new Climate Action Plan for beyond 2021.	the year 2020, estimating the baseline for 2021 and comparing this to the baseline year of 2016. • Evaluate success of the plan according to actions and whether or not the actions were appropriate and achievable in the given timeframe.

Section 8 – Abbreviations, References

8.2 Abbreviations

ASALC	Alice Springs Aquatic and Leisure Centre
ASTC	Alice Springs Town Council
CH_4	Methane
CO_2	Carbon dioxide
CO_2-e	Carbon Dioxide equivalent
COP21	Conference of the Parties (21st conference)
CPP	Cities Power Partnership
GHG	Greenhouse gas emissions
GPC	Global Protocol for Community-Scale Greenhouse Gas Emission Inventories
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
NT	Northern Territory
KPI	Key performance indicator
kW	kilowatt
kWh	kilowatt hours
PV	Photovoltaic
TCO_2e	Tonnes carbon dioxide equivalent

8.3 References

Arusyak Sevoyan, G. H. (2013). *Impact of climate change on disadvantaged groups: Issues and interventions.* Adelaide: National Climate Change Adapation Research Facility.

Australian Bureau Statistics. (2017). *Population Estimates by Local Government Area 2016.* Retrieved from http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3218.02016?OpenDocument

Bureau of Meteorology. (2018, December 13). *Climate statistics for Australian locations*. (BOM) Retrieved June 2018, from http://www.bom.gov.au/climate/averages/tables/cw_015590_All.shtml

Centre for Sustainable Arid Towns. (June 2016). *Local Action Plan to Reduce Greenhouse Gas Emissions in Alice Springs.* Alice Springs: CSAT.

Charles Darwin Univerity. (n.d.). *Cooling Remote Australian communities with Vegetation: Findings from Alice Springs.*

Climate Council Australia. (2018). *Australia's Rising Greenhouse Gas Emissions.* Canberra: Climat Council Australia.

Climate Council of Australia. (2017). *Local Leadership: Tracking Local Goverment Progress on Climate Changes.* CCA.

Climate Council of Australia. (2017). *Local Leadership: Traking local government progress on cliamte change.*

CSIRO. (2015-2017, July). *Climate Change in Australia*. Retrieved 2017, from https://www.climatechangeinaustralia.gov.au/en/

CSIRO, M. M. (2014). *Climate change: Learning about what is happening with the weather in central Australia.* Alice Springs.

Department of the Environment and Energy. (n.d.). *Climate change impacts in the Northern Territory*. Retrieved August 2017, from http://www.environment.gov.au/climate-change/climate-science/impacts/nt

desertSMART COOLmob. (2014). *Roadmap to a desertSMART Town (2013 - 2018).*

Elizabth Hanna, M. O. (2018). *Cooked with gas- Extreme heat in Darwin.* Canberra: The Australia Institute Reseach that Matters.

Intergovermental Panel on Climate Change. (2007). *IPPC Fourth Assessment Report :Climate Change 2007.* IPPC.

K. Hennessy, C. P. (2004). *Climate Change in the Northern Territory.*

Loria, K. (2018). The amount of carbon dioxide in the atmosphere just hit its highest level in 800,000 years, and scientists predict deadly consequences. *Business Insider*, 1.

Mathew, S. G. (2015). A framework for cliamte adaptation decision-making by local governments in central Australia. *Australian Rangelands Soeciety.*

Mike Carmody, J. D. (2014). *Climate Change:Learning about what is happening with the weather in Central Australia.* Alice Springs: CSIRO.

National Greenhouse and Energy Reporting. (2018, November 14). *Clean Energy Regulator*. Retrieved December 13, 2018, from http://www.cleanenergyregulator.gov.au/NGER/National%20greenhouse%20and%20energy%20reporting%20data/Data-highlights/2016-17-published-data-highlights

Northern Territory Goverment. (2018). *Climate Change Discussion Paper.* Canberra: NTG.

The Climate Institute. (2015, April). *Fact Sheet: Why avoiding 2 degrees of global warming matters for Australians.* Retrieved May 2017, from http://climateinstitute.org.au/verve/_resources/TCI__Why_2C_matters_Factsheet_290615.pdf

World Resources Institute. (2014). *Global Protocol for Community-Scale Greenhouse Gas Emission Inventories.*

Yiheyis Taddele Maru, V. C. (2012). *Climate change adaptation, energy futures and carbon economies in remote Australia: a review of the current literature, research and policy.* Allice Springs: CRC-REP.

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