

Bellingen Shire Climate Emergency Program 2020 – 2030



Corporate Carbon Plan

'Climate Emergency Is the Fight of Our Lives, for Our Lives'

António Guterres, UN Secretary-General
2019 Climate Action Summit, New York

Report issued November 2019

Bellingen Shire Council

www.bellingen.nsw.gov.au

Front cover: Installation of solar panels on the administration building, July 2017

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Introduction

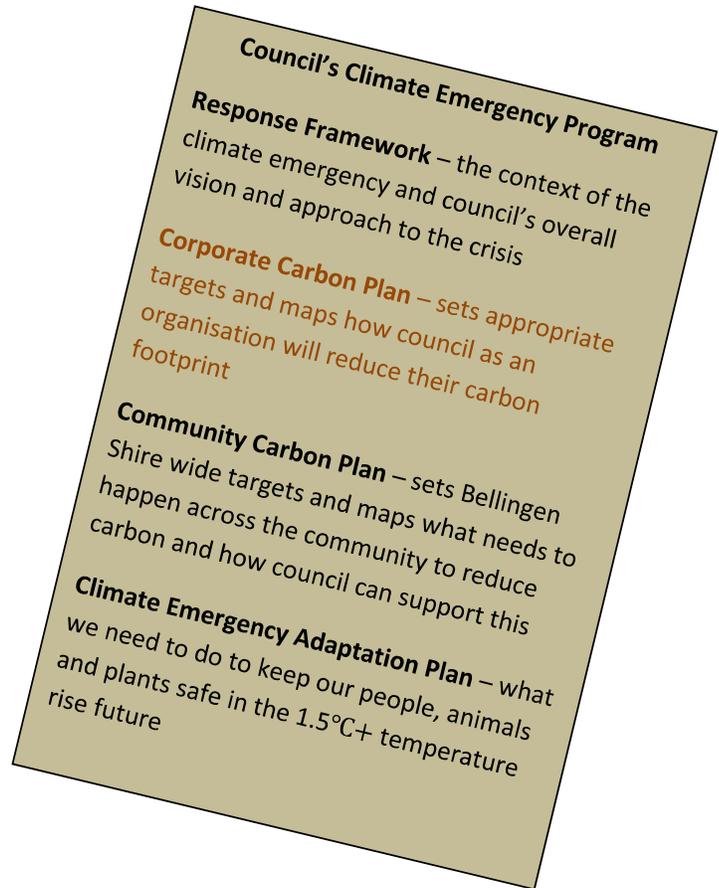
On 27th March 2019 Bellingen Shire Council declared a climate emergency. The declaration includes the requirement to examine how council's community strategic plan (Vision 2030), works program and planning documents can address the climate emergency.

Council will develop a set of key documents outlining the actions needed both within Council and across the community. More information about Council's overall approach and background to the climate emergency is outlined in the Climate Emergency Response Framework, which forms one of a set of four documents that council will prepare.

A significant part of acting on the climate emergency is to rapidly reduce the Shire's carbon footprint. Council acknowledges that it must lead by example. In 2012 council developed an emissions reduction plan (Bellingen Emissions Reduction Program BERP), which outlined targets and actions to reduce corporate emissions. Whilst a significant amount of work identified in that plan has already been completed, including energy efficiency and renewable energy works, council aims to now increase its actions in line with the increasingly serious threat that climate change poses to life on earth.

This report updates council's carbon reduction targets based on scientifically rigorous and up to date information, and identifies further actions in the short, medium and longer term to accelerate the reduction in emissions from council's operations.

This Corporate Carbon Plan forms part of a suite of documents that will jointly drive Bellingen's response to the global climate emergency.



Council Policy drivers

Community Vision 2027

We live sustainably and reduce our ecological footprint and contribution to climate change

Operating Plan 2018/19

Conduct full review of the Bellingen Emissions Reduction Program.

Climate Change Policy

Sustainability Policy

Policy context for carbon reduction

Bellingen Shire council has been working on addressing climate change for some years, completing Milestone 1 of the then Cities for Climate Protection program in February 2008 and developing its first Bellingen Shire Emissions Reduction Program (BERP) in 2012.

A number of council documents already supported a review of the Emissions Reduction Plan however the fast-increasing climate emergency requires a stronger and bolder approach in how council addresses carbon emissions. Community support is strong for council to act swiftly and effectively on climate change.

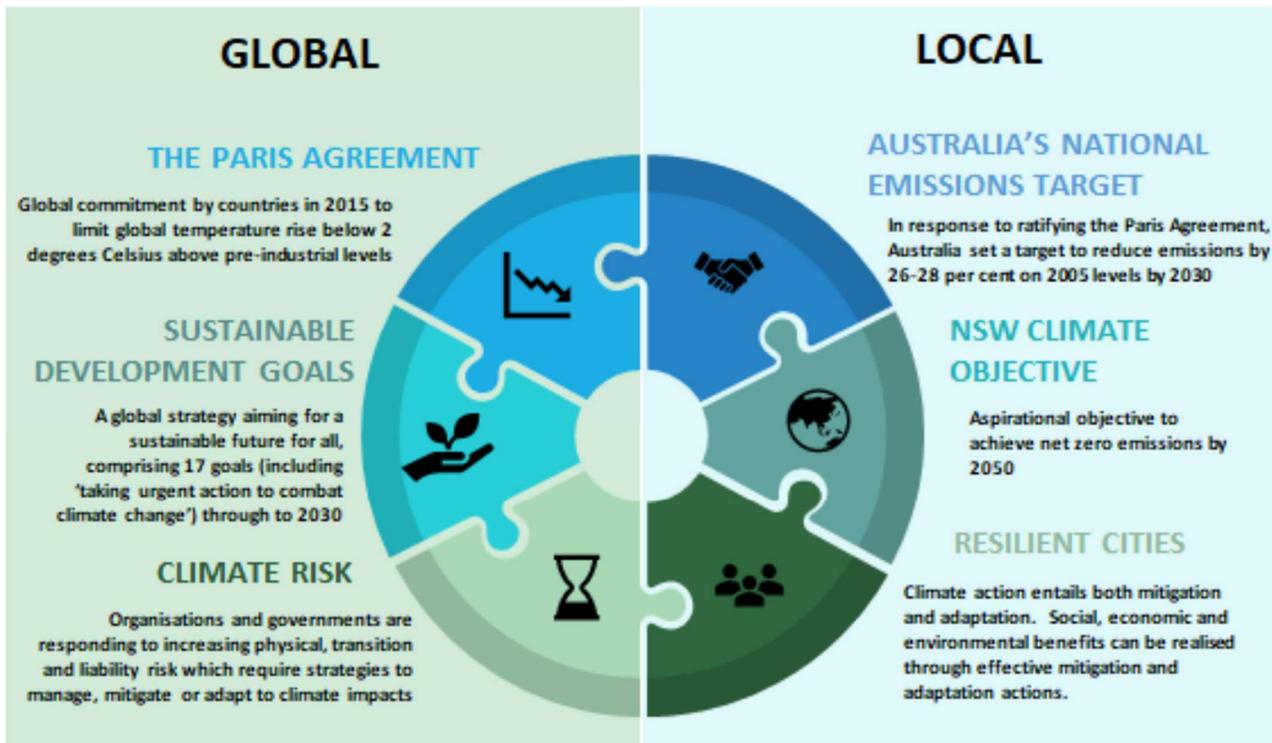


Figure 1 - Key policy drivers for climate action (from NSW government Department of Planning, Industry and Environment: Draft Net Zero Emissions Guidance for NSW councils)

The United Nations Sustainable Development goals comprise of 17 global goals for achieving a sustainable planet. Any actions or decisions made around the climate emergency and climate change

must be made in the context of these goals. For example, any action around climate change should also consider outcomes or impacts on other goals such as inequality reduction or no poverty.



Figure 2 - UN Sustainable Development goals

Council's carbon footprint

Figure 3 below shows the current breakdown of council's carbon emissions. The largest emissions come from electricity use (77%) and therefore the main focus of the plan should initially be actions to address this.

Council used 2.47GWh of electricity last financial year (2018/19) with electricity costs of approximately \$573,000.

However almost a quarter (23%) of all emissions come from Council's fleet so this also requires action.

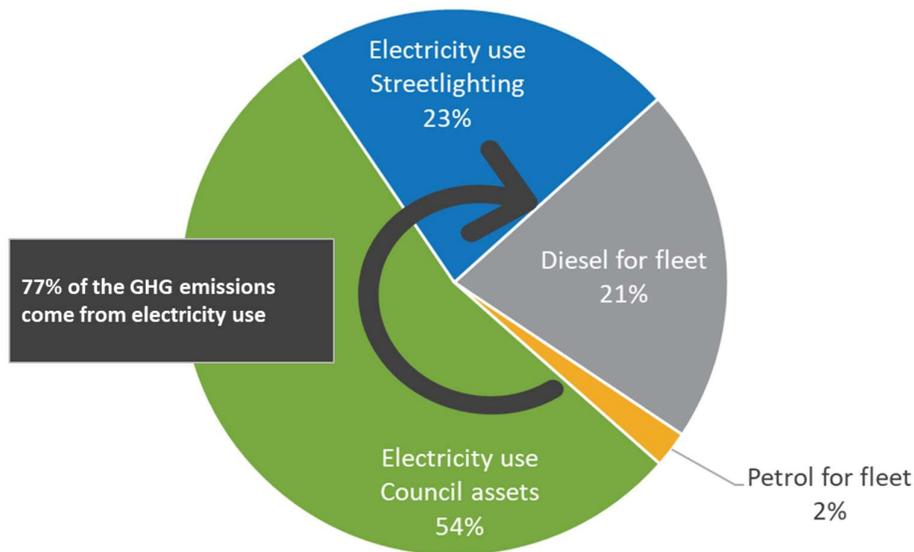


Figure 3 - Council's carbon emissions

Council's top ten electricity using assets are shown in Figure 4. Water and wastewater sites form the majority of the top electricity users, responsible for 64% of electricity usage (excluding street lights). Council's water and wastewater sites are heavily constrained in terms of space for solar PV on site and so additional actions will be required to reduce and offset emissions from these sites including a continuing program of energy efficiency and purchase of grid electricity from renewable sources.

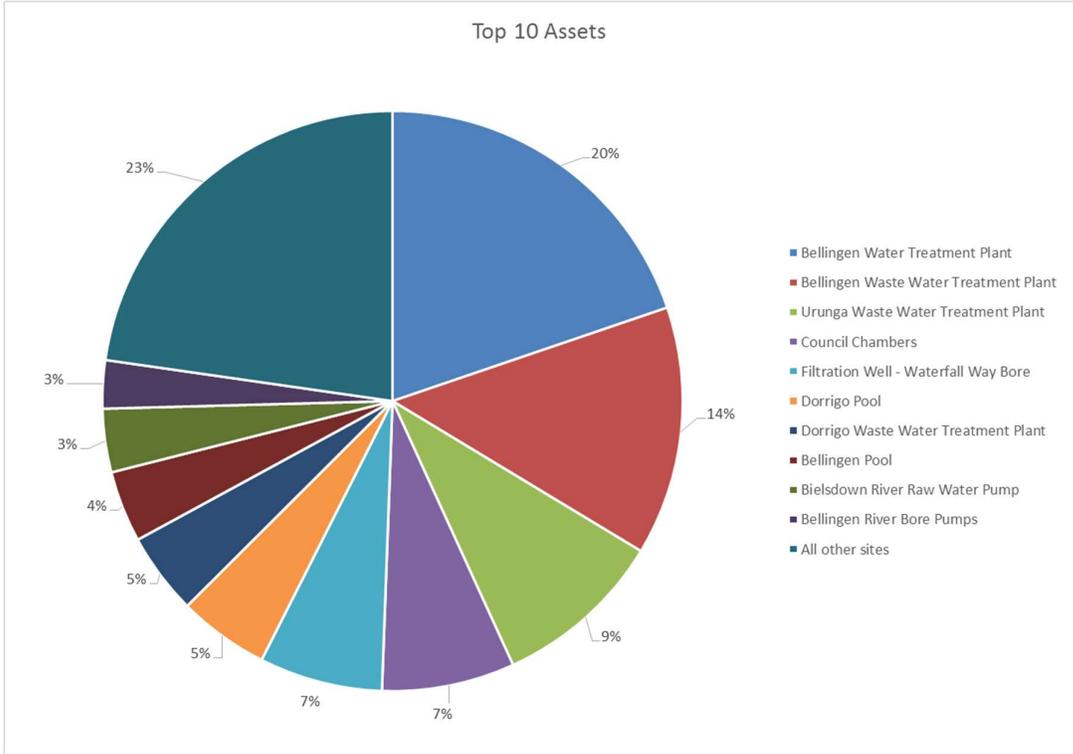


Figure 4 - Top ten electricity using assets (excluding street lighting)

Figure 5 below shows how emissions from street lighting, electricity and fuel have varied over time since 2008/9 (baseline year).

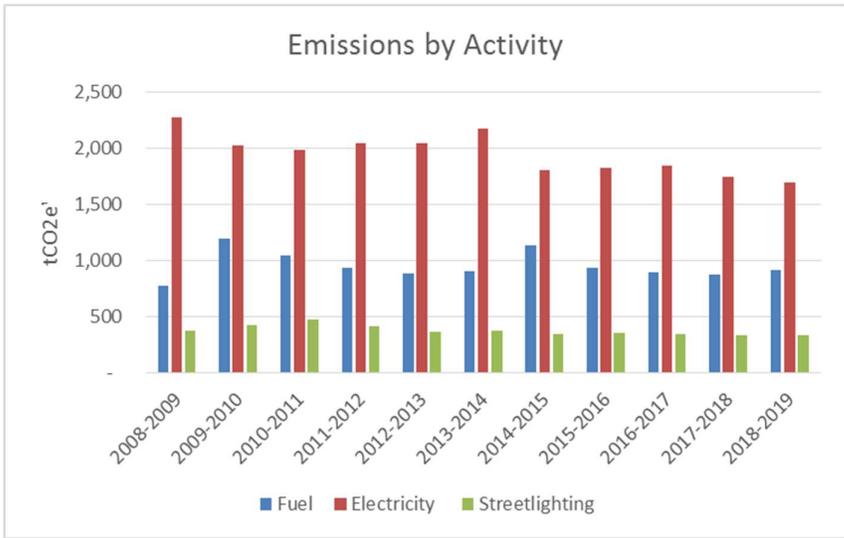


Figure 5 - Carbon emissions from fuel, electricity and streetlighting over time

Corporate electricity use has been reducing steadily over time as a result of energy efficiency works and solar PV installations. Electricity from street lighting has reduced due to the removal of mercury vapour lights in 2012. This will reduce further with a planned change over to LED lighting within the next 5 years. Fuel use has remained fairly constant over time, varying on a year-to-year basis depending on council's works program.

Setting corporate carbon reduction targets

A workshop was held in November 2019 with councillors and council's executive to discuss council's carbon reduction target, the inclusion of a renewable energy target and actions that council could take to reduce emissions. There was overwhelming agreement to aim for strong targets given the climate emergency and the following targets were suggested for investigation a) Council operations to be run using 85 - 100% renewables b) Council to achieve net zero emissions.

A workshop was held in October 2019 with council's executive, managers and other key staff to identify carbon emissions reduction opportunities.

Global context

A special report issued by the International Panel on Climate Change (IPCC) in late 2018¹ identified that to remain below the 'safe' target of 1.5°C warming, an emissions reduction of 45% on 2010 levels by 2030 was required before reaching net zero emissions by 2050 at the latest.

National and local context

Whilst the federal government is doing little to advance action on the climate emergency, many states are leading the way with strong renewable energy targets and many have a target for net zero emissions by 2050 (although none as yet have incorporated the step target of 45% reduction by 2030 that the UN IPCC report states is necessary).

Many councils across Australia have also set strong targets and are reviewing targets and writing climate emergency plans, as part of climate emergency declarations.

¹ https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/sr15_headline_statements.pdf Accessed 29 May 2019

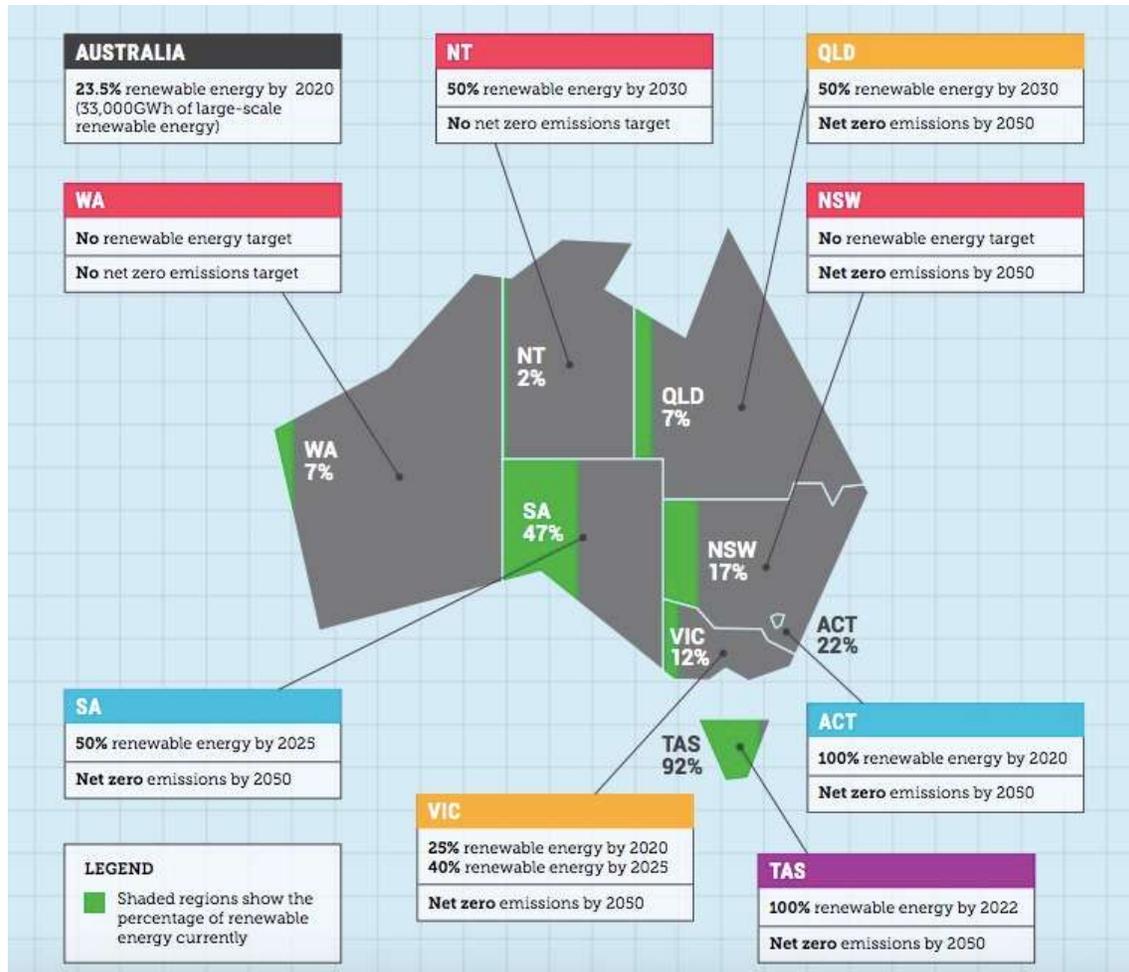


Figure 6 - Australian state targets (from Renewables Ready: States Leading the Charge by Petra Stock, Dr David Alexander, Andrew Stock and Greg Bourne)



Figure 7 - Examples of targets by councils in capital cities across Australia (from 100%Renewables Pty Ltd)



Figure 8 - Examples of ambitious targets across NSW (from 100%Renewables Pty Ltd)

A review of targets from nearby councils is shown below:

Council, town or community	GHG and/or renewable energy commitment
Tweed Shire Council	Commitment to 50% renewable energy
Lismore City Council	100% renewable energy by 2023
Byron Bay Council	100% renewable energy by 2027 Net zero by 2025
Coffs Harbour Council	100% renewable energy by 2030 50% emissions reduction by 2025
Port Macquarie Hastings Council	100% renewable energy by 2027
Nambucca Council	Zero net carbon emissions within the 2030 to 2050 timeframe

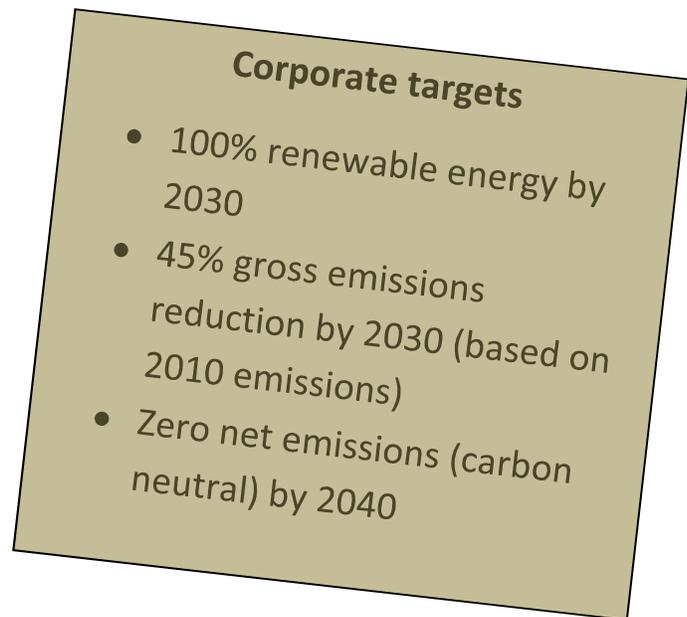
Table 1 - Examples of neighbouring councils' targets

Corporate targets

In order to stop warming and create global cooling we need to:

1. Reduce carbon emissions to zero quickly.
2. Reduce short lived pollutants such as methane and hydrofluorocarbons as much as possible.
3. Draw down the excess carbon dioxide already in the atmosphere.

Council's new targets are aimed at point one above, reducing carbon emissions to zero quickly. They are based on the UN IPCC global targets and are consistent with other state and local government targets, as well as the community's aspirations, based on their declaration of a climate emergency.



Carbon footprint and emission boundaries

Council's current target and its measuring and reporting are based on three "scopes" as identified in the National Carbon Offset Standard (NCOS).

Scope 1 - **Direct Emissions** from the activities of an organisation or under their control including fuel combustion on site such as fleet vehicles and air-conditioning leaks.

Scope 2 - **Indirect Emissions** from the activities of an organisation generated offsite. In the case of council this is purchased electricity.

Scope 3 - **Other Indirect Emissions** from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with, for example, business travel, procurement, waste and water. Scope 3 emissions can come from either "upstream or downstream" activities. Council, as a service organisation, has mainly upstream activities.

Relevant upstream activities

- Purchased goods and services – all emissions of purchased goods and services e.g. materials, contracted services
- Purchased capital goods – all emissions of purchased capital goods
- Fuel and energy activities (not included in Scope 1 or 2) – emissions from purchased fuels, purchased electricity, transmission and distribution losses
- Transportation and distribution of goods and services
- Waste generated in operations – disposal and treatment of waste generated by council
- Business travel – transportation of employees for business-related activities
- Employee commuting – transportation of employees between their workplace and place of work
- Upstream leased assets – Scope 1 & 2 emissions from assets leased by council

Relevant downstream activities

- Downstream leased assets – Scope 1 & 2 emissions from assets (e.g. buildings) owned by Council and leased out.
- Investments – including equity and debt finance and project finance

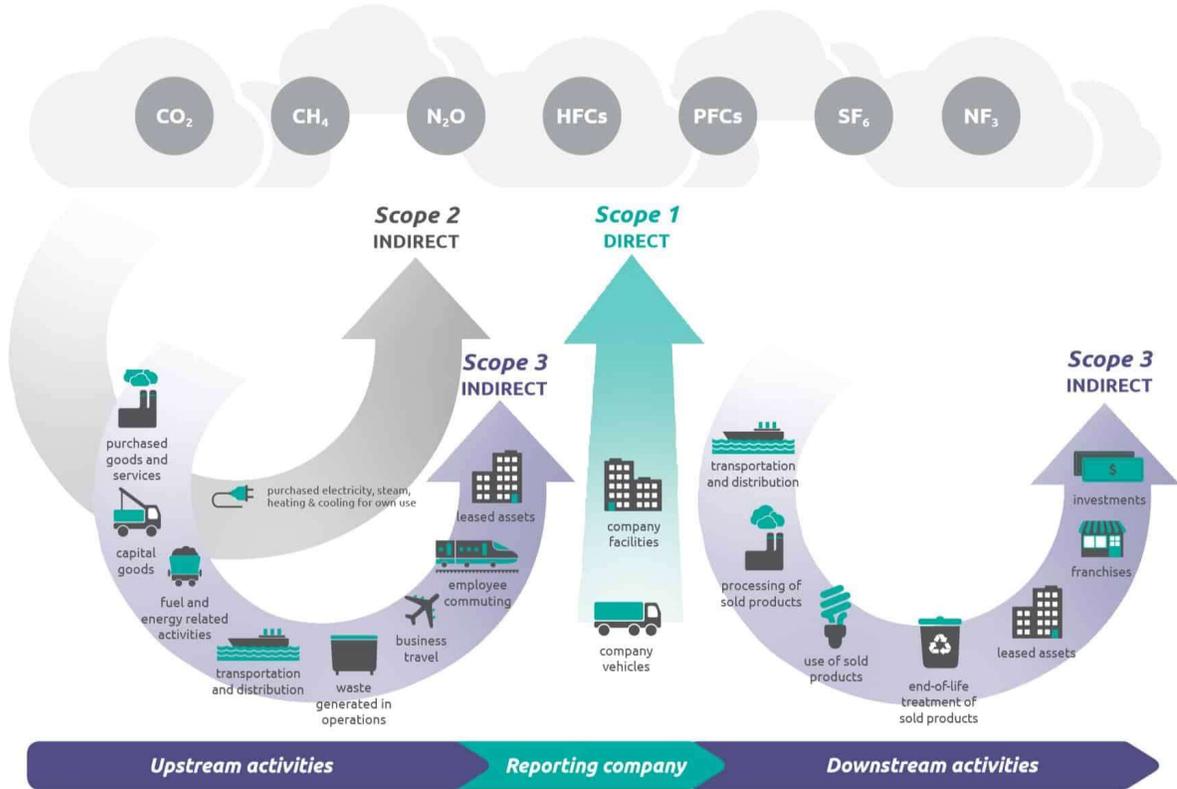


Figure 9 - Typical examples of scope 1, scope 2 and scope 3 inclusions in an emissions boundary (from Greenhouse Gas Protocol: Technical Guidance for calculating Scope 3 emissions)

The following activities are currently reported by Council within their carbon footprint.

Emissions scope	Activities included
Scope 1	All diesel and fuel from Council’s vehicle fleet and machinery
Scope 2	All bought electricity
Scope 3	Street lighting, electricity transmission and distribution losses

Table 2 - Carbon emissions included in Council’s reporting

The activities in Table 2 above generate emissions that are associated with day-to-day operations of council and they are both measurable and actionable (to a greater or lesser extent). These activities are the minimum necessary to assess and report on council’s carbon footprint.

Any decision to include other activities in the future will be based on comparing the additional resourcing needed to collect and collate the information versus the level of emissions from these activities and the ability to effect change. Adding other activities to council's carbon footprint would mean that the current footprint, as reported, would initially increase but the benefit of including additional activities is that it would give a fuller account of all of council's emissions.

Excluding activities does not, however, preclude council from acting and qualitatively reporting on them as part of its overall sustainability policy approach. Therefore there are actions in this plan that council do not currently measure but will implement never the less and may quantitatively report on them in the future.

Implementation of the plan

Just as waste follows a hierarchy of “refuse, reduce, reuse, recycle” so reducing emissions and moving towards net zero (carbon neutral) can also follow a hierarchy of actions. Council will follow the hierarchy below:

- 1) *Measure* and report on carbon footprint
- 2) *Avoid* using the energy in the first place e.g. switch off the lights, walk or cycle
- 3) *Reduce* energy demand through
 - a. energy efficiency
 - b. policy change
 - c. behaviour change
- 4) *Replace* with a low carbon alternative
 - a. solar PV for electricity use (rooftop, ground mounted on site)
 - b. electric/hybrid vehicles charged by solar PV
- 5) *Offset* remaining carbon emissions
 - a. carbon offsets e.g. through accredited tree planting programs
 - b. offsite solar e.g. renewable corporate power purchase agreements (PPAs)
 - c. purchase of accredited GreenPower
- 6) *Improve* verification and rigour – work towards including other Scope 3 emissions over time



Figure 10 - Carbon reduction hierarchy (from NSW government Department of Planning, Industry and Environment: Draft Net Zero Emissions Guidance for NSW councils)

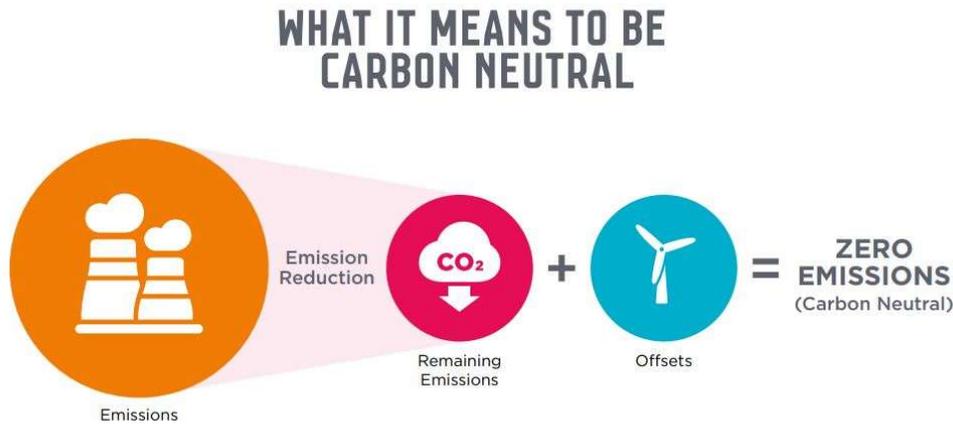


Figure 11 - Carbon neutral process

Energy efficiency - Council will undertake a review of all energy using assets to consider options for energy efficiency actions. The assessment will be based on a return on investment model. Energy efficiency actions could be technological (e.g. LED lighting upgrades, timers, motion sensors, smart controls on streetlights), behavioural (e.g. switching computers and lights off) or policy changes.

We will then look at the following:

Installation of renewables on site – we will continue our program of “behind the meter” solar PV

Purchase of renewables from outside the Shire – we will investigate a corporate renewable power purchase agreement (PPA) as part of a wider buyers group; we will continue monitoring the viability of larger scale renewable energy options within the Shire.

Carbon offsets - we will investigate the different options for offsetting of our carbon emissions through, as the preferred option, tree planting within the Shire, followed by purchase of accredited Australian carbon units.

Funding the plan

Council set up a Revolving Energy Fund (REF) which has been running successfully for several years. Monetary savings from energy efficiency and renewable energy projects are reinvested back into the fund which then funds other emissions reduction projects.

When potential projects are identified, a business case is developed that looks at cost per kW (\$/kW) or cost per kilogram of carbon reduction (\$/kgCO₂-e), depending on the type of project. The simple payback time is also assessed as well as the return on investment (ROI).

This has proved to be an effective and efficient way to prioritise and fund Council's carbon reduction projects and will continue to be used for this plan. However, some of the actions will require greater budgets than the REF has the capacity to cover. Additional funding could be sourced from the general budget, grants or green finance, as appropriate to the project.

The costs of many technologies, such as batteries and electric vehicles, are changing rapidly and therefore it is appropriate to carry out business case assessments when council is ready to proceed, on a case-by-case basis. Council will continue to monitor these.

Key Focus Areas

Actions that council will take are identified under a set of key focus areas (KFAs) each with their own objectives. Each KFA has a timeframe identified as follows:

- Short term - next 2 years – by 2022
- Medium term - next 5 years – by 2025
- Longer term - by 2030 or as technology/legislation allows
- Ongoing

KFA 1: Leading the way

Show leadership to staff and the community around the climate emergency and reducing carbon emissions.

Major Action Areas	Timeframe	Comments	Responsibility
Lobby for increased action (policy, funding, legislation) on the climate emergency at both a state and federal level whenever possible	Ongoing		Council/General Manager (GM)
Publicise Council’s emissions reduction achievements on at least an annual basis	Ongoing	Annual report to Council; identify other opportunities to publicise achievements	GM
Join the Global Covenant of Mayors for Climate and Energy	Short term	Mayor to join	Deputy GM Corporate and Community
Review and then continue to implement council’s ethical investment and fossil-fuel divestment policy	Short term	Aim for 100% divestment by 2022	Chief Financial Officer
Inform staff of their options for fossil-fuel free superannuation	Short term		Human Resources Specialist

KFA 2: Changing culture and decision-making

Develop ways of ensuring that when decisions are made, climate change and carbon reduction are front and centre of all decisions.

Implement a change process throughout council to support staff in making low carbon decisions both at work and at home.

Action	Timeframe	Comments	Responsibility
Form a council Climate Emergency Response Team (CERP) to oversee the implementation of this plan and the cultural change required	Short term		GM
Undertake organisational review of council's planning, policies, work programs to examine alignment with Council's Climate Emergency commitment	Ongoing		GM
Development of processes and Carbon Action Plans by each council service to identify smarter, low carbon ways of working	Short term	Map how each Council service area can operate in a more sustainable, efficient, low emissions way and identify actions	All managers
Develop a tool/set of criteria to integrate climate emergency in all decision-making	Short term		Climate Emergency Response Team (CERP)
Include climate emergency response in Council report template	Short term		GM
Include climate emergency response in corporate reporting	Short term		Exec Manager, Org. Strategy and Communications
Include climate emergency as a standing agenda item in team meetings	Short term	Includes Executive Leadership Team (ELT), Senior Managers (SMT), department meetings and team meetings	GM, Deputy GMs and Managers
Develop a staff education/awareness raising program	Ongoing	What staff can do both in work and at home to reduce carbon emissions	Climate Emergency Response Team (CERP)

KFA 3: Use less electricity*Embed energy efficiency across all Council areas.*

Action	Timeframe	Comments	Responsibility
Implement an energy efficiency works program – audit of council assets to identify opportunities for energy efficiency	Medium term	LED lighting, timers, HVAC/air-conditioning	Deputy GM Operations/Manager, Maintenance
Upgrade streetlights to LED (both Cat P and V) with consideration for smart lights (dimmer technology)	Medium term	Review with Essential Energy in late 2019/20 year. To align with next bulk replacement program	Manager, Maintenance
Embed energy management in council systems e.g. licences and leases	Medium term		Deputy GM Operations/Deputy GM Corporate and Community

KFA 4: Switch to renewables

Generate renewable energy on all council facilities (where feasible).

Source large-scale renewable energy off-site to reach 100% renewables target.

Action	Timeframe	Comments	Responsibility
Stage 3 Bellinghen Solar Program - Install solar PV on water and waste water assets	Short term		Manager, SEW/ Manager Water and Wastewater
Program of solar PV installation on other council owned buildings e.g. community halls	Medium term		Manager, SEW/Other relevant managers
Include renewable energy on all new facilities (subject to feasibility)	Ongoing		DGM Operations
Procure renewable energy via a corporate power purchase agreement	Short term	Discuss with north coast councils/others to consider a buying group or join an existing buying group	Procurement and Contracts Administrator
Possible future mid-scale solar farm on council land	Longer term	Monitor legislation/rules	GM

KFA 5: Zero emissions transport

Deliver a zero emissions fleet that meets the needs of council.

Review other fuel-using equipment and tools for low carbon alternatives.

Action	Timeframe	Comments	Who responsible
Develop electric vehicle strategy with aim to transition car fleet to electric as soon as feasible	Medium term	Review criteria for fleet selection and check annually against criteria.	Deputy GM Operations
Review existing vehicle fleet and reduce emissions whilst transitioning to EVs	Short term	Procure vehicles with low emissions/fuel efficient	Deputy GM Operations
Participate in the Charge Together Program to progress the transition	Medium term	Supported by government, industry and the Electric Vehicle Council	Deputy GM Operations
Review other machinery/tools to identify alternative low carbon options or operational changes to reduce carbon	Medium term		Managers, Operations and Maintenance
Transition heavy vehicles to electric	Longer term	Continue to monitor this evolving space	Managers, Operations and Maintenance
Review flexible work policy in relation to e-working/work from home	Short term		Exec Manager, Org. Strategy and Communications
Green Travel program to incentivise staff to use sustainable forms of transport	Medium term	e.g. electric bikes for staff, ride to work, reignite a staff car-pool system	CE response team
Reduce business travel where possible e.g. video conference where appropriate, if not then carbon offset	Short term	Training in video conferencing Ensure IT systems support remote working	All managers/ IT

KFA 6: Reduce water use and minimise waste

Reduce waste generation across Council.

Increase composting and recycling across all areas.

Action	Timeframe	Comments	Who responsible
Audit, and then expand if necessary, waste and recycling practices throughout all council buildings and venues	Short term		Climate Emergency Response Team
Identify actions to reduce waste and monitor and report via corporate plan	Short term		Climate Emergency Response Team
Reduce paper use across all sites	On going		Exec Manager, Org. Strategy and Communications
Staff education on waste reduction with emphasis on avoidance (reducing consumption)	Medium term		Climate Emergency Response Team
Develop a waste-free Catering Policy (to include events and facilities)	Medium term	Include waste free, local and ethical food	Climate Emergency Response Team
Identify actions to reduce council's water use and monitor and report via corporate plan	Medium term	Use existing energy reporting software	Climate Emergency Response Team

KFA 7: Sustainable Procurement

Manage emissions from works program, equipment and the supply chain through whole-of-council sustainable procurement.

Ensure all procurement aligns with the Sustainable Development Goals.

Action	Timeframe	Comments	Who responsible
Review procurement policy and re-develop as a sustainable procurement policy and guidelines	Short term	Use full life cycle approach.	Chief Financial Officer
Ensure tenders and purchasing minimise carbon emissions	Ongoing	Aim to have carbon neutrality as a requirement for contractors	Procurement and Contracts Administrator

KFA 8: Carbon neutral

Achieve carbon savings with local projects.

Be carbon neutral by 2040 at the latest using off-setting within the Shire as the first option.

Action	Timeframe	Comments	Who responsible
Develop carbon offset program with aim to offset and drawdown carbon within the shire	Longer term		Manager, Sustainable Environment & Waste
Purchase genuine carbon offsets for residual emissions to be carbon neutral by 2040	Longer term		Chief Financial Officer