Office of Energy
and Climate Change

# Net zero community emissions guide for NSW councils

Helping councils plan for a low emissions future

NSW GOVERNMENT

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# NSW Treasury

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# Acknowledgement of Country

We acknowledge that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia, and the oldest continuing culture in human history.

We pay respect to Elders past and present and commit to respecting the lands we walk on, and the communities we walk with.

We celebrate the deep and enduring connection of Aboriginal and Torres Strait Islander peoples to Country and acknowledge their continuing custodianship of the land, seas and sky.

We acknowledge the ongoing stewardship of Aboriginal and Torres Strait Islander peoples, and the important contribution they make to our communities and economies.

We reflect on the continuing impact of government policies and practices, and recognise our responsibility to work together with and for Aboriginal and Torres Strait Islander peoples, families and communities, towards improved economic, social and cultural outcomes.

Artwork:
*Regeneration* by Josie Rose

# Contents

# Welcome

1

## Welcome to the NSW Government Net zero community emissions guide for NSW councils.

**After facing years of drought, bushfires, floods and violent storms, people around New South Wales know climate change is on our doorstep, and that the local governments that serve communities around our state are at the frontline of action.**

The race to net zero emissions is on. The international Paris Agreement committed participating countries, including Australia, to pursue a temperature goal of 1.5°C but no more than 2°C. Science has since demonstrated 2°C is not safe. In late 2021, at the COP26 climate change summit, Australia agreed to focus on a 1.5°C limit. In 2022, policymakers met again for COP27 and continue to work together to meet the problem head on. Australia now has a target for net zero emissions by 2050. The NSW Net Zero Plan sets a **50% emissions reduction target compared to 2005 levels by 2030** across all sectors of the NSW economy. These policies provide a clear expectation that we need to accelerate climate action now. Rapid, deep and sustained reductions in greenhouse emissions will be needed as early as possible.

The need for local government action is outlined in the 2022 NSW Net Zero Plan Implementation Update:

> "NSW councils play a key role in supporting decarbonisation as local leaders and through their connection to local communities. By reducing emissions, local councils can help increase the resilience of their communities and act as a catalyst for New South Wales to meet its net zero emissions objective".

Local governments can play a powerful role in accelerating these targets through encouraging local action and leading by example.

Many councils around NSW are already well advanced on the road to net zero. Some are accelerating efforts, while others are just starting out on their journey. But all councils, regardless of the maturity of their strategy, have the power to reduce emissions in their communities and create a thriving, sustainable future for all.

Reaching net zero emissions by 2050 cannot be achieved by any single stakeholder or level of government alone. It will require a whole-of-community response, with state, federal and local governments working alongside business and the community to leverage the opportunities and scale solutions to deliver the biggest impact.

This Net zero community emissions guide for NSW councils (Guide) will equip and enable NSW councils to develop net zero strategies for their community emissions.

A community net zero emissions strategy differs from a council's corporate net zero emissions strategy, which is focused only on emissions from council assets and operations. While many councils are significantly reducing their operational emissions – in council buildings, leisure centres and fleet, for example – these emissions account for just a fraction of the community's entire emissions footprint.

**Local governments are leaders, place makers and connectors in their communities. This Guide has been developed to help local governments to extend their efforts and elevate their ambitions by developing net zero emissions strategies or climate action plans for their communities. With the right strategy, a council can play a significant role in reducing the emissions of their local community.**

# 1.1 About this Guide

This Net zero community emissions guide for NSW councils (Guide) has been developed to help each New South Wales council develop a strategy to address its community-based emissions. The Guide provides clear considerations for a range of council practitioners, such as officers and managers, across each stage of the strategy process.

A net zero community emissions strategy differs from a council's corporate or operational net zero strategy, which is focused only on emissions from council assets and operations. Many NSW councils have already developed corporate strategies to reduce emissions and examples are widely available. Corporate (or operational) emissions are not covered in this guide.

The Guide, and accompanying resources, has been developed in consultation with NSW council staff and key local government and state government stakeholders. In particular, the Guide is designed to be used in conjunction with the **Net zero community emissions strategy template** for NSW councils (see Section 3.2 for more details), to make the task of developing a strategy easier.

### What are community emissions?

Community emissions are greenhouse gas emissions generated from activities taking place within your local government area (LGA).

Based on the approach taken to calculating community emissions, common activities (or, more commonly, sources) include:

- **residential, commercial and industrial stationary energy consumption (e.g. houses, offices and warehouses)**
- **transport (e.g. cars, buses and rail)**
- **waste (e.g. landfills)**
- **agriculture (e.g. livestock and fertilisers)**
- **industrial processes and product use (e.g. manufacturing).**

Sources within an LGA can generate emissions that occur inside the LGA boundary as well as outside. For more information on approaches to calculating emissions and how to classify them, please see the **Global Protocol for Community-Scale Greenhouse Gas Inventories.**

# Why net zero?

2

The science is clear and the world's countries now agree. Global temperature increases must be limited to 1.5°C above pre-industrial levels to avoid the worst impacts of climate change.

Currently, the planet is about 1.1°C warmer than it was in the late 1800s, and emissions continue to rise. To keep global warming to no more than 1.5°C, we must achieve net zero emissions by 2050.

Net zero means reducing the world's greenhouse gas emissions to as close to zero as possible. Any remaining emissions can then be removed from the atmosphere by oceans and forests, for example.

Without decisive action to reduce emissions, global temperature increases of up to 3.4°C by 2100 are possible (Science Advisory Group 2019). This will further increase the likelihood and intensity of floods, heatwaves, droughts, bushfires and coastal inundation in New South Wales (NSW Government 2022). Climate change will also worsen health conditions, damage critical infrastructure, and harm the economy, especially the property and agricultural sectors (NSW Government 2022).

The United Nations has called the transition to a net zero world "one of the greatest challenges humankind has faced".

**(United Nations, 2022)**

Moving to net zero demands a complete transformation of how we live, work and play.

The planet is about 1.1°C warmer than it was in the late 1800's

**1.1°C**

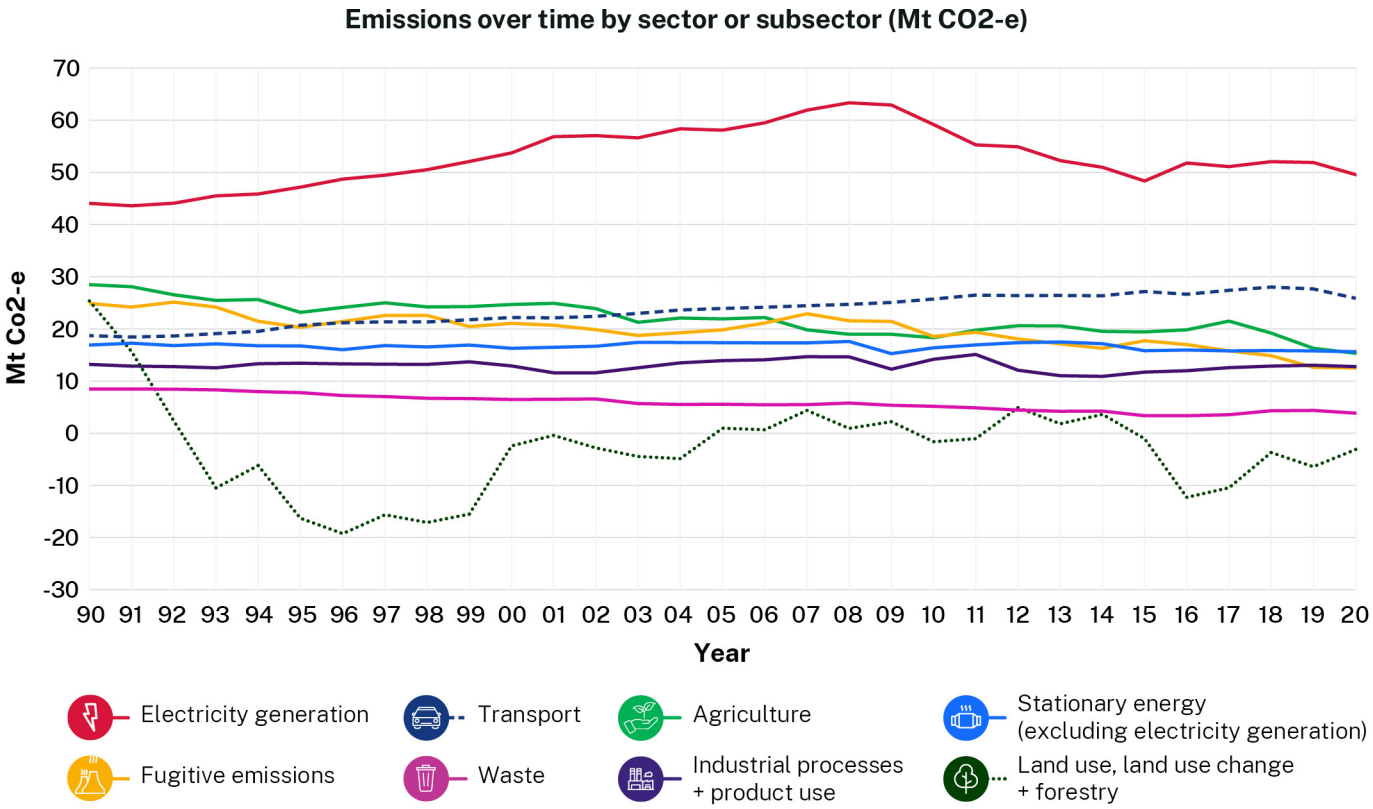
We must achieve net zero emissions by

**2050**

Net zero by 2050 will keep global warming to no more than

**1.5°C**

**Figure 1 – NSW emissions by sector, 1990 to 2020**




Between 1990 and 2020 greenhouse gas emissions in NSW increased to a high in 2007 of 171 million tonnes then decreased to 132.4 million tonnes in 2020. Trends varied by sector, with general increases in emissions across the electricity generation and transport sectors, steady or fluctuating emissions across the stationary energy and land use (including forestry) sectors, and decreases in emissions across the agriculture, fugitive emissions and waste sectors, as shown in Figure 1. The land use category includes carbon sequestered in forests and the natural environment, but also carbon emitting activities like land clearing.

## How the NSW Government is responding

The NSW Government has committed to the state reaching net zero emissions by 2050, and to cut emissions by 50% compared to 2005 levels by 2030.

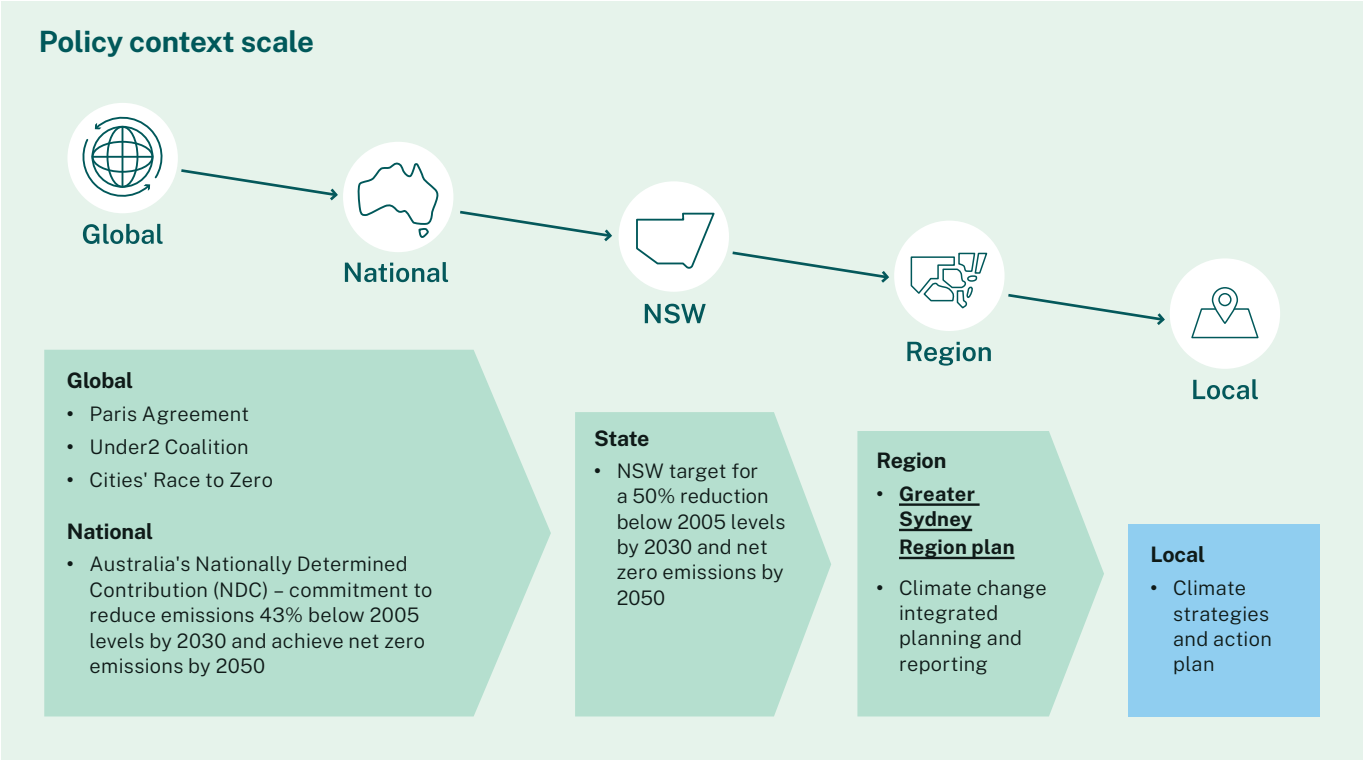
The **Net Zero Plan Stage 1: 2020–2030** is the foundation for the NSW Government's action on climate change. It outlines the NSW Government's plan to grow the economy, create jobs and reduce the cost of living through strategic emissions reduction initiatives.

The challenge of responding to climate change includes both reducing our emissions and building our resilience to the impacts of climate change that we are already experiencing. Local governments have a direct responsibility for community wellbeing and are involved in the delivery of essential services. Councils must respond to the impact of climate change – whether that is the erosion of beaches and destruction of sea walls, extreme heat waves that harm human health, bushfires or floods that damage lives and livelihoods. The worst of these extreme climate change impacts can be avoided if we have strategies for reducing our emissions to net zero and plans to build resilience.

The NSW Government has updated the **Guide to Climate Change Risk Assessment for NSW Local Government**, which sets out a process to assist councils as they address the uncertainty presented by the changing climate and highlights opportunities to increase resilience. This assessment aims to ensure council systems are resilient, by working through an analytical process that:

- **identifies and assesses the risks that climate change poses to council assets and services**
- **prioritises actions for decision-making, adaptation planning, budgeting and community engagement.**

**Figure 2 – Key policy drivers of climate action**




It is important to note that the Risk Assessment guide is focused on assessing the risks to council operations rather than wider community risks. Councils are advised to also carry out a process to consider these broader risks, in consultation with the community. This could be done as part of the community strategic planning process or as a further stage of the risk assessment process. Further information is available on the **AdaptNSW** website.

Acting early on both climate change resilience and mitigation will uncover a range of co-benefits, from lower energy bills to more comfortable homes, from improved community health to new local jobs and industries, and from energy security to better air quality. A bold net zero community emissions strategy also seizes clean energy economic development opportunities, meets growing community expectations and upskills people on new technology.

## Moving to net zero emissions creates opportunities and reduces risk.

Helping your community move towards net zero emissions can lower the legal and transition risks of inaction. Transition risks are business related risks arising from the economic and societal shift toward a low carbon economy. These risks can arise from changes to regulation, technologies and consumer and market sentiment. Transition risks are magnified when they are not considered in advance and if we don't move quickly to address them. In a community context, failing to prepare for these risks could reduce demand for goods and services of local businesses, reduce local manufacturing capability, or deliver abrupt and unexpected shifts in household energy costs. Actions to address transition risk and climate change are supported through key policy drivers across the various tiers and types of government, as shown in Figure 2 above.

**Under the NSW Government's Integrated Planning and Reporting framework, councils are required to prepare a community strategic plan with regard to state-level plans and policies, and regional plans. This community strategic plan should address the quadruple bottom line of social, environmental, economic and governance issues. This means responding to climate change is a key priority for all councils.**

## NSW councils can step up their climate action with 5 asks:

1.

Demonstrate leadership by joining a leading climate action initiative (like the Race to Zero).

2.

Commit to developing a net zero community emissions strategy (endorsed by council).

3.

Commit to embedding climate action across all decision-making processes, including those associated with the IP&R framework.

4.

Set appropriate and ambitious reduction targets. For example:

a. interim community emissions reduction target of at least 70% by 2035

b. net zero community emissions target set in 2040s, and by 2050 at the latest.

5.

Commit to annual reporting within one year of the endorsed strategy.

The **Hunter Joint Organisation's Climate Change Integrated Planning & Reporting (IP&R) Package** is a great resource for council leadership teams to determine their climate change commitment level, and to embed the associated principles and actions into the IP&R documents.

The 'Leading' commitment level of the package helps local governments to embed the NSW Government's "5 asks" as business-as-usual through the IP&R process.

# How to use this Guide

3

This Guide is a practical document that takes you through each of the steps involved in creating a net zero community emissions strategy. The 5 steps are:

### 1: Insight

Gain an understanding of your community emissions and how to reduce them.

### 2: Target

Build on insights to set targets for emissions reduction.

### 3: Strategy

Consider how your council will use its influence and resources to meet its targets.

### 4: Action

Detail the specific actions council will undertake to reduce emissions.

### 5: Monitoring and evaluation

Assess and celebrate progress.

# 3.1 Knowing what to look out for

This Guide contains an overview of what is required at each step, as well as key themes and resources. These include:

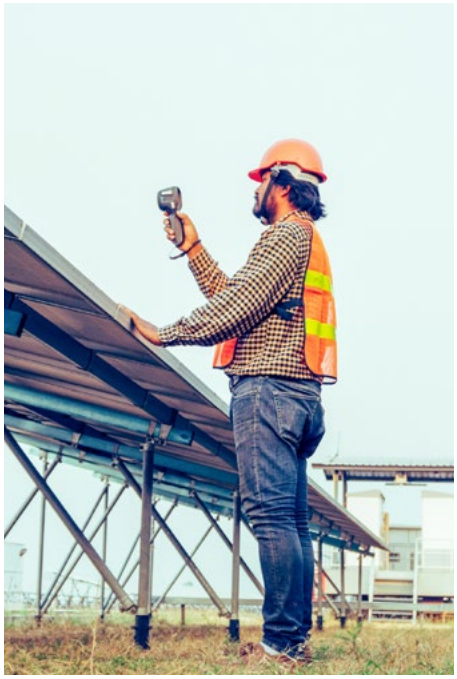
Tips and guidance on sourcing and understanding **relevant data.**

Guidance on how you might **engage** with key stakeholders and your community.

**Case studies and interviews with local government leaders** showcasing the processes and achievements of other councils in tackling community emissions.

**Checklists** to assess your progress in each section.

**Essential reading** which complements the wealth of information already out there.



## 3.2 Using the community emissions Strategy Template

This Guide can be used together with the Net zero community emissions strategy template (Strategy Template) for NSW councils, to make the task of developing a strategy easier.

**Throughout the Strategy Template, you will find a host of online resources to support your strategy development process. To access links to these online resources, keep an eye out for this symbol:**

The Strategy Template is a step-by-step framework that helps you to develop your net zero community emissions strategy.

Councils can use it as a "skeleton" document as they begin to formulate their own strategy, or copy and paste text to support strategy development.

To use both these resources effectively, start by reading through the Guide. This will help you identify where you're starting from and the resources and information you will need to produce your net zero community emissions strategy.

## 3.3 Understanding where you are on the community emissions journey

Each council area across NSW has unique challenges and opportunities to reach net zero. Some councils may have significant agricultural emissions, while others have heavy industry within their boundary.

**This brings nuance and complexity as your council begins its journey to net zero community emissions.**

You may be just starting to form a view on how you might influence local emissions. Or you might be well progressed and be implementing your strategy right now. Regardless of your current position and progress, there are some fundamental steps your council can take to mitigate emissions across your community.

For example, you can:

- **collect and divert food and organic waste**
- **establish local partnerships with community groups and businesses to drive down emissions at scale**
- **raise awareness about existing state and federal government programs that support your local stakeholders.**

# Insight

# 4

Gaining insight is an important strategic step because it helps your council to understand your unique emissions profile, can reveal hidden challenges and potential risks, and lays a solid foundation for making informed and effective decisions.

**During this step you will:**

- identify key emissions sources within your local community (Section 4.1)
- predict how these emissions will change into the future (Section 4.2)
- understand which stakeholders are most responsible and capable to influence these emissions (Section 4.3)
- outline your capacity as a council to influence these emissions (Section 4.4).

The ability of your local area to smoothly transition to net zero emissions depends on a range of social, environmental and economic factors.

While it is useful for each council to learn from the experiences of others, those learnings must be adapted to your own unique local circumstances.

To manage and reduce community emissions, it is important to first understand where they are coming from, who is responsible for them and how you can influence them.

Factors that can influence your current and future emissions include:

### Geographies

Emissions are driven by factors such as types of housing (e.g. high rise, townhouse or detached housing), tenancies (e.g. rental or ownership), layout (e.g. dispersed regional, suburban or inner city density), proximity to jobs and services and growth precincts.

### Demographics

The types of people that make up the different audiences of your community (e.g. children, families, elderly or new migrants).

### Commercial activities

Emissions produced by commercial activities (e.g. agricultural, industrial, light commercial, tourism), can vary greatly, including how much control or influence a council has over these.

### Other factors

This includes land use transitions (e.g. industrial to residential), state and federal government strategic direction changes (e.g. relocated staff to other CBDs or declaring health and education precincts).

Councils with a deep understanding of their local government area will be able to design effective strategies with actions that will achieve your objectives.

See the **Context** and **Emissions sources and targets** sections in the Net zero community emissions strategy template.

# 4.1 Getting to know your community emissions profile

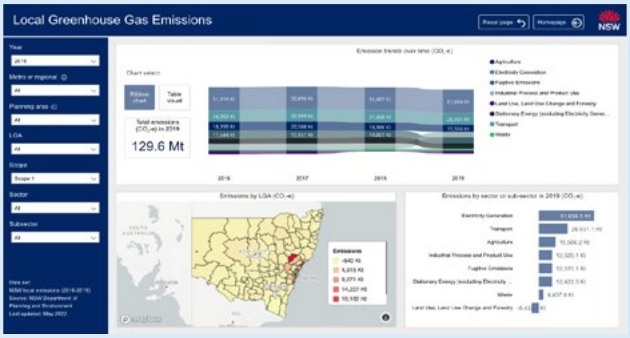
An emissions profile identifies and quantifies the key sources of greenhouse gas emissions attributable to your LGA and is generally broken down by sector.

**At a minimum, emissions profiles should include stationary energy, transport and waste. However, councils are encouraged to include all emissions sources within their LGA. This may include other sectors such as agriculture, forestry and land use (prominent in regional NSW), industrial processes and product uses, and food and household goods, for example.**

Councils are recommended to use emissions profiles which are based on the **Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC).** The GPC was developed by the World Resources Institute (WRI) and ICLEI Local Governments for Sustainability to enable cities and regions to measure, report and take action in a consistent way. Two examples of emissions profiles and modelling that use the GPC are provided on the right.

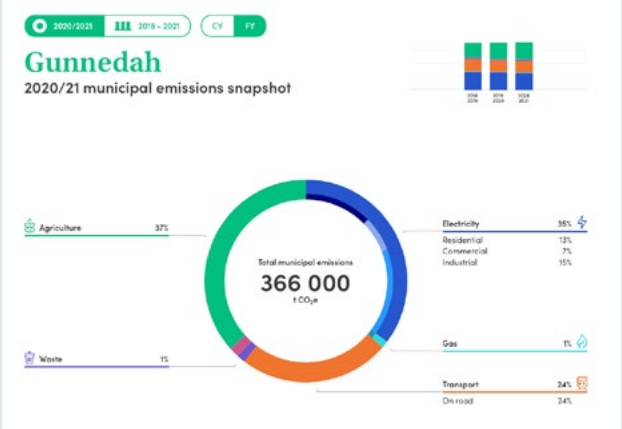
Councils in Greater Sydney can refer to the **Resilient Sydney Platform** to set an emissions profile or "baseline". For access to the platform, reach out to Resilient Sydney.

Screenshot of the NSW Net Zero Dashboard:




Councils throughout the rest of NSW can use the **NSW Net Zero Dashboard** or **Snapshot**, a unique Australian dataset that provides emissions profiles for all Australian councils.

Screenshot of Snapshot Climate - Gunnedah Municipal Emissions Snapshot:




Speak with each tool provider to understand what emissions sources are included within your profile. This will determine whether any additional calculations are required.

Emissions profiles can change over time as emissions increase or decrease, and as data collection and methodologies improve. Therefore, it is important to check that you are using the most up-to-date information. Below are descriptions of the key emissions sectors in NSW, and high level abatement strategies.

## Stationary energy

Stationary energy covers the energy used to power buildings, factories and infrastructure. It is the largest sector, contributing 49% of NSW's greenhouse gas emissions in 2020, primarily from public electricity production. For community emissions, stationary energy usually represents the largest source of emissions and includes electricity consumption and the combustion of natural gas in heaters and boilers.

Energy efficiency is the first step to reduce emissions from stationary energy. Improving the energy efficiency of buildings not only drives down emissions. It also reduces power bills, boosts health and comfort and can increase worker productivity.

Remaining electricity emissions can be addressed through renewables. This can be generated on-site or purchased off site. On-site solar PV is cost-effective to install on most buildings to offset grid electricity consumption and costs. Integrated renewable energy systems (combining energy generation and battery storage) can power entire precincts, with surplus onsold to other consumers. Residents and businesses within LGAs can also procure renewables through GreenPower or **Power Purchase Agreements** (PPAs), which can be rooftop PPAs for local businesses or large-scale renewable developments such as wind and solar farms.

Non-electricity stationary energy sources can be electrified – in other words, replaced or retrofitted so they use electricity only – and powered by renewable electricity to reduce emissions. For example, gas heaters can be replaced with electric heaters and gas hot water systems with heat pumps.

## Transport

The transport sector contributed 20% of NSW's greenhouse gas emissions in 2020, with road-based transport contributing almost 89% of this figure.

Electric vehicles, autonomous driving and smart technology (like ride hailing apps and the Internet of Things) are large disruptors in the transport sector. Public and active transport are also central components of any transport emissions reduction strategy.

A sustainable transport future can provide many benefits within a community, including:

- increased mobility for all members of a community
- improved air quality through reduced emissions from cars and trucks
- more active communities
- improved safety outcomes for pedestrians and cyclists
- reduced isolation by improving access to facilities and connectedness.

## Waste

Waste accounts for 3% of total emissions from NSW in 2020. These emissions occur when organic matter (e.g. food and garden waste) breaks down in landfills and wastewater treatment facilities, emitting methane ($CH_4$), which has a global warming potential (GWP) more than 25 times greater than carbon dioxide ($CO_2$) over a 20-year period. One tonne of organic waste in landfill emits 1.9 tonnes of $CO_2$-equivalent emissions as it breaks down over 100 years (Department of the Environment and Energy 2018).

Significant economic value and emissions reductions can be achieved from activities that:

- minimise the amount of waste, particularly organics, that ends up in landfill, and improve resource efficiency
- divert waste from landfill (with a focus on organic waste), both reducing emissions and potentially creating new saleable products like recycled plastic or garden compost
- increase the capture of landfill gas and either flare (which converts methane to $CO_2$ with a lower GWP), or generate power for boilers, kilns or even electricity generators.

Furthermore, there is diminishing capacity in existing landfill sites in Greater Sydney and more waste is being sent to landfill outside the region, adding to environmental concerns, transport emissions and the cost of waste processing. A net zero strategy that addresses waste can also help reduce emissions and reduce other environmental impacts.

### Agriculture

Agriculture accounted for 12% of NSW emissions in 2020. Agricultural practices are typically the third largest source of emissions in the state. Over 70% of these emissions are methane ($CH_4$) produced from ruminant livestock such as cattle and sheep (NSW Department of Primary Industries 2018). The remaining 30% of emissions sources include manure, nitrous oxides from fertiliser use, crop waste decomposition, rice cultivation and stubble burning.

Significant market opportunities and emissions reductions can be achieved from activities that:

- reduce livestock emissions (especially methane)
- support carbon farming practices and access to carbon markets
- increase consumer demand for carbon neutral agricultural and forestry products.

Emissions reduction activities in this sector may also deliver additional benefits such as increased resilience to climate change or positive biodiversity outcomes. There are now several methods to create (and sell) carbon credits when undertaking these activities under the federal government's Emissions Reduction Fund (Department of the Environment and Energy 2017).

### Industrial processes

Industrial processes can account for significant greenhouse gas emissions, particularly from emissions-intensive industries that manufacture cement, steel and glass. These materials were responsible for 10% of NSW emissions in 2020.

Many of these industrial processes are considered 'hard-to-abate' – meaning the technological solutions to reduce emissions are costly, often require significant capital investment, and will take time to implement.

Although your LGA may not include heavy industry, local government can demonstrate leadership by choosing low emissions materials and alternative resources for new developments where practical. Your LGA may also be able to offer offsets and create new revenue streams by helping heavy emitters located elsewhere to achieve their net zero goals through revegetation projects.

## 4.2 Unpacking how your community emissions will change

Future emissions modelling can give you an idea of your local emissions trajectory with and without action. This information is often useful for strategic planning purposes.

When considering future emissions, you should think about the business-as-usual (BAU) scenario first. This is what happens without council taking any action and is influenced by a range of factors, from population growth to decarbonisation of the electricity grid.

There may be different BAU scenarios based on different assumptions, such as 'optimistic', 'average' and 'pessimistic'. These assumptions are generally based on changes to:

1. **Levels of consumption** (activity data) – for example, increases in population will lead to increases in electricity use or petrol consumption
2. **Emissions intensity** – for example, as technologies improve, they often become more efficient, so fewer greenhouse gas emissions are generated from the same amount of activity.

**The Greater Sydney Commission's 2022 Pathways to Net Zero Emissions report** provides a good outline of the drivers for emissions within Sydney councils, with insights relevant for other NSW councils.

**The federal government's annual nation-wide emissions projections report** provides an overview of the large-scale drivers impacting emissions in Australia.

When considering future emissions, there are several factors to consider.

- **Planning NSW data** is useful for projected **population growth**. For some councils, more detailed projections including households and dwellings are also available on the website **Informed Decisions**.
- Information from your planning department, such as areas of **planned greenfield development, rates of infill development or zoning changes,** provide insights into the factors that will influence future development.
- Estimating the rate of **grid decarbonisation,** for example by modelling changes to the electricity emissions factor based on meeting current government renewable energy targets, will help you understand the economy-wide transition.
- Estimating the business-as-usual **uptake of renewable energy** and energy efficiency uncovers the areas where your interventions can have the biggest impact.
- Estimating **how transport sector emissions will change** based on population growth and the shift to electric vehicles, will help you understand the impacts on both electricity and fossil fuel consumption. Information from **CSIRO's electric vehicle projections 2021** may be useful.
- Estimating **how waste sector emissions will change** will help you consider the implications of **NSW Waste and Sustainable Materials Strategy**.
- In some areas it may be important to consider information on **how emissions from agriculture are expected to change.** This will be highly dependent on the make-up of the agriculture sector in your local area.
- It may also be important to examine **how industrial emissions will change separately from industrial stationary energy emissions.** This is highly dependent on the make-up of industry in your area.

### Is future emissions modelling right for you?

This type of modelling is a complex exercise.

Councils may wish to seek external support to understand their future emissions and may find it useful to collaborate with regional partners through a joint organisation. Working with other councils can deliver other benefits in later stages of the strategy development process, especially when looking for opportunities to collaborate.

Before embarking on this exercise, consider how you will use this information to drive climate action. Will the results be sufficiently robust for planning purposes? Is a qualitative understanding of the factors impacting emissions sufficient?

# 4.3 Engaging key stakeholders

Engaging key stakeholders, as well as broad community engagement, is central to achieving net zero community emissions. Developing a net zero community emissions strategy is easier when the right people are engaged from an early stage.

**Successful stakeholder engagement enables councils to secure widespread support and buy-in, improve the overall quality of the strategy, establish partnerships and strengthen relationships that will be necessary for delivery.**

From the outset it is important to understand the motivations and capacities of key stakeholders. This will help you to learn where you could leverage momentum for change within the community, where emissions are already being addressed and where there are gaps to be filled or potential support needed. You might do this by undertaking desktop research, speaking with other teams in your council or by engaging with stakeholders directly on their plans. For example, your economic development team will have contacts within your local business community.

The residential and business communities can directly reduce their emissions and influence broader emissions reductions. For example, a community member can reduce transport emissions by purchasing an electric vehicle and influence their neighbourhood emissions by sharing their experience with neighbours and friends who may do the same. Peer to peer learning is a successful strategy used to accelerate the uptake of emissions reduction practices and can be amplified when local climate change champions are engaged and supported in driving community emissions reduction projects. There are plenty of examples of climate change champions partnering to build community infrastructure, influence local businesses and start sustainability campaigns.

Remember, stakeholders outside of your LGA could influence emissions within it as well. These stakeholders can include the NSW Government, private companies, such as electricity utilities, property developers and renewable energy developers, and statutory bodies, such as electricity regulators. It is important to remind stakeholders that a net zero community emissions strategy can deliver more than climate mitigation – it also has potential to bring wider benefits like a cleaner environment, energy security and local investment and jobs.

To be successful, a community net zero strategy needs buy-in and support from all levels of your council. Figure 3 indicates actions and considerations that may apply to staff across your council, recognising there is a huge variety of staffing structures and resourcing levels across NSW councils.

**Figure 3 – Council roles for community climate action**

**Councillors and executives**

- Promote council's community net zero commitments
- Allocate financial and non-financial resources to community net zero strategies and projects

**Senior management**

- Advocate for and promote community net zero practices
- Prioritise skills and capacity development of officers to actively engage in community net zero projects

**Sustainability / environment team**

- Monitor, report and promote progress towards community net zero targets
- Undertake technical work to identify, analyse and advocate for emissions reduction opportunities
- Deliver community net zero projects and programs

**Planning**

- Incorporate core community climate change actions and objectives into strategic planning documents such as the Local Strategic Planning Statement and Community Strategic Plan
- Ensure relevant development control plans include best practice climate change mitigation and adaption measures to strengthen community buildings and spaces

**Community engagement team**

- Engage early and authentically with the community to enable them to have meaningful input into the overarching net zero goal
- Use the community as a source of knowledge when formulating emissions reduction opportunities.

In addition to understanding your key stakeholders it is important to determine how your council will approach the governance of its community emissions. Well-coordinated councils will be more effective in their climate change actions. At a minimum, the responsibility for reducing community emissions should not be left to sustainability staff. Everyone has a role to play.

From an **internal governance perspective,** there are several ways to improve the development and delivery of council actions:

- **Cross-cutting:** At the very least, climate change is included in some form across multiple council strategies and work plans (e.g. planning development approvals or provision of sustainable transport infrastructure). The **NAGA Embedding Climate Change in the Council Plan Process** has some useful resources on how to do this
- **Integration:** Climate action is linked in a logical, strategic, coherent and practical manner across the council. This ensures that different sections of council are not working at cross-purposes (e.g. running walk-to-school events while providing free parking outside schools)
- **Embedding:** Climate actions and objectives are applied across multiple themes or strategic objectives (from a policy perspective) or in multiple teams (across the council). For example, the Local Strategic Planning Statement is a key opportunity for councils to embed such actions and objectives within the statutory planning process.
- **A systems approach:** Include emission reduction when council systems, policies and processes are renewed (e.g. ensuring climate and emissions are incorporated into procurement, asset management, investment, capital works project systems when they fall due for renewal).

# 4.4 Identifying council influence, levers and impact

It is important to understand what your council can and can't do when seeking to reduce community emissions.

Reducing greenhouse gas emissions must be a whole of community effort. Actions taken by state and federal governments and emission-intensive industries will be key to ensure Australia stays within its national carbon budget. Councils may advocate for and support these actions or engage in collaborative planning with key stakeholders. But ultimately councils are not solely responsible for reducing municipal emissions.

Nonetheless, councils are well placed to drive and influence emissions reduction across the community. This includes through the services they deliver, their regulatory, planning and strategic functions, and their roles as community leaders, major employers and large-scale procurers.

A good way to consider what your council should be doing is through circles of concern, influence and control.


**An alternative way is to think about the terminology in community strategic plans: Deliver (instead of control), Partner (instead of influence) and Advocate (instead of concern).**

# Solar my School

**Case study:**
**Anthony Weinberg, Regional Environment Program Manager**
**Jodie Savage, Regional Environment Program Manager**
**Randwick, Waverley and Woollahra councils, NSW**

**Solar my School** is a council-run initiative in Sydney's eastern suburbs that is helping schools to reduce energy bills, educate students on climate change and shrink carbon footprints with solar power.

Image supplied by: Waverley, Woollahra and Randwick Councils

Developed in 2016 and funded by Randwick, Waverley and Woollahra councils, **Solar my School** is offered to councils around NSW under license. One of many climate initiatives run through the 3 Council Regional Environment program by Randwick, Waverley and Woollahra councils, Solar my School complements other activities like the energy smart cafes program and a growing network of public on-street electric vehicle (EV) charging stations

The 3 Councils used the data from their Resilient Sydney platform to understand the key emissions sources throughout the council areas and then overlaid this with other data sources or insights. These included demographic information, key industries, emissions per capita and spatial data to understand how emissions were distributed throughout the region. For example, areas in the north and south of the region had higher emissions per capita, due mainly to a lack of public transport infrastructure. They investigated emissions sub-sectors, brainstormed potential project types, and then tested the ideas with key questions and criteria such as:

- **Where are councils best suited to 'play' in the big sphere of community emissions reduction?**
- **Where do councils have direct control?**
- **How much can councils influence this sector?**
- **Where do councils have levers they can pull?**
- **Where can councils demonstrate leadership and push to be "ahead of the curve"?**
- **Are there barriers that councils can help to remove?**
- **What other stakeholders have aligned interests and would be willing to collaborate?**

In Randwick, Waverley and Woollahra, education is one of the largest land use and employment sub-sectors, and so were identified as an area with great potential for emissions reduction. The 3 Councils engaged with all 64 schools in the region to see where installing solar energy would help cut energy expenses and reduce emissions.

Schools are ideal for solar because they use energy during the day when the sun is pumping out its energy-generating rays. Schools also tick a lot of other boxes – they have long tenure and large available roof space. There were some simple knowledge barriers in the sector that councils helped to remove. For example, many schools were under the impression that solar was too expensive and were unaware that costs had fallen by up to 80%. Armed with new evidence that it was affordable, could save money and slash emissions, councils found willing and ready stakeholders.

The program has been a great success. Although schools are only responsible for about 2% of emissions throughout the region, at one stage during the program they represented 10% of all solar in the eastern suburbs. In total, 2,165kW of solar power has been installed across 42 schools in the eastern suburbs with a further 2,139kW installed on 52 schools around NSW.

The 3 Councils had their eyes on the implementation and monitoring and evaluation (M&E) stages of the program from the beginning. According to Anthony Weinberg, Regional Environment Program Manager at Waverley, Woollahra and Randwick councils, early planning and implementation of an M&E is key, as is to "think a few steps forwards on what your key deliverables are and how you are to measure the success". Engaging with many different people to test and trial a program is also important.

The Solar my School program also offers a solid case study for leveraging support and resourcing. The program doesn't require councils to pay for the technology or installation, but instead to intervene through facilitation, education, monitoring and reporting. For every $1 council spends on a project, they leverage another $20 for schools that install solar, that in turn are saving $40 through reduced energy costs. It's a classic win-win situation.

# Insights checklist

## At the end of the Insight stage, you should be able to:

- identify the major emissions sources within your LGA
- understand how emissions will change into the future
- understand the activities of key stakeholders in your municipality that will materially impact emissions
- identify your council's strengths and weaknesses when it comes to tackling emissions.

# Target

5

The Paris Agreement, signed by the Australian Government in 2016, establishes a collective goal of limiting the global average temperature increase to no more than 2°C above pre-industrial levels, and undertaking efforts to contain it below 1.5°C (UNFCC 2015).

**The Paris Agreement explicitly recognises the efforts of local and subnational governments to meet this goal.**

For local governments, locally established emission reduction targets can serve a range of purposes. Targets can:

- **unite and motivate stakeholders to take action**
- **communicate the scale of change expected, desired or required**
- **demonstrate commitment to achieving change.**

As such, targets are political statements that outline the ambition and resources available to a council to act. There are many methods to establish a target, ranging from simply selecting a year to achieve net zero to aligning ambitions with international climate science.

Councils can also incorporate broader sustainability goals above and beyond climate and emissions, for example linking to the United Nations' **Sustainable Development Goals (SDGs)**, a blueprint to address climate change, poverty, inequality, environmental degradation, and secure peace and justice for all the world's citizens.

Considering how you will use your target will help you to select the most appropriate method.

Australian councils have long set ambitious greenhouse gas reduction targets. If the emission reductions planned by just 61 of Australia's 537 local governments were met, 91,200 kt $CO_2$ emissions would be eliminated. This would move Australia more than half of the way to meeting a 43% reduction target by 2030 from 2005 levels (Lynch *et al,* 2021).

Paris Agreement, signed by the Australian Government in

**2016**

Limit the global temperature increase to no more than

**2°C**

Then undertake efforts to contain it below

**1.5°C**

## Tracking NSW council targets

Nearly every target set in the last few years by Australian councils for their LGA (community-wide) emissions has been a net zero target – generally in the range of 2030 to 2050.

A sample of NSW council emissions reduction targets are listed below:

| Council | Emissions reduction target |
|---|---|
| Blacktown City Council | **Net zero emissions by 2050** |
| Byron Shire Council | Community organisation Zero Emissions Byron (ZEB) has set the ambitious goal of **achieving net zero emissions for the whole of the Byron Shire by 2025**, which is supported by Council. |
| City of Canada Bay | **Net zero emissions by 2050** |
| City of Wollongong | **Net zero emissions by 2050** |
| Hawkesbury City Council | **Net zero emissions by 2030 or earlier** |
| Inner West Council | **Community emissions are 75% less than in 2017 in 2036 and zero emissions before 2050** |
| Ku-ring-gai Council | **Net zero greenhouse gas emissions by 2040 or earlier and a 50% reduction by 2030** |
| Lane Cove Council | **Achieve an 80% reduction in emissions by 2036 based on 2016/17 levels** |
| Mosman Municipal Council | **Aspirational net zero target for the community by 2040** |
| City of Sydney | **Net zero emissions by 2035** |
| Tweed Shire Council | **Support community efforts to reach net zero emissions by 2030** |
| Waverley Council | **Net zero emissions by 2035** |
| Willoughby City Council | **Support our community to reduce emissions of greenhouse gases by at least 50% by 2028** (compared with 2008/09)<br><br>Support our community to achieve net-zero emissions in the 2040's, or sooner. |

**See the Target section in the Net zero community emissions strategy template.**

# 5.1 Using science-based targets

A science-based target is the most appropriate way to determine the scale of emissions reductions required to limit catastrophic climate change. A science-based climate target represents a proportionate share of the global emissions reduction required to halve emissions by 2030 and reach global net zero by 2050.

## Setting targets based on science is important – but so is setting interim targets to assess your progress along the way to net zero.

There are several methods for calculating an emissions reduction target that is considered "science-based". Guidance on setting net zero targets is provided by the Science Based Targets initiative.

The Intergovernmental Panel on Climate Change (IPCC) has calculated a global carbon budget to stay within 2°C and 1.5°C. This has then been scaled to Australia by the federal government's **Climate Change Authority** (CCA 2013). Each year, the budget is depleted by the emissions released nationally. This budget can be scaled to the municipal level using socio-economic factors to provide an understanding of the localised carbon budget and science-based target.

# 5.2 Applying other target setting methods

As an alternative to a science-based method to set a target for your council, you could consider the following methods:

Align with the NSW Government target of halving emissions by 2030, and net zero emissions by 2050

(Department of Planning, Industry and Environment 2021)

50% 2030

Align with the Cities Power Partnership, which recommends emissions are reduced by 75% by 2030 and net zero emissions by 2035

75% 2030

Select an alternative year to achieve net zero emissions or interim reductions, as agreed with your community.

20??

## Gaining broad community support for ambitious action on climate change is vital. The target and the subsequent pathway can rally support within the community and encourage council decision-makers to support this position.

# Setting a net zero community emissions target

**Case study:**
**Darren Wilson, Environmental Planner, City of Greater Dandenong, VIC**

In 2020, the City of Greater Dandenong adopted a net zero by 2040 community emissions target. This followed an extensive initial round of community consultation that garnered more than 1,000 responses (compared to less than 100 for typical council surveys).

Image supplied by: Greater Dandenong City Council

The survey asked respondents if they supported a target of 2050, before 2050 or after 2050, with 63% supporting a target before 2050. The large number of responses, as well as the diversity of respondents (44% were not born in Australia), were critical factors in building councillor support for the more ambitious target.

The City of Greater Dandenong in Victoria is the most multicultural municipality in Australia and has the lowest socioeconomic status of all Melbourne municipalities (as measured by the Australian Bureau of Statistics' SEIFA index or Socio-Economic Indexes for Areas). This means online surveys of residents often get few responses because of low levels of English and poor digital access. Reaching residents about complex issues like climate change is very difficult.

Using learnings from past experiences, where seeking feedback from the community on detailed documents had presented challenges, Council focused the initial round of consultation on key issues, such as emissions targets. The detail on how this was to be achieved was then included in the Draft Climate Emergency Strategy, with a second round of community consultation undertaken through the public exhibition process.

Consulting at the beginning of the process allowed the community to genuinely influence the results. A broad variety of Council's existing communication channels were used to promote the initial consultation, including the hard copy monthly magazine, the rates notice, e-bulletins like the library e-newsletter and the council website and social media.

Another factor in the successful process was having Council's Environmental Planner, Darren Wilson, reach out to the community in creative ways. He visited school community hubs (where interpreters were available) and a wide range of community groups like the Hungarian Senior Citizens Club of Greater Dandenong, the Interfaith Network and a diabetes support group. He attended Council immunisation sessions and surveyed people waiting in line as well as visiting seniors' groups,

a youth forum, and primary and secondary schools. Council also tapped into local volunteer networks, using volunteers to survey passers-by in prominent locations.

One of the challenges many councils face when seeking input into climate related strategies and targets is reaching beyond the "converted" – those who are already concerned about climate change. By joining existing community groups and gatherings rather than running drop-in sessions, a broad cross-section of the community was surveyed. In total, 759 survey responses (74%) were gathered from hard copy surveys, which was critical in reaching populations with low digital literacy and access. This broad approach, combined with the large number of responses and the diversity of respondents, gave councillors a greater degree of confidence in the results.

Community consultation takes significant commitment, time, and resources – in the planning, the implementation, assessing the results and then responding to the community. In the case of Greater Dandenong, there was no central repository of community connections within council, so potential opportunities were likely lost. Another challenge was getting the survey questions right. Consultation was undertaken internally as well as with external social researchers. Even after all this effort, the survey still required simplification after it was tested with the public. But after the busy six-week consultation period, overwhelming support from a wide range of residents, businesses and community stakeholders demonstrated the need for strong targets and action.

# Targets checklist

## At the end of the Targets stage, you should be able to:

- understand and communicate the scale of change required in your LGA
- establish a baseline and a community emissions reduction target for your LGA
- understand how your target aligns with state, national and international targets
- begin the process of gaining community support for your target.

# Strategy

6

Developing a strategy is where you will bring together information collected to date and decide what council will do to support emissions reductions. Your strategy will comprise:

**Strategic priorities:**
These set out your high-level areas of focus, which can be based on process (e.g. council leadership or supporting communities) or specific areas of action (e.g. transport or land use planning).

**Objectives:**
These define areas of achievement, and sit beneath and feed into the strategic priorities.

**Targets:**
These are specific outcomes that support the achievements of the objectives.

**Actions:**
The specific work to be undertaken to meet your targets, objectives and, by extension, your strategic priorities. You may want to investigate short- and long-term actions (e.g. 4-year actions that help you towards the 10- or 20-year actions).

An example of each is provided below as simple illustrations to demonstrate the difference between each step:

| | |
|---|---|
| **Strategic priority** | Accelerate the transition to net zero emissions communities |
| **Objectives** | Reduce energy and gas consumption |
| **Targets** | Reduce electricity consumption in the residential sector by 30% by 2025 |
| | Reduce gas consumption in the industrial sector by 50% by 2030 |
| **Actions** | Develop energy efficiency education resources for monthly council newsletters |
| | Promote NSW Energy Savings Scheme to residents and businesses |
| | Provide discounted energy auditing and advice services for key industries |
| | Engage with industry groups to understand key barriers. |

Having completed the **Insight** and **Target** steps, you will already understand where emissions are coming from within your local government area and at what rate you need to reduce them. You will also understand the key stakeholders that are on this journey with you, and what actions they are currently taking to reduce emissions.

In many cases, your strategic priorities will already be set for you, for example from other council plans or from a council motion. In other cases, the strategic priorities can be determined by looking at the actions you are going to pursue. In both cases the questions in Section 6.1 can be used as a guide to formulate actions. Section 7 provides more details about the types of impactful actions you can make.

Once you have identified the actions that will be undertaken by your council, you will be able to prepare a strategy outlining these actions. At its most basic level, this should include an outline of what actions your council will take to support community emissions reductions. It may also include a quantification of council's impact, identified roles for stakeholders or a detailed implementation plan.

**In developing your strategy, you should ensure it is integrated with other council strategies, most notably your community strategic plan. Following the principles set out in the Integrated Planning and Reporting framework will ensure you meet the highest standards of strategy development.**

**See Strategic priorities in the Net zero community emissions strategy template**

# 6.1 Starting your strategy development

To develop an effective strategy, you will need to answer the following questions:

1. What actions need to be taken in the community to reduce emissions?
2. What is the role of other stakeholders in delivering these actions?
3. What are the barriers or challenges that may prevent these actions from occurring?
4. What is the role of council in accelerating or increasing the uptake of these actions?
5. How will the success of the actions be monitored and measured?
6. What actions are already planned within other areas of council and how can they participate in the strategy?

To answer these questions, you might look to data analysis, stakeholder engagement or a combination of both.

# 6.2 Making the most of data analysis

Here, you build upon the data you have collected in the **Insight** stage to identify the sectors of potential emissions reduction. Deciding on those sectors and your ability to influence those emissions will inform the actions and the strategy.

For example, you may have a reasonable degree of control or strong influence over a lot of your municipal emissions, or they may be driven by factors outside of your control. In the former instance, you can develop projects and devote resources to working with key stakeholders to directly tackle emissions. In the latter case, you may need to influence others through advocacy (e.g. working with others to advocate to energy regulators).

When you are trying to understand the most impactful way to drive community emissions reductions, it is important to understand what the business-as-usual (BAU) uptake of those actions will look like. For example, how many residents would install solar regardless of a council intervention to increase solar uptake?

You can then consider the impact that your council's interventions could have over and above this. This helps you to identify what is additional and can be attributed (or partially attributed) to council intervention. This will provide information about where council could achieve the greatest impact for the budget available, and the BAU comparison data will also feed through to the **Monitoring and evaluation** stage.

If your council is focused on encouraging the uptake of rooftop solar, you can compare whether your intervention accelerates that rate of uptake against data from the Australian PV Institute (APVI). **APVI data can be broken down by local government area and by postcode.** You can test whether some interventions in specific areas are working better than business-as-usual.

# 6.3 Targeting the barriers to net zero

Electricity emissions are likely to be the major source of emissions for most, but not all, councils. As the percentage of renewable energy feeding into Australia's electricity grid grows, local government emissions profiles will fall. However, there is still an important role for energy efficiency, as it saves money now and can buy us time to deal with the hardest to abate emissions, like those embedded in construction materials, freight or heavy industry.

Importantly, there are a range of co-benefits delivered by solar and energy efficiency projects that stretch far beyond the cost savings. These include health and wellbeing impacts from eliminating gas cooktops, growing local and regional jobs, and enhancing community cohesion from neighbourhood-led programs such as bulk buys and community batteries.

Achieving net zero emissions in the transport sector, even with an incredibly ambitious uptake of EVs, will be challenging because of the average age and lifespan of cars in Australia. However, as outlined in the Climate Change Mitigation 'Cheat Sheet' for Councils (see appendix), councils can still leverage their influence in development and transport planning to accelerate the uptake of EVs and encourage mode shift to alternative transport (public transport, active transport and car share services).

Councils can use their purchasing power to buy EVs as part of their fleet, helping supply EVs to the second-hand market and thereby supporting EV uptake in the wider community.

Similarly, the average age and lifespan of gas appliances means that new gas appliances installed today will still be in operation for 15 to 20 years. Again, the Climate Change Mitigation 'Cheat Sheet' for Councils illustrates that councils can promote electrification, particularly in the commercial and industrial sectors, by helping overcome information barriers.

Carbon offsets can support a net zero ambition but are typically purchased as a last resort to address hard to abate emissions.

## 6.4 Setting the strategic pathways to net zero emissions

You may like to build on your understanding of your municipality's business-as-usual emissions trajectory (Section 4.1) by modelling how your community's actions and your council's interventions influence your emissions pathway over a decade or more. This will demonstrate your commitment to your community and other levels of government and highlight the further efforts required to reach your target.

A key part of this modelling is to understand the impact of council interventions in combination – because some interconnected projects amplify impact. For example, using power purchase agreements for renewable electricity, in combination with electric vehicle and gas appliance transition, will amplify impact. As with modelling your business-as-usual emissions trajectory, this can be a difficult exercise and may be a good area in which to gain external advice.

# 6.5 Engaging stakeholders

When planning for emissions reductions, you should look for opportunities to support community action at a greater scale or earlier than it might otherwise occur. Talk with community stakeholders to explore the barriers to climate action and uncover opportunities for council to remove or reduce these barriers. This will guide your investment and efforts, and open new communication channels and partnerships.

Emissions reduction projects are usually most successful when they are implemented across council, rather than the responsibility of the sustainability teams alone. Consider how to engage your planning, transport or economic development teams. These teams will have expertise, in-depth knowledge and contacts with the community, as well as deep insight into the options and challenges.

Many communities have experienced the impacts of climate change firsthand and are actively invested in ambitious action from their local governments. Councils can draw on the subject matter experts within the community, as well as local industry associations and residents' groups with place-specific knowledge. The Wingecarribee case study (Action section) presents a powerful illustration of a council working strategically with a community group to facilitate an emissions reduction project.

There are many different approaches a council can take when engaging with their community. For example, you could provide education opportunities to boost literacy around community emissions, science-derived targets and key action areas. You may invite community members to contribute to the design of emissions reduction strategies and programs. You could establish citizen-science projects, engage with local schools or arts groups, or harness local Landcare groups to build momentum.

The AdaptNSW website showcases dozens of case studies that may inspire you to start your own community engagement activity.

You may also consider forming partnerships with stakeholders in high emitting sectors like property, health, education or agriculture. Or you may set up collaborations through regional organisations of councils, joint organisations or through Resilient Sydney.

Any community planning workshops should be well-informed with data from the **Insight** and **Target** stages so you can clearly articulate the opportunities for council and communities. When presented with timely and relevant information, communities can help to prioritise, design and endorse climate planning.

# Knox's Climate Response Plan 2021-2031

**Case study:**
**Tracie Armstrong, Senior Project Manager – Climate Response, City of Knox, VIC**

Knox's Climate Response Plan was adopted in September 2021, providing a roadmap for Council to reach net zero emissions from its operations by 2030 and for the Knox community to reach net zero emissions by 2040.

Image supplied by: Knox City Council

Council's **community advisory committees** are run by different departments and include councillors, council officers and interested community members. Knox's Senior Project Manager, Tracie Armstrong, consulted the committees throughout the process, to secure buy-in and gain insight and input.

The process involved significant **internal consultation,** including workshopping all proposed climate actions with relevant departments to co-create actions. This process identified possible options, and flagged actions already underway.

Finally, the process involved **community consultation.** Following the development of a draft plan, the community was consulted through a mix of online and in-person surveys. Knox used **Conversation Caravans** to visit local events, offering free coffees to those who completed the survey. Council staff were available to answer specific questions. Displays in local shopping centres with links to the survey also spread the word.

The extensive consultation process was appreciated by councillors and influenced the final outcome, with a more ambitious community emissions reduction target set than initially proposed.

The process was not without challenges. COVID lockdowns thwarted some traditional community consultation avenues but inspired lateral thinking, like the shopping centre displays.

Tracie's advice to other councils about to embark on this process is to engage with the community as early and as often as possible. Establishing early connections with council communications teams is also important.

# Strategy checklist


## At the end of the Strategy stage, you should be able to:

- develop strategic priorities that will allow you to address the key emissions sources in your LGA and reach your target
- identify clear and relevant objectives under each priority
- understand your business-as-usual emissions trajectory
- understand the expected impact of council interventions on your community's emissions and modelled pathways to net zero emissions
- test potential projects with internal stakeholders
- undertake community planning workshops.

# Action

7


For this stage to be successful there are some crucial elements to consider, such as how your projects will be funded, governed, designed, received, monitored and measured. Look to your local government peers to learn how they have successfully implemented projects and to establish regional collaborations.

**See Actions in the Climate Change Mitigation 'Cheat Sheet' for Councils (appendix).**

At this point you will have your plan and vision, but you will need to dive deeper into the actions needed to turn plans into reality.

# 7.1 Effective action through project design

## Project design is an opportunity to be more specific about what you want to achieve, how and when.

A well-designed project is clear about:

- who you are targeting
- what you want them to do
- what outcomes you expect (monitoring and measuring)
- how the project will be resourced and delivered
- when the project will be delivered.

As a starting point, it's good to be as specific as possible and think through your primary consideration:

## "I want (AUDIENCE) to do (ACTION) (WHEN) to achieve (OUTCOME)."

## "I want (PROCESS/SYSTEM) to be updated to do (ACTION)(WHEN) to achieve (outcome)."

For example: "I want to update planning controls to be net zero/energy efficient by 2038."

From this, your secondary considerations flow:

- Who is your target audience for this project and why? (For example, local business community in selected suburbs because they are heavy energy users)
- What do you want your audience to do and what are they capable of doing? Make sure the actions match their capacities. (For example, renters may find it difficult to install rooftop solar as they require the permission of their landlord. Can this be arranged and, if not, what else can they do?)
- How big is the audience you want to engage (and what resources will you require)?
- When do you want to deliver the project and what is the best time for your audience? (For example, not engaging commercial business on public holidays.)
- What resources do you have and need?

Consider whether other stakeholders within and outside council might help or even be better placed to engage your audience.

Work with project participants and partners during the design phase to get early buy-in and to ensure projects are fit-for-purpose. You can even hand over project management, leadership or other roles to interested community partners or third parties. This could mean asking local businesses to host working groups, for instance.

Learning from other municipalities about what to do (and what not to do) can shape your thinking and uncover project ideas not yet considered. This doesn't mean simply copying the work of others, but rather adapting it for your own purposes. Once you've determined your programs and projects based on your municipality's unique circumstances, you can learn from people who have implemented similar approaches. Councils engage through several networks in Australia and NSW (such as regions of councils, or joint organisations). Call on these networks to learn who has already implemented a similar project. What did they learn? What worked and what didn't?

# 7.2 Applying actions and interventions in practice

Once an action plan or strategy has been developed, councils can focus on their role in specific interventions. Collaborations with industry sectors, other levels of government, urban and energy planners, and other key community and business groups are particularly important as they can amplify your impact.

This part of the program cycle includes standard project management, such as feasibility studies, procurement and implementation of renewable energy and energy efficiency projects. Projects should be measured against key time, cost and quality criteria.

An example of possible interventions in transport are instructive, as every council in NSW has transport emissions in their baseline. This is likely to be between 15 and 30%, but you will determine the exact figure during the **Insights** stage. The transition from internal combustion engine (ICE) vehicles to electric vehicles (EVs) is an obvious solution to reduce transport emissions. A potential action, therefore, is installing and expanding EV charging infrastructure.

The cost of installing EV charging infrastructure through an entire municipality could be very high and offer councils little direct financial benefits. High upfront capital requirements are one of the key barriers to the expansion of charging infrastructure, alongside land and network availability, and the current uptake of EVs in the community.

To address these markets barriers, the following council interventions could be undertaken:

**Partnership:** Look for opportunities to partner with organisations to reduce costs through grant programs and economies of scale (like the NSW Government EV Destination Charging grants program).

**Facilitation:** Encourage discussions and agreement between owners of charging infrastructure and distribution businesses to remove the barrier of network availability.

**Strategic planning:** Make EV charging points a requirement for developments in certain zones. This removes the investment barrier and the requirement for council land to be available in strategic locations.

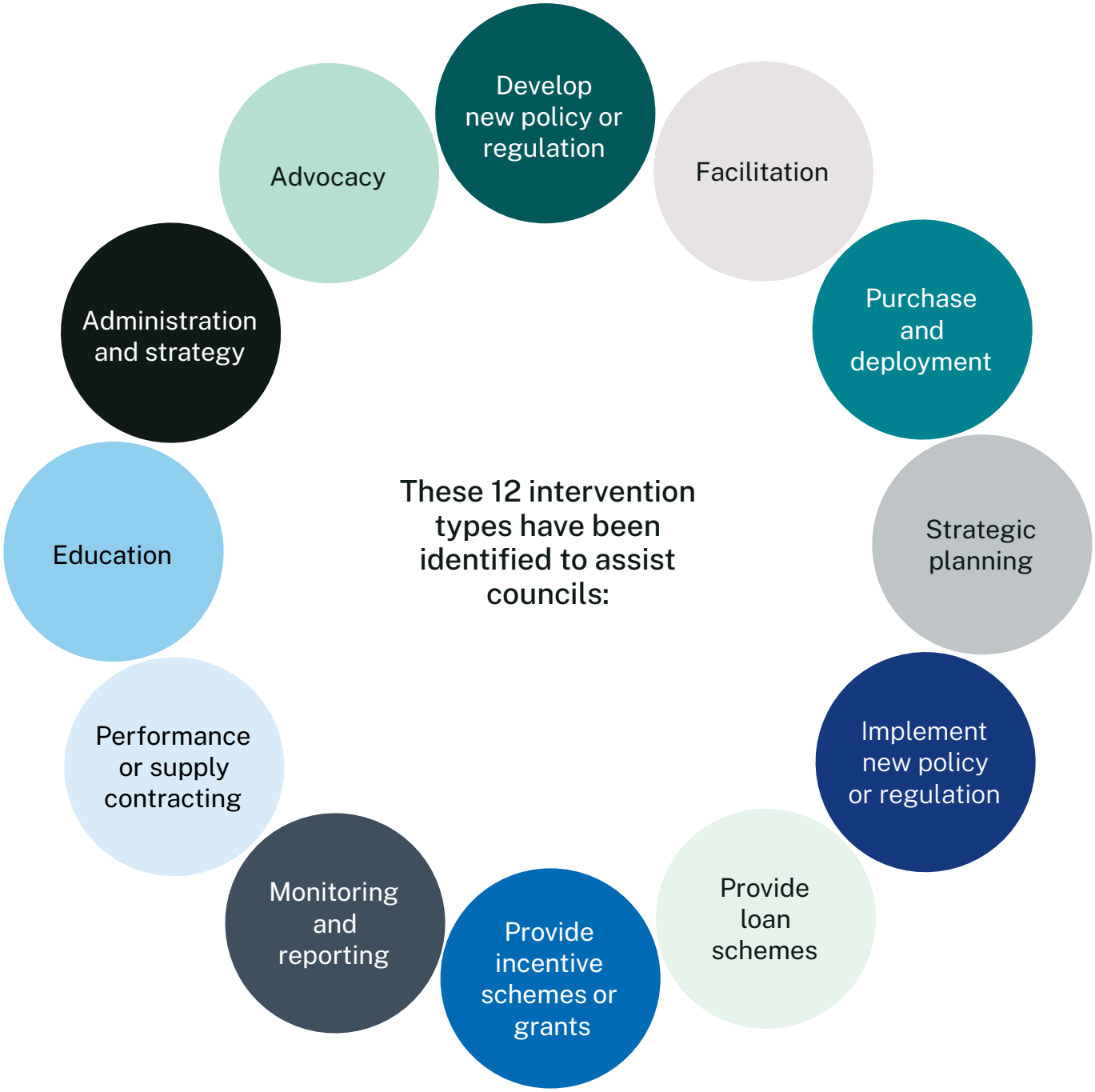
**Education:** Provide public education on the benefits and business case for EVs. Clear and reliable information from a trusted source such as council can enhance understanding and remove fear of the unknown.

**Reporting and communication:** Promote results of pilot projects or case studies from leading organisations in the municipality to champion this new transport system and create new social norms around EV usage. For example, your council could recognise EV precincts or organisations when a certain target for charging points and electric fleet vehicles are met.

Of the example interventions above, only one requires funding the charging infrastructure itself. The rest leverage the support of key stakeholders like developers and the community. This demonstrates a key difference between strategies to reduce corporate and community emissions, as a council can facilitate community emissions reductions without spending any ratepayer dollars.

Intervention may not always deliver a clear financial payback for a council, but the community-wide co-benefits of emissions reduction can be enormous.

# 7.3 Exploring intervention types



## 1. Adapt existing policy or regulation

Sometimes an existing policy or regulation with ample flexibility can be adapted to support a net zero community emissions strategy, saving council time and resources. Consider whether you can clarify language in existing policies to reframe 'best practice' around net zero emissions, reduce inconsistencies in policy implementation, include new requirements or enhance minimum standards for planning applications.

## 2. Administration and governance

New administrative resources and documents are often required to drive implementation and impact. This may include creating panels, committees, or other administrative organisations. Councils may also embed community emissions reduction into plans and strategies, such as the Local Strategic Planning Statements, Community Strategic Plan, Delivery Program and Operational Plan.

## 3. Advocacy

Councils or groups of councils may advocate to other levels of government for emissions reduction measures. For example, councils may advocate for improvements to the National Construction Code.

## 4. Education

By sharing knowledge and success stories of emissions reductions projects, councils can enhance understanding of climate action within the community, empower people to take action and minimise the fear of the unknown. Education interventions can vary substantially depending on the needs of the target sectors and actions. An informative website may be the most appropriate channel for one audience, a series of educational workshops the best avenue for a second group, and posters or pamphlets the most successful way to communicate with a third group. The secret is to understand your audience and tailor your communications accordingly.

## 5. Develop new policy or regulation

Sometimes the only solution is a new policy or regulation. Amendments to the Local Planning Panels (LPP) to require certain reporting or minimum standards can take years to implement. However, new policies that address emerging issues can guide development with your LGA and can be developed in less than a year.

## 6. Facilitation

Target actions that have complex adoption pathways or stakeholder dynamics often require expert council facilitation. Councils can play an important leadership role in bringing sectors together, encouraging discussions and agreement, and facilitating action. The Solar my School case study in Section 4 is an excellent example of successful council facilitation.

## 7. Monitoring and reporting

Transparency builds trust and cultivates a commitment to excellence, which is why monitoring and reporting is so important for any net zero community emissions reduction strategy. When councils set clear processes around monitoring and reporting, they demonstrate a commitment to continuous improvement which filters through to the private market. NABERS ratings in commercial buildings and Energy Ratings on appliances are powerful examples of where government-led monitoring and reporting helps drive better outcomes.

## 8. Performance or supply contracting

As large-scale procurers and asset managers, councils are well-placed to drive emissions reduction through performance or supply contracting. For example, councils may mandate emissions reductions in road building materials or contracts for diversion of food and garden organics.

## 9. Provision of incentive schemes or grants

Councils can incentivise emissions reductions through grants and other programs. Modest grants can often deliver important step-changes through demonstration projects, knowledge sharing or capacity building. The case study of Randwick City Council's grants program to encourage residents to install energy efficient technologies is just one example of the many incentives that can change behaviour, encourage innovation and drive down emissions (see the Monitoring & Evaluation section for further detail).

## 10. Provide loan schemes

Many councils can provide loans to residents, community groups and businesses to undertake emissions reduction actions. Council rates are one mechanism by which loans can be repaid. This can encourage residents, community groups and businesses to invest in long-term climate mitigation actions that would otherwise have a delayed return on investment.

## 11. Purchase and deployment

Councils can purchase and deploy emissions reducing measures for community use. For example, a council could fund the installation of EV chargers at council facilities. This can have a far-reaching impact as it not only facilitates emissions reductions across the LGA, but also demonstrates leadership and sets new best practice benchmarks for the private sector to follow.

## 12. Strategic planning

Councils can develop planning tools and frameworks to guide community emissions reductions. This can include strategic thinking and planning around building design, energy and transport infrastructure, community behaviour change programs, waste management practices and product consumption. Implementing circular economy principles is a good example of strategic embodied emissions action, as this reduces the use of both virgin materials and waste emissions in one process.

# 7.4 Choosing the most impactful climate actions and interventions

Developing a net zero community emissions strategy is not as simple as picking from a list of potential projects. An understanding of your unique community emissions profile, your business-as-usual trends, strategic priorities for your council and emissions forecasts all inform your project priorities.

**Alongside this Guide and the Net zero community emissions strategy template, additional resources have been developed to help NSW councils understand the most impactful climate actions.**

This includes the types of actions that are likely to deliver the biggest impact across transport, electricity, gas, waste and agriculture.

Go to the **Climate Change Mitigation 'Cheat Sheet' for Councils** for information on the most impactful actions and interventions for councils.

# 7.5 Measuring success

During the project design process, you will collect actual data about the number of expected participants, anticipated impact, timing of impact, and much more. With this data, you can update your emissions projections and set the baseline against which you'll monitor the impact of your projects.

**By understanding the target subsector's precise figures, your monitoring will be more accurate and better highlight your council's impact.**

Data collection for project monitoring must start at the beginning of the action phase. The data will reveal insights throughout the project implementation to help you understand whether you are achieving the expected impact or whether recalibration is required. Make sure you consider the lag time between an action, intervention and the results. For example, planning through to construction and habitation of new net zero apartments might take many years.

To ensure you have adequate resources to implement your plans, draw upon available internal resources, but also be on the lookout for opportunities from other levels of government.

# High performing building standards

**For Parramatta CBD growth precinct**
**Case study: Rebecca Peacock, City Strategy, City of Parramatta, NSW**

As the City of Parramatta developed its 2017 Environmental Sustainability Strategy, the team identified buildings (72%), transport (20%), and waste (8%) as the sources of 2014/15 baseline emissions.

**With the LGA's population growth requiring an additional 100,000 dwellings by 2036, modelling found that community emissions would increase by 42% by 2038 under a business-as-usual scenario. In addition, the Parramatta CBD Planning Proposal found that new developments would deliver a 3-fold increase in energy demand.**

Achieving Parramatta's 60% emissions reduction target would require higher building standards. Reduction opportunities were found by applying higher NSW Government BASIX energy targets with a floor space incentive for new residential development and new build standards for non-residential buildings.

In October 2022, the Parramatta CBD amendment to the Parramatta Local Environment Plan, or LEP, (amendment 56) came into effect. This amendment includes the High Performing Building Clause (7.23) that requires specified developments to achieve higher energy standards.

The Parramatta CBD Development Control Plan (DCP), also adopted by Council in October 2022, contains high performing building controls to support the LEP clauses, including information on the comparative NABERS ratings to be achieved in non-residential development. This precedent will be used in future planning instruments and will have a significant impact on emissions from new buildings.

# High performing building standards cont.

The first step in the process was **accumulating evidence of the need for action**. In Parramatta, buildings were a logical focus because they are currently a large source of emissions and because of the projected growth in population and dwellings. Amending the planning scheme, therefore, became a powerful tool.

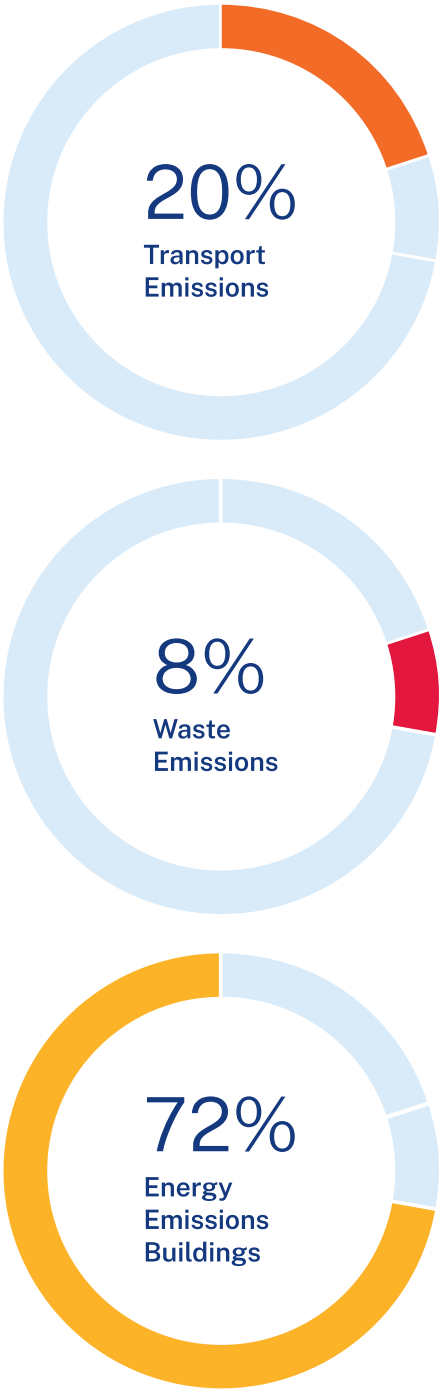
A key component of the process was **engaging key stakeholders early in the process.** In this case, developers were key stakeholders, and their early engagement has secured general support. The City of Parramatta's work can now be readily replicated in other municipalities as planning is a key lever available to councils to reduce emissions. The secret is to start with emissions sources, forecast changes to the LGA's emissions profile over time, and use other geographic and economic data to inform your engagement strategy.

2,842,000

Total Emissions

**Tonnes Co2e**
Source: Kinesis (2017)

**Sources of Community Emissions**




Base Year 2014/2015

# Sustainable Us and the Energy Efficiency Retrofits Pilot

**Case study:**
**Cecilia Kemp, Coordinator Sustainability Services, Wingecarribee Shire Council, NSW**

Wingecarribee's Sustainable Us is a council-run, community-based initiative that was created in 2022 in response to the ever-growing concern about climate change and lack of clear sustainable living information. It centres around a series of monthly workshops, a video series, and other initiatives.

When developing the framework for Sustainable Us, Cecilia and her team looked at programs that would encourage the community to make key emissions reducing lifestyle choices. The Council team developed a working relationship with WinZero – a local volunteer group – and began looking for models that would facilitate such a program.

An opportune email to the Office of Energy and Climate Change (OECC) proved productive as the Sustainable Homes team at OECC were looking for a community to run an Energy Efficiency Retrofits pilot. The pilot is designed to research how to build a market for home energy upgrades. The project aims to explore how energy assessments, ratings, finance and other interventions could encourage householders to include energy efficiency into their home improvements. The project will conduct interventions in up to 100 households.

The project partners for the pilot are Wingecarribee Shire Council, Wollondilly Shire Council, WinZero Inc, Behaviour Works Australia and the OECC Safeguard Acceleration Program Team.

**Wingecarribee Shire Council** has just two sustainability staff, so emissions reductions projects are framed within this capacity and resource constraint. Cecilia Kemp says this means maintaining a focus on providing opportunities and bringing people together to facilitate action.

While community-led and genuinely community-owned, the project has benefited from Council's ability to facilitate partnerships, promote the project, and connect the community to critical stakeholders.

Similar community-led energy projects around NSW and the country also harness council connections with great success. Community groups often struggle to engage with the state government or may not understand the importance of engaging with them as early as possible. Sometimes the key council "intervention" is simply a matter of facilitating discussions, connecting, understanding other key demographics or economic information that might be of value for the project. As Cecilia says: "It's about providing opportunities rather than driving the project."

The project provides several key lessons. Firstly, be realistic and manage expectations about what councils can offer. In Cecilia's words, "don't over-promise and under-deliver". Secondly, remember that most community group members are volunteers. Finally, the value of community-led projects is clear. If there is a group with a uniform purpose ready to drive climate action, then provide support, scaffolding, advice and focus on the unique value a council can offer.

### Sustainable Living Workshops

**January:** Behaviour Change
**February:** Growing & Sourcing Food
**March:** Waste: Reducing Food Waste
**April:** Future-Proofing Our Gardens
**May:** Transport
**June:** Buying Power
**July:** Collaborative Communities
**August:** Energy
**September:** Advocacy
**October:** Home Sustainabilty
**November:** Waste: Upcycling
**December:** Sharing Economy

# Action checklist

## At the end of the Action stage, you should be able to:

- design projects that allow you to address your strategic priorities
- design a monitoring program for each of your projects and partners and start collecting data to inform it
- collaborate with and learn from other councils undertaking similar work.

# Monitoring and evaluation

8

By now, you will have established a carbon budget for your community. You will have set an emissions reduction target and a coherent strategy, and have a pathway to achieve your targets.

Effective monitoring and evaluation systems are the key to knowing whether your strategy is delivered successfully.

See **Monitoring and evaluation** in the Net zero community emissions strategy template.

# Monitoring and evaluating the impacts of sustainability rebates

**Case study:**
**Sam Kelley, Sustainability Projects & Reporting Officer, Randwick City Council, NSW**

Randwick City Council incentivises residents and businesses to implement energy and water saving initiatives with 12 specific energy and water saving rebates for rooftop solar, battery storage, rainwater tanks, insulation, LED changeovers, efficient swimming pool pumps and more.

**These rebates have leveraged $3.12 million of community investment (more than 11 times the program's expenditure) and resulted in 2,530 kW of rooftop solar, 450 kWh of battery storage, 44,000 L of rainwater storage, 51 homes insulated, 1,498 lights upgraded and much more.**

To counter the additional barriers faced by apartment dwellers, the program provides a higher rebate amount for apartments – an exceptional example of a council's laser-like focus on obstacles and opportunities.

By incorporating monitoring and evaluation into the project design, Randwick City Council has demonstrated the impact of the project – and this has contributed to the program receiving the **LGNSW Excellence in Environment Award - Towards Net Zero Emissions** and being renewed for a third year of funding. Monitoring and evaluation has ensured the program can be adjusted based on learnings along the way.

Monitoring data was collected from the outset. This included data on technology and tenancy type to uncover the biggest impact opportunities beyond 'business as usual'. Unsurprisingly, uptake has been highest in detached homes where there are fewer barriers to pursuing the sustainability measures. In response, Council targeted the largest apartments for letter drops to spread the word on the existence and benefits of the program.

Another area of monitoring established from the outset was to understand how council financial investment is leveraged to create greater community value. Based on the actual invoice amounts, reporting on leverage showed that $11.30 of community investment is being invested for each $1 of Council funding. This has been particularly important for gaining buy-in from senior levels of management and is typical for community climate projects where councils are rarely covering the capital costs of technology or infrastructure.

Council focused on collecting data on universally accepted metrics, such as kW of solar installed, rather than the number of solar panels or how much electricity was saved. The amount of energy and water

savings could then be calculated and verified by an external environmental consultant to add confidence and credibility to the results.

The project team qualitative data and surveys helped to understand how much of the outcome could be attributed to Council's intervention. A survey question on how important the rebates were in influencing residents' decision to install the green technology gave Council a gauge of the program's impact beyond business as usual. Around 70% of residents reported that the rebate had a "high" or "very high" impact on their decision to move ahead with their energy or water saving purchase or installation.

Randwick City Council ensured actions and claims aligned with data and evidence. This meant acknowledging that some participants of the scheme would have proceeded with their sustainability initiative regardless of the council rebate. Sam Kelley, Randwick City Council's Sustainability Projects & Reporting Officer, notes that these residents may become champions of the scheme and encourage further uptake in the community. At the other end of the spectrum, some residents have reported the rebates as the sole purpose for their sustainability purchase.

Monitoring and evaluating can be simple. For instance, Council did not ask residents to provide utility bills before and after accessing the program, as this would increase the reporting burden for little impact.

Council also used publicly available data, such as from the Australian PV Institute, which demonstrated that 10% of the solar capacity in Randwick in 2021 came from the Council rebates scheme. Automated reporting via a monthly download of data means reports can be generated for senior management and the program adjusted as new information becomes available.

### Current rebates offered by Randwick City Council

1. **Electric vehicle charger**
2. **Energy assessment**
3. **Hot water system**
4. **Induction cooktop**
5. **Insulation**
6. **Lighting**
7. **Pool pump**
8. **Rainwater tank**
9. **Rooftop solar**
10. **Solar battery**
11. **Solar health check**
12. **Waterfix®**

# 8.1 Monitoring for success

There are two points at which monitoring is needed. The first is monitoring the strategy's targets, and the second is monitoring the impact of the actions and interventions. The table below illustrates this further.

| Relevant objective | Target | *Monitoring* ↓ Metric | Actions | *Monitoring* ↓ Project monitoring |
|---|---|---|---|---|
| This is the link between the metric and the relevant part of your strategy | This is the measurable change that council's actions are aiming to achieve | This is the metric used to measure | | |
| *Example: Improve energy security* | *Example: Increase solar PV by 30%* | *Example: Total solar installations (% of all dwellings)* | *Develop solar PV education resources for monthly council newsletters*<br><br>*Provide discounted solar auditing and advice services for key industries* | *Number of clicks on solar content*<br><br>*Uptake of auditing services* |
| *Example: Improve mode share of active transport* | *Example: Increase active transport by 25%* | *Example: Distance travelled by bicycle and walking (km/year)* | *Increase cycle path coverage*<br><br>*Develop cycling and walking education resources* | *Kilometres of cycle path installed*<br><br>*Number of downloads of active transport resources* |

# 8.2 Knowing which actions and interventions work (and why)

Without monitoring or evaluation, councils are often left not knowing if an intervention was successful or not, and why. They may also miss opportunities to learn from real projects on the ground and share these lessons internally and with other councils.

**Successful monitoring and evaluation should be planned at the start of the Action phase, where baseline data is available, and can be regularly collected during project implementation.**

Where the goal is to achieve systemic change, such as a policy, continue to collect data after the project concludes, to measure ongoing impact.

**Evaluation** is the process of collating monitored data, sometimes together with further supporting data, to determine whether the project is achieving its goals.

This might occur at an established point during or following the project, or it might be triggered by monitoring data to determine whether the project outcomes are significantly different than anticipated.

Successful monitoring and evaluation results can be shared with your community, council leadership and the local government sector. This helps to reinforce support for your net zero emissions strategy and the resourcing required for its ongoing implementation.

Even when projects don't work out as you intended, good monitoring and evaluation can help you to recalibrate existing projects, develop better projects in the future and turn failures into successes.

GLOBAL COVENANT of MAYORS for CLIMATE & ENERGY

The Global Covenant of Mayors (GCoM) is a global coalition of local governments that has pledged to cut emissions and prepare for potential local climate impacts.

Importantly, GCoM provides a standardised reporting framework that helps councils to track and monitor their progress.

Current NSW members of GCoM include Bellingen Shire Council, Blacktown City Council, Byron Shire Council, City of Newcastle, City of Sydney, Penrith City Council, Sutherland Shire Council, Tweed Shire Council and Wollongong City Council.

# 8.3 Collecting the right data

Good data is essential to monitoring and evaluation. To understand your impact, there are a few metrics to consider:

### Action impacts:

One big question must be answered: "Is what we expected to happen, actually happening?". Are the actions you're trying to influence occurring at the expected time and rate?

### Business-as-usual impacts:

Ask yourself what would have happened if council hadn't implemented the project. While answering this can be tricky, the best way is to look at a "control", such as a council or a suburb with very similar characteristics (also known as a "cohort council") that is not implementing the same program. You may also look to future emissions modelling.

By reviewing both metrics, you can determine your council's impact on the uptake of emissions saving actions in your community.

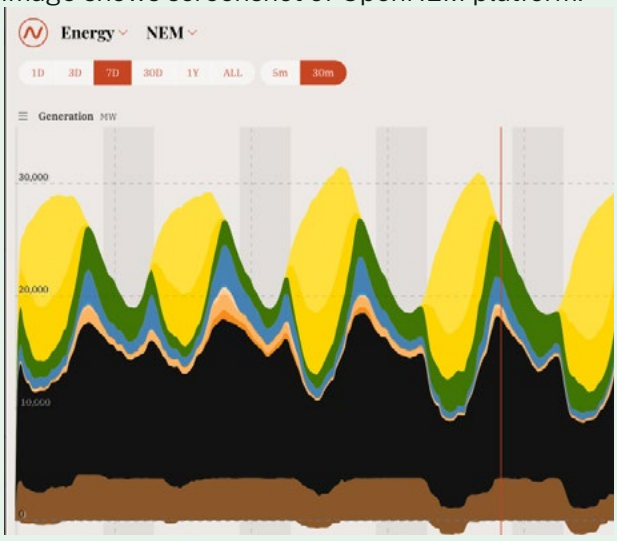
Note that your emissions profile (Section 4.1) is insufficient for monitoring and evaluation purposes. It is generally not possible to attribute any changes in the emissions profile over time to a particular action, or even a suite of actions. This is for two reasons: because of the scale at which actions are undertaken; and because accurate and GPC-compliant emissions profiles at the municipal scale are very hard to obtain.[1] Changes in the emissions profile over time may occur simply due to improvements in the underlying data or modelling.

# 8.4 Using the best data sources

Choose publicly available, regularly updated data sources from reliable third parties where you can. For example, the Australian PV Institute provides comprehensive data about solar installations that can help you to compare your council against cohort councils.

You can also collect data from project participants. When working with businesses, for instance, the best data points to determine your impact are usually found with the businesses themselves. This includes quantitative data, like changes to their energy use tracked through their bills. But qualitative data, such as feedback on the role of council influencing behaviour, can also be a useful metric. Similar data can be gathered from individual households, although this is more challenging and requires substantial resources from council.

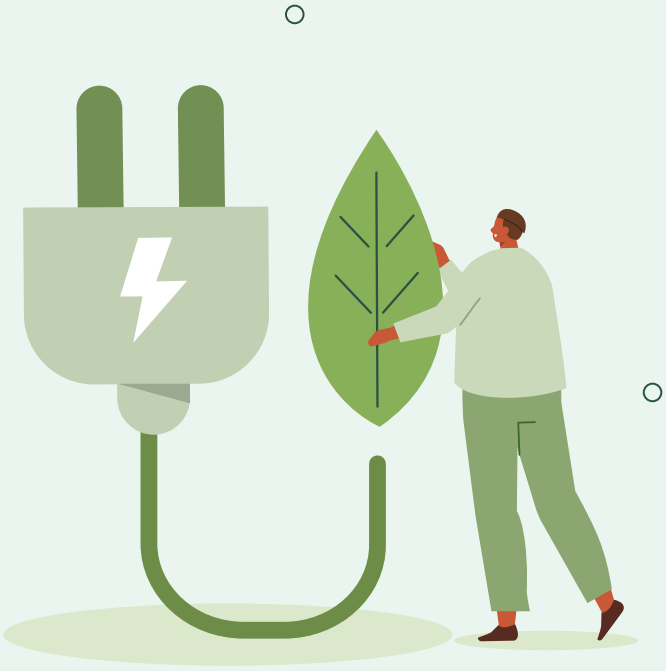
Image shows screenshot of OpenNEM platform:




You can follow the supply and demand in the Australian Electricity Market with OpenNEM, an open platform for National Electricity Market data used by a wide range of stakeholders. Many councils, including City of Sydney and City of Parramatta, use this data source for renewable energy targets.

1. The GPC Protocol is designed to promote best practice greenhouse gas accounting and reporting. Using this common framework means that results can be compared and combined across regions without double counting.

Data sources to inform your projects are virtually unlimited. Project partners and other stakeholders will have useful data at their fingertips that can give you additional insights into the success of your project. An EV charging project may benefit from additional data from car sale yards, for example. A residential solar PV project may be informed by data from energy distributors. A project to elevate the energy efficiency of commercial buildings could draw on NABERS data. Think widely and laterally to unearth the hidden data sources that can help you measure your project's success.



# Monitoring and evaluation checklist

## At the end of the Monitoring and evaluation stage, you should be able to:

- understand what data to collect to assess the impact of your actions against a business-as-usual scenario
- establish systems to collect and evaluate data to ensure project effectiveness
- draw on the outcomes of your monitoring and evaluation program to share successes, look for learnings from project successes and failures, and incorporate these learnings into project implementation.

# Navigating key programs and resources 9

Programs and networks like Cities Power Partnership, Climate Emergency Australia and the United Nations' Cities for Climate Protection campaign are just some of the many examples of successful council collaborations that have delivered results.

Today, the Global Covenant of Mayors for Climate and Energy and Race to Zero are the most powerful ways for NSW councils to make connections across international cities networks.

The **NSW Climate and Energy Action** website provides links to net zero initiatives, strategies and programs available to assist councils and their communities on their net zero journey.

Working with your community to reduce emissions and adapt to a changing climate is a large, complex and ongoing challenge. It is also a challenge that can create stronger, more sustainable communities. It is fundamental that people across New South Wales are empowered to take action to reduce emissions, so that together, we can make a difference now and for future generations. By developing a net zero community emissions strategy, council will be able to identify, plan and prioritise short-and long-term climate actions.

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# Climate action ‘cheat sheet’ for councils

11

This ‘cheat sheet’ is a guide to help your council consider the actions that could make the biggest impact for each sector. A checklist of key questions to ask is provided for each area.

### First things first!

Find out what’s happening in your municipality first by going through the insight, target, strategy and action stages set out in this document. While there may be some actions that are likely to be impactful across most council areas, make sure to overlay your own council’s emissions profile, forecasts, demographic information and business-as-usual trends. For **all the actions** in this section ask yourself: Is this new? Is it something that will be transformative? Is it something we haven’t done before?

# Transport

**Replace internal combustion engine (ICE) vehicles with electric vehicles (EVs)**

- Provide education around 'range anxiety' (the fear that EVs have insufficient energy storage to reach intended destinations)
- Develop educational material promoting the benefits of EVs
- Publish information on the locations of charging infrastructure
- Provide incentives to people using EVs, such as designated parking areas and discounted parking rates
- Advocate for stronger emissions standards for vehicles
- Replace council fleet with EVs (reducing emissions and stimulating the resale market).

**Expand the EV charging network**

- Provide assistance and streamline **EV charging infrastructure**
- Modify assessment of planning applications to encourage new developments to be EV-ready
- Install public EV charging at all council facilities
- Plan for EV charging at neighbourhood and street levels, particularly in areas where there is no or low levels of off-street parking.

**Mode shift to alternative transport – public, active transport, car share services**

- Replace carparks with dining parklets and bike parking
- Build and maintain walking and cycling facilities and infrastructure
- Develop and deliver walking and cycling behaviour change programs
- Develop educational programs on benefits of cycling, car share and, active and public transport
- Facilitate and promote e-bike programs
- Assist local schools to develop school travel plans
- Introduce incentives for behaviour change to facilitate uptake of alternative transport options
- Create a new regulation or policy requiring the installation of car share infrastructure (such as car share car spaces)
- Investigate and install traffic calming initiatives such as bollards, medians, refuge, trees, chicanes and lane shifts
- Mandate cycle parking stations and showers for high density residential, commercial, and retail development.

**Other actions**

- Implement recycled road and footpath construction specifications, as studies suggest that adopting best practice product selection can reduce emissions by as much as 60%
- Investigate options to support renewable fuels for heavy and long-distance vehicles.

**Data sources to consider**

- **Number of EV registrations** based on Australian Bureau of Statistics data
- **NSW car registrations data** ('other fuel types' covers electric, hydrogen and steam)
- **Number of EV chargers in municipality**
- Number of car share and/or EV parking spaces
- **Census data** on number of vehicles per dwelling and method of travel to work (while this data is good for planning purposes it is only collected every 5 years so is unlikely to be sufficient for monitoring purposes)
- **Google transport data** (only available for some municipalities).

# Transport checklist

- [ ] Have you spoken to transport planners within your council to look at existing strategies?
- [ ] Have you developed a plan to transition your council's fleet to zero emission vehicles?
- [ ] Have you used education material from the EV Council?
- [ ] Have you considered other health and social drivers and benefits?
- [ ] Have you researched the state of the EV market to understand the availability of vehicles?
- [ ] Have you reviewed the NSW Government's funding for electric charging stations?
- [ ] Are there other state incentives that may be applicable?
- [ ] Have you reviewed the current EV charging network in your council area?
- [ ] Will these interventions lead to more second hand EVs on the (local or national) market?
- [ ] Are there opportunities to align your efforts and interventions with other councils or stakeholders in the region?

# Residential

### Energy efficiency – upgrades, retrofitting

- Facilitate programs, provide incentives or run education campaigns on energy efficient appliance upgrades for residents
- Facilitate bulk buys for energy efficiency measures (such as heat pumps and insulation)
- Track engagement with households to develop deep relationships and measure effectiveness
- Develop **electrification education programs and incentives**.

### Solar photovoltaic (PV) installations

- Facilitate solar PV installations on residential properties, especially rental, multi-dwelling properties and **low income housing**
- Provide information on available **grants and rebates for household solar PV installation**
- Support community solar PV initiatives and encourage investment in community solar energy.

### Low emissions buildings

- Require new residential buildings to achieve a high level of energy efficiency and advocate for low emissions buildings and developments
- Incentivise high performance buildings
- Deploy resources to increase enforcement of planning requirements.

### Electricity and renewable energy market advocacy

- Support access to energy markets in modern and creative ways
- Facilitate access to wholesale markets and support and promote community energy
- Provide a strong local voice to key energy committees, such as the Australian Energy Market Operator
- Promote GreenPower to residents as an option
- Investigate neighbourhood battery trials
- Support communities to create microgrids.

### Consumption related actions

- Encourage sustainable and low emissions food choices
- Encourage sustainable and high-quality clothing choices (to reduce product footprint and frequency of replacement)
- Support high-quality technology products and household goods that will endure and low emission versions where possible.

### Data sources to consider

- Surveys of program participants to collect qualitative data
- Tracking of planning permits for emission reduction initiatives
- Solar PV adoption – you might like to compare adoption rates with similar municipalities that have not implemented a solar project to gauge your program's success in lifting solar penetration above business-as-usual
- **Solar PV trends**
- Data from energy retailers or distributers, such as the number of people signed up to GreenPower.

# Residential checklist

- [ ] Have you engaged with Public Interest Advocacy Centre's energy programs?
- [ ] Are you familiar with net zero or energy standards for planning such as the Sustainable Buildings SEPP (BASIX) or your council Local Environment Plan (LEP)?
- [ ] Have you checked what other councils in your region are doing?
- [ ] Have you checked if other councils in your distributed network service provider region are already undertaking regional advocacy?
- [ ] Have you assessed what you can learn from initiatives in other states?
- [ ] Have you considered co-benefits like reduction in energy costs and a just transition?
- [ ] Does your work amplify existing programs?
- [ ] Will your work accelerate emissions savings in this sector above what would occur without council intervention?

# Commercial and industrial

### Renewable energy

- Facilitate solar PV installations on commercial, industrial and public buildings such as hospitals and **schools**
- Provide information on available state and federal grants and rebates for solar PV installation
- Run programs and educational campaigns on renewable energy Power Purchase Agreements (PPAs)
- Replicate **City of Sydney's GreenPower program**.

### Energy efficiency

- Deliver workshops on **energy efficiency and alternative technologies**
- Provide incentives for adoption of energy efficiency measures
- Facilitate programs, provide incentives or education campaigns on energy efficient appliance upgrades for businesses.

### Low emissions buildings

- Require new commercial buildings and developments to achieve a high level of energy efficiency through local planning policy
- Incentivise high performance buildings
- Deploy resources to increase enforcement of planning requirements
- Collaborate with other local governments, consortia and market leaders to advocate elevation of minimum standards in the National Construction Code
- Promote the use of green building ratings tools (e.g. NABERS, Green Star).

### Electrification

- Facilitate working groups to help building owners transition away from gas and embrace the **Net Zero Industry and Innovation program**
- Collaborate with the largest gas users to understand the obstacles and opportunities to drive down emissions
- Encourage electrification for new developments through local planning policies, the LEP and Development Control Plan (DCP).

### Data sources to consider

- Surveys of program participants for qualitative data
- NABERS-rated buildings in your local government area over time
- Tracking of planning permits
- Incentive take-up rates.

# Commercial and industrial checklist

- Have you investigated how you can drive new buildings towards high energy performance and reduce emissions in existing buildings with NABERS?
- Do you understand how the recent energy crisis is influencing the future of energy prices, and how costs are likely to escalate?
- Have you considered how your council can support state and federal programs like the **low emission building materials program?**

# Waste

### Management of methane in landfills

- Manage emissions from existing landfills and planned cell extensions
- Advocate for the use of methane gas at landfills, with flaring as a last resort
- Investigate resource recovery options for organic waste, such as anaerobic digestion and composting.

### Food organics and garden organics (FOGO) waste diversion

- Understand available resources and support, starting with the NSW Environment Protection Authority: **www.epa.nsw.gov.au/fogo**
- Investigate **carbon credit income** from FOGO
- Provide FOGO collection services
- Ensure FOGO is processed into a quality product, otherwise known as waste valorisation
- Ensure sufficient ongoing education on food waste avoidance and recycling
- Ensure buildings are designed to manage source separated food waste.

### Develop the circular economy

- Promote sharing services and the sharing economy
- Build in sustainable procurement as a norm (e.g purchase compost to bolster sporting fields and recycled content in infrastructure projects)
- Create circular economy hubs and connect makers and buyers
- Build food donation networks between potential food donators (e.g farmers, supermarkets, catering, cafes and bakeries) and local food relief organisations (e.g Foodbank Australia, OzHarvest, SecondBite and local charities)
- Encourage waste avoidance, reuse and repair, recycling and use of recycled products.

### Other

- Explore the potential for bioenergy (e.g from waste) in your local area
- Co-locate waste-to-energy facilities to produce zero emission gas and electricity for industry
- Ensure land use planning enables co-location of facilities to use by-products efficiently (e.g food waste to gas/energy)
- Roll out community education campaigns to reduce contamination of recycling streams, promote drop off centres for problem wastes, and minimise waste generation.

### Data sources to consider

- Surveys of program participants
- Number of households with FOGO bins
- Average amount and types of waste collection (kg/household) sent to landfill
- Data from your landfill operator, such as waste volumes, quantity of methane used/flared and used for energy and estimated emissions.

# Waste checklist

- Have you investigated climate co-benefits and cost savings of waste management?
- Have you considered carbon **credit income from FOGO**?
- Have you looked into the **Circular solar grants program**?
- Have you engaged with contractors and other councils?
- Are you familiar with existing waste targets and plans at local, state, and federal levels?
- Are you on track with your regional waste strategy?
- Have you determined when council waste contracts are due to expire?
- Are you familiar with existing funding at **www.nsw.gov.au/grants-and-funding**?

# Agriculture and land management

### Climate resilience

- Share information on **alternative farming technology**, practices and techniques to increase resilience in a changing climate and support local carbon farming opportunities
- Discuss and plan for zero emissions gas and transport fuels
- Link local landholders to research and pilot opportunities, for example through **Farmers for Climate Action**.

### Renewable energy

- Start the discussion with business and land sector stakeholders to understand their needs, obstacles and potential opportunities
- Provide information on available funding or grants for installation of renewable energy technology such as solar PV.

### Planning

- Ensure appropriate zoning to support use of land according to potential (capability) and to ensure balance between production, conservation, urban areas and infrastructure
- Protect and maintain native vegetation and habitat, including grasslands, when approving new development, and ensure sufficient tree planting and provide tree protection controls.

### Other

- Share information and knowledge on climate-friendly agricultural and land management practices, including how to transition to low impact types of agriculture and regenerative practices
- Provide incentives for landholders including local Aboriginal groups and organisations to implement emissions reduction activities (examples could include avoiding emissions by replacing diesel pumps with solar or undertaking carbon sequestration activities such as tree planting)
- Work with local business groups and state government to identify centralised co-located facilities for the production and use of renewable gas and fuels
- Identify sites for bush and soil regeneration projects and encourage land holders to plant trees and create green space
- Co-ordinate and support community tree planting days on public lands or on private land in collaboration with farmers
- Connect with the NSW Government **Primary Industries Productivity and Abatement Program**, which supports landholders to participate in carbon farming projects, by emailing: **netzero.land@environment.nsw.gov.au**.

### Data sources to consider

- Surveys of program participants
- Incentive take-up rates
- Participation rates in innovative pilots and trials.

# Agriculture and land management checklist

- Have you investigated **Farmers for Climate Action**?
- Have you considered how any actions and interventions for the commercial, industrial and transport sectors could apply to the agriculture sector?
- Have you engaged with farming groups that use regenerative agriculture practices and principles?
- Have you connected with local Aboriginal organisations to understand traditional land management practices that are being or could be implemented in the area?
- Have you considered promoting the economic opportunity for landholders in generating carbon credits on their land (for example through reforestation and soil carbon)?
- Could you consider creative and collaborative approaches to draw down emissions?
- Have you been in touch with your joint organisation to explore regional approaches?

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