



**Brighton  
Council**

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# Environment, Culture and Arts Committee

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**12<sup>th</sup> October 2021**

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Name: .....

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**Brighton  
Council**

**Council Representatives:** Cr Curran (Chairperson); Cr Geard (Deputy Chairperson);  
Cr De La Torre; Cr Garlick; Cr Gray; Cr Jeffries; Cr Murtagh;  
Cr Owen and Cr Whelan.

## **NOTICE OF MEETING**

Dear Councillor,

Notice is hereby given that the next **Environment, Arts and Culture Meeting** of the Brighton Council will be held at **5.15 p.m. on Tuesday, 12th October 2021**, to discuss business as printed below.

## **QUALIFIED PERSON CERTIFICATION**

I HEREBY CERTIFY that in accordance with Section 65 of the Local Government Act 1993, any advice, information and recommendation contained in the reports related to the Agenda have been prepared by persons who have the qualifications or experience necessary to give such advice, information and recommendations.

Dated at Old Beach this *7th* day of *October 2021*.



James Dryburgh  
**GENERAL MANAGER**

## A G E N D A

### **1. Acknowledgement of Country**

We acknowledge the traditional owners who once walked this country: the Mumirimina people. The Mumirimina belonged to the Oyster Bay tribe. This was the largest tribe in Tasmania and covered 8000 square kilometres. kotalayna levee in Brighton was a significant meeting place where hundreds of generations of Aboriginal families hunted, gathered, corroboreed, camped and traded.

In the course of colonisation, dispossession of the Mumirimina was early, rapid and extensive.

We acknowledge the Tasmanian Aboriginal Community today as the continuing custodians of this land, and pay our respects to Elders past and present. Through our words and actions we strive to build a community that reflects and respects the history and hopes for all people of Brighton.

### **2. Apologies**

### **3. Public Question Time and Deputations**

### **4. Declaration of Interest**

In accordance with Part 5, Section 48 of the Local Government Act 1993, the Chairman of a meeting is to request Councillors to indicate whether they have, or are likely to have an interest in any item on the agenda; and

Part 2 Regulation 8 (7) of the Local Government (Meeting Procedures) Regulations 2015, the Chairman of a meeting is to request Councillors to indicate whether they have, or are likely to have, a pecuniary interest in any item on the agenda.

Accordingly, Councillors are requested to advise of any interest they may have in respect to any matter appearing on the agenda, or any supplementary item to the agenda, which the Council has resolved to deal with, in accordance with Part 2 Regulation 8 (6) of the Local Government (Meeting Procedures) Regulations 2015.

## 5. Business

### 5.1 Climate Change Action - Summary Update

Attachment:	Attachment A: Brighton Council climate change action 2011-2021 (See pages 14-23)
Author:	Climate Resilience Officer (Ms A Johnson)
Authorised:	Development Services Manager (Mr D Allingham)

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#### Background

This paper (and the more detailed attachment) provides a summary of past, current, and proposed climate change mitigation action aimed at reducing greenhouse gas emissions. The key focus is on Council managed services and operations, areas that there is a greater ability to influence positive outcomes, and where Council can demonstrate to the community what can be done. Community climate action is equally important, and while this paper touches on community projects currently happening, there is expected to be a more detailed program of work developed and communications on this in early 2022.

Recommendations focus on setting a corporate emission reduction target moving forward and undertaking greater advocacy through new partnerships. Council's sphere of influence on climate change action is expected to increase via participation in:

1. Joint media statements via the Cities Power Partnerships (CPP) that highlight the number of local governments that are calling on our national leaders for greater climate change action; and
2. The global Compact of Mayors, an international program for local government climate action, which involves participation in regular greenhouse gas accounting to the Carbon Development Program.

Brighton Council is currently a member of the CPP, an organisation that represents 150 Australian local governments and promotes grass roots climate action. Connected to the CPP is the Climate Council, a climate change not-for-profit awareness raising body. Brighton Council is regularly invited to join CPP and Climate Council press releases lobbying for greater climate action from the Commonwealth Government.

The Carbon Development Program (CDP) is a not-for-profit charity that runs one of the largest global carbon accounting disclosure systems in the world for cities, states and regions. The CDP and Global Compact of Mayors work in tandem and are free to participate, seeking both leader sign up from local government mayors and annual corporate and community greenhouse gas reporting at a local government level.

Brighton Council receives annual scorecards on climate change performance and a website page profiling accomplishments to a global, national, state and local government audience.

### **Executive summary - climate action and emission reduction target setting**

The world is moving on climate change action. Setting greenhouse gas emission targets is one way to demonstrate how serious governments are on climate change action.

Brighton Council's increasing ambitions to reduce corporate emissions works with other emission reduction efforts such as the State Government's greenhouse gas emission reduction target of 60% below 1990 levels by 2050. The Australian Government has set a target to reduce greenhouse gas emissions to 26–28 per cent below 2005 levels by 2030.

The proposed Brighton Council Corporate emission reduction target of 30% by 2030, based on 2021 levels, is recommended as a moderate interim science-based target and is in line with the City of Hobart's target to reduce corporate greenhouse gas emissions by 20% by 2030 on 2020 levels.

The findings of the Brighton Council climate change action summary paper, show Brighton Council has been active on climate change for more than a decade, delivering a range of measures:

- Climate Change Resilience Strategy 2019 – outlining 84 climate change actions.
- Provision of waste services – tackling waste reduction and diversion from landfill via kerbside and other recycling options.
- Natural Resource Management – protection of the unique natural and built environment.
- A greening strategy to foster biodiversity and improve the amenity of streetscapes with street trees.

The Climate Change and Resilience Strategy has four key strategic directions:

1. Provide leadership for effective climate change programs locally;
2. Reduce greenhouse emissions, environmental impacts and become more resource efficient;
3. Adapt and plan for climate change; and
4. Identify opportunities to innovate in research, markets, technologies, institutions and in the way we live to build sustainable and resilient communities.

Brighton Council is acting now to address climate change. Leading by example Brighton Council has delivered considerable emission savings, waste minimisation (particularly with the introduction in 2021 of the Food Organics and Garden Organics (FOGO services), and bill savings.

There has been \$1.7M savings from an investment of \$720,000 in heating, lighting and energy efficiency improvements and rooftop solar generation systems.

- 1,740 tonnes of greenhouse gas emissions avoided each year.
- 375,500 units of electricity generated from two council owned solar systems.
- 13 measures that reduce greenhouse emissions.

Currently over 13,000 tonnes of carbon dioxide (equivalent to 2,364 passenger vehicles driven for one year) are released every year from Brighton Council's services: waste, community facilities, sports grounds, vehicle fleet, plant operations, streetlights, and administration offices.

The majority of corporate emissions come from community waste services (97%). Councils are deemed responsible for this area as an agency with governing control and ability to influence outcomes, particularly greenhouse gas emission reductions through waste service provision.

Vehicle fleet and plant is responsible for the most energy use emissions (79%) from burning diesel and petrol, followed by administrative offices (13%) electricity use and streetlights and carpark lighting electricity use (1.3%), sporting and recreation facilities (1%) and electricity and Liquid Petroleum Gas (LPG) use in community halls, depot and parks (less than 1%).

For context, Brighton Council (including building, vehicle fleet, streetlights and waste operations) is responsible for 7.8% of the 168,402 tonnes of carbon dioxide released each year in the Brighton community, which covers the residential, commercial, transport, industrial, agricultural, sewerage and waste sectors.

As part of the Climate Change Resilience Strategy two targets were set, and the following outcomes resulted:

- Improve the energy efficiency of council's buildings by 20% on 2018 levels by 2021 – the performance of key buildings are at similar levels as previously in 2021.
- Improve the energy efficiency of Council's streetlights by 20% on 2018 levels by 2022 – reduced streetlighting energy use by half in 2021.

Brighton Council's greenhouse gas emissions increased marginally by 6% over the last decade from 2011 to 2021, primarily due to waste to landfill increases. Recently, from 2019-20 to 2020-21 greenhouse gas emissions flatlined, decreasing by <1%.

However, lasting greenhouse gas emission reductions can be hard to achieve as the Brighton population grows and Council services continue to expand. For example, street lighting assets tend to increase with expanding development and council managed community buildings are under increasing demand.

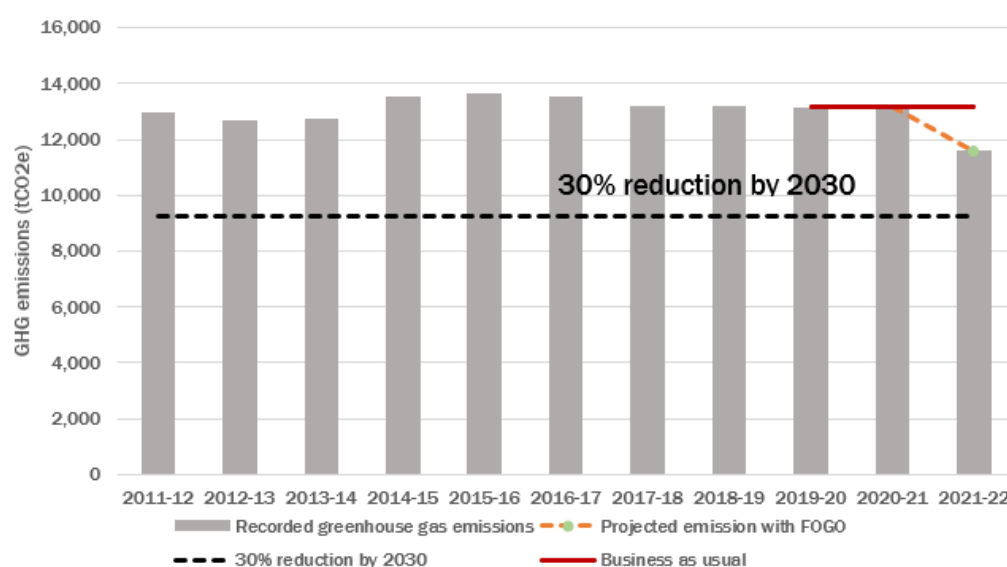
Initially Brighton Council has invested in 13 resource savings projects, which has returned significant benefits and financial savings, including, but not limited to:

- FOGO introduction - single largest impact savings on emission reductions 1,560tCO<sub>2</sub>e a year.
- Energy efficiency changeovers, including switching 1150 lights to LED, saving Brighton Council an estimated \$100,000 a year.
- 96kW of onsite solar generation, 240 panels generating 375,500 units of solar electricity so far, cumulative, from two Council owned buildings – Council Offices and the Depot.
- Two (2) electric Toyota Rav4 hybrid vehicle purchases that demonstrate electric hybrid can be cost comparable.
- On the ground solutions- works crew have been recycling green waste from Council parks maintenance onsite, which has made significant emission saving gains of 83tCO<sub>2</sub>e each year by reducing methane emissions from waste.
- Switch over to 8 electric handheld pieces of maintenance equipment (chainsaws, hedge trimmer or blowers), improving work health and safety for staff.

Moving forward, the overall focus is on leadership and improving community waste services:

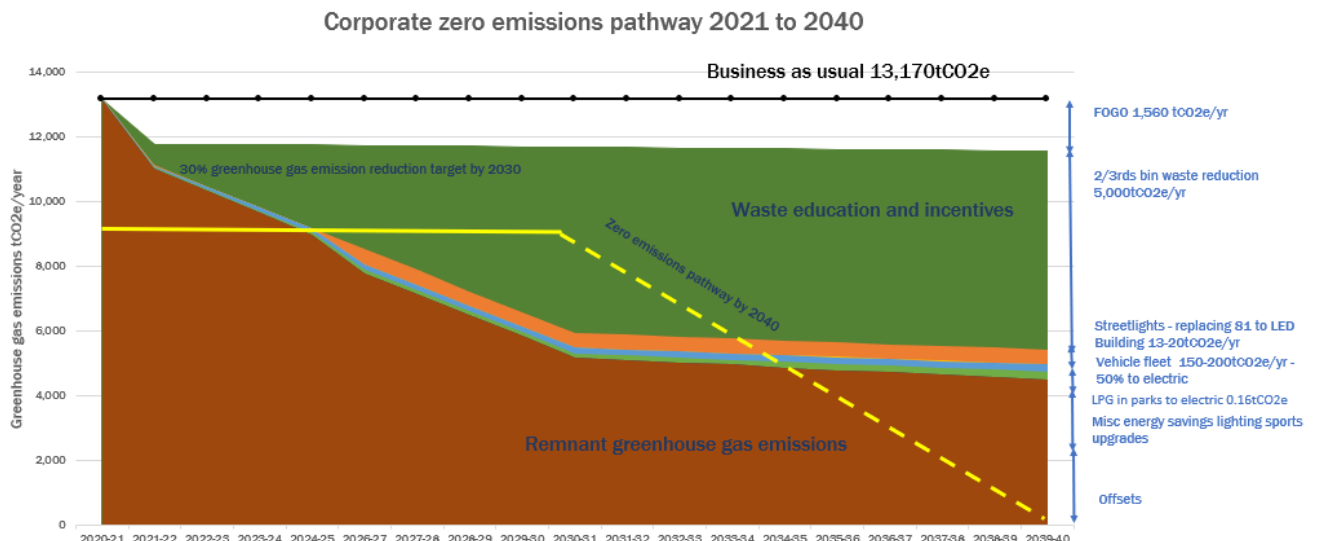
- Waste reduction – aiming for a further 2/3rds diverted from garbage bins;
- Awareness raising with schools;
- Increasing solar, and where possible energy efficiency measures ; and
- Heating upgrades as well as vehicle fleet switchovers to electric options.

**Brighton Council greenhouse gas results 2021**





The world is moving towards a zero emissions pathway. There are several options for setting interim greenhouse gas emission reduction targets (before 2050) on the pathway to zero emissions both in absolute figures as well as types of targets; aspirational (stretch targets), science based and incremental (what is possible based on resources available).



A 30% Corporate emission reduction by 2030 based on 2021 levels is recommended as a moderate interim science-based target. This is in line with science projections that suggest this is the portion of emission reductions each organisation is required to achieve to limit the chance of global warming to 2°C. The table below indicates the range of science based targets and highlights the estimated cost of abatement going forward based on Brighton Council's demonstrated emission savings of \$14 per tonne of carbon emissions and further other financial savings of \$35 per tonne of carbon dioxide that has been achieved so far.

Limiting global warming level	Proposed target based on 2021 levels	Corporate emission reductions required tCO2e/yr	Estimated cost@\$14/t and \$35/tCO2e demonstrated in benefits so far
In line with 2°C warming – 50% chance of limiting warming by 2100	11.07% by 2030	1,457	\$20,000 with \$50,000 in other benefits
In line with well-below 2°C – 66% chance of limiting warming by 2100	22.5% by 2030	2,963	\$41,000 and \$103,000 in other benefits
30% by 2030 greenhouse gas emission reduction target based on 2021 levels	30% by 2030	3,951	\$55,000 and \$138,000 in other benefits
In line with 1.5°C – 50% chance of limiting warming by 2100	40.5% by 2030	5,333	\$75,000 and \$186,000 in other benefits

A further long-term target of reaching zero emissions by 2040 could also be formally supported.

Some organisations are likely to go further and become net zero sinks, where more emissions are absorbed by trees or via offset credits from renewable energy or energy efficiency projects, than is emitted each year. The internationally accepted approach is to follow a carbon hierarchy or reduce, replace and then neutralise. It is considered most effective to reduce emissions by improving energy efficiency, switching to low emission energy sources, and choosing low carbon locally produced products and services.

Emission reduction, rather than absorption measures, represent the most cost-effective abatement and deliver the highest financial return, in some case, such as LED lighting upgrades, paying off the initial investment within two years. Consistent with the Climate Change and Resilience Strategy guide to decision-making relating to mitigation and transition, the following hierarchy should be used for energy consumed by Council:

1. Reduce the need for energy.
2. Use energy more efficiently.
3. Supply energy from renewable sources.
4. Ensure that any continuing use of fossil fuels uses clean technology and is efficient

Offsetting projects are considered a last resort, requiring a direct financial outlay without financial savings, for each year emissions are released. In addition, some accounting methods, such as the internationally accepted Science Based Targets initiative, responsible for directing greenhouse accounting for more than 600 corporations globally, will not recognise offsetting as directly achieving emission reductions at this critical time.

<b>Example offsetting cost each year</b>			
<b>Total emissions</b>	<b>Planting locally</b>	<b>Planting Australia-wide via corporations</b>	<b>Renewable energy offset credits</b>
<b>Cost waste emissions 12,800tCO<sub>2</sub>e</b>	<b>\$115,200,000 for 640,000 trees</b>	<b>\$256,000 (costs \$2.5M over each decade)</b>	<b>\$384,000</b>
<b>Energy emissions 370tCO<sub>2</sub>e and up to 445tCO<sub>2</sub>e with higher electricity emissions</b>	<b>Cost - \$4,005,000 for 22,250 trees</b>	<b>\$8,900 (costs \$89,000 over each decade)</b>	<b>\$13,350</b>
<b>Both waste and energy emissions 13,170tCO<sub>2</sub>e and 13,245tCO<sub>2</sub>e with higher electricity emissions</b>	<b>Cost - \$119,205,000 for 662,250 trees</b>	<b>\$264,900 (costs \$2.6M over each decade)</b>	<b>\$397,350</b>
<b>Return on investment savings from same energy funds into <u>energy efficiency</u> projects</b>	<b>Savings- \$12,015,000</b>	<b>\$26,700 (\$267,000 in savings over a decade)</b>	<b>\$40,050</b>
<b>Return on investment savings from same energy funds into <u>solar</u> projects</b>	<b>Savings - \$16,020,000</b>	<b>\$35,600(\$356,000 in savings over a decade)</b>	<b>\$53,400</b>

Assumptions: Cost of trees planted locally is \$150 for labour and watering and \$20 per tree seedling. That 50-87 trees are required to offset one tonne of carbon dioxide. \$20/tonne CO<sub>2</sub>e for Australia-wide tree plantings. Assume \$30/MWh and 1MWh renewable energy saves one tonne emissions, using the Victorian emissions factor. NB: that while emission reduction activities have on average cost \$14 per tonne of carbon dioxide it becomes harder to realise the same level of savings at least cost, so costs per tonne of abatement are expected to increase.

The table above provides a summary of the cost of various offsetting options from planting to offset credits for renewable energy generation, highlighting that offsetting fees must be paid annually in perpetuity. It also shows that energy efficiency and solar rooftop systems return \$3-\$4 for every dollar invested.

### **Consultation**

The paper is primarily provided for councillors and SMT. The General Manager, Manager Asset Services and Executive Officer - Governance have been involved with content development.

### **Risk Implications**

There are low risk implications surrounding the provision of updated climate change information.

As a voluntary measure there are no regulatory or financial penalties from failing to reach greenhouse gas emission reduction targets. Setting a corporate emission reduction target has financial and resource implications for the organisation as is further expanded under financial risks. If the target is reached ahead of time, the target is then reset, and further endorsement will be sought from Council.

There is also a risk to the organisation's brand from inaction on climate change and from potentially not meeting community expectations.

### **Financial Implications**

Based on the recommended target of a 30% reduction in corporate greenhouse gas emissions, funding should continue annually to a similar or even greater extent for emission reduction activities out to 2030. If a higher-level 40% target was selected, investment in emission reduction activities would be expected to increase out to 2030. The development of an Energy Management Plan will help identify costs and savings on a project-by-project basis.

There are costs to inaction as well. Electricity and energy prices are generally increasing annual operating costs, for example streetlighting costs have increased markedly over the last decade, so investment in lower cost LED lamps have reduced the organisations exposure to price hikes in the future.

### **Strategic Plan**

The recommendations further the following strategies from Council's strategic plan:

S1.1: Understand/Improve Health and Wellbeing.

S1.5: Build a resilient community and environmentally sustainable future.

S4.1: Ensure Financial & Risk Sustainability.

S4.2: Be well-governed.

S4.4: Long-term thinking & evidence-based.

### **Social Implications**

Climate change information is regularly provided to the public via Brighton Council's website, Facebook page, LinkedIn social media and via presentations to local schools.

Following any announcement of a corporate greenhouse gas emission reduction target this information would be profiled in a range of media.

### **Environmental or Climate Change Implications**

Climate change is intensifying and requires strong and sustained emission reductions. Human activities, particularly burning fossil fuels, are causing climate change. Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years, found the Intergovernmental Panel on Climate Change through the latest 6<sup>th</sup> Assessment Report, using 234 authors, 195 member countries with 78,000 experts reviewing 14,000 climate science papers.

The chances of limiting the global warming, and the threat to critical tolerance thresholds for agriculture and health, to 1.5-2°C levels will be beyond reach unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions in the next decade.

The report clearly states greenhouse gas emissions from human activities are responsible and suggests strong and sustained reductions in carbon dioxide (CO<sub>2</sub>) and other greenhouse gases would limit climate change.

### **Economic Implications**

Climate action integrates and overlaps closely with broader goals relating to social, economic and environmental sustainability and resilience. Working with the community, Council staff and providing council services around key climate change projects involves mentoring students and highlighting career pathways, celebrating local champions and providing case studies of businesses and innovative local projects and products.

## Other Issues

Many of these broader sustainability goals are integrated into existing legislative responsibilities of councils, for example under the *Local Government Act 1993*, the Resource Management and Planning System and the Environment Protection and *Biodiversity Conservation Act 1999*, as well as a host of other acts, regulations and policies.

## Options

1. As per recommendation 1, endorse a 30% corporate emission reduction target to 2030 based on 2021 levels.
  2. Endorse a 40% corporate emission reduction target to 2030 based on 2021 levels.
  3. Endorse a zero-emission target by 2040.
  4. Continue with 'Business as Usual'.
- 

## **RECOMMENDATION:**

1. Endorse a reduction in corporate greenhouse gas emissions of 30% by 2030 based on 2021 levels, and target of zero emissions by 2040.
2. Continue with the Climate Change and Resilience Strategy as a guide to the decision-making energy hierarchy for mitigation, acknowledging offsetting as a last resort.
3. Sign up to Compact of Mayors, an international program for local government climate action, which involves participation in regular greenhouse gas accounting to the Carbon Development Program.
4. Release joint statements via the Cities Power Partnership (CPP) that highlight the number of local governments that are calling on our national leaders for greater climate change action.

## **DECISION:**



## **Attachment A: Brighton Council Climate Change Action 2011-2021**

## Executive summary

Heat waves, droughts, floods, bushfires, coastal erosion, and inundation are some of the threats already affecting our communities and are **expected to become more regular and occur with greater intensity under future climate change**. In Brighton, regular overland flooding damages homes, coastal flooding damages properties, farmers suffer the affects of drought and there is a constant threat of bushfire.

**Extreme weather events put pressure on our local economies, health systems, built and urban infrastructure, ecosystems and food production systems** continue to impact our local communities and are expected to threaten the resilience of our most vulnerable; the young, the elderly and those already living on the poverty line.

The latest climate science, the Intergovernmental Panel on Climate Change Sixth Assessment Report, released in August 2021, suggests climate change is rapid, widespread, and intensifying. The Report clearly states **greenhouse gas emissions from human activities are responsible and suggests strong and sustained reductions in carbon dioxide (CO<sub>2</sub>) and other greenhouse gases would limit climate change**.

Brighton Council understands climate change is one of the most pressing issues of our time. Climate change action is incorporated into a range of sustainability measures and embedded in strategic documents, including:

- the Vision 2050 statement – fostering the wellbeing of its population
- a Climate Change Resilience Strategy 2017 – planning for 84 climate change actions
- Annual Plan 2021 – investing in sound governance through risk management
- asset management plans – providing future transport, tracks and trails infrastructure, sound community asset management
- provision of waste services – tackling waste reduction and diversion from landfill via kerbside and hard waste collection
- Natural Resource Management – protection of the unique natural and built environment
- A Greening Strategy to foster biodiversity and improve the amenity of streetscapes with street trees

The Climate Change and Resilience Strategy has four key strategic directions:

1. Provide leadership for effective climate change programs locally.
2. Reduce greenhouse emissions, environmental impacts and become more resource efficient.
3. Adapt and plan for climate change; and
4. Identify opportunities to innovate in research, markets, technologies, institutions and in the way we live to build sustainable and resilient communities.

Currently over 13,000 tonnes of carbon dioxide (equivalent to 2,364 passenger vehicles driven for one year) are released every year from Brighton Council's services: waste, community facilities, sports grounds, vehicle fleet and plant operations, streetlights, and administration offices.

Leading by example Brighton Council has delivered considerable emissions savings, waste minimisation (particularly with the introduction of the Food Organics and Garden Organics FOGO services), and bill savings:

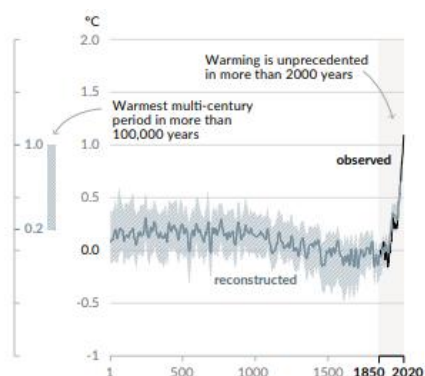
- \$1.7M savings from an investment of \$720,000 in heating, lighting and energy efficiency improvements and rooftop solar generation systems
- 1,740 tonnes of greenhouse gas emissions avoided each year
- 375,500 units of electricity generated from two council owned solar systems
- 13 measures that reduce greenhouse emissions

The world is moving towards a zero emissions pathway. **While climate change is a global issue, solutions are local**. Local governments play a critical role supporting community emission reductions through leadership, providing practical examples and trusted information. Setting (and resetting) a corporate emission reduction target is a clear way to guide climate action, measure successes and demonstrate to the community that Brighton Council is doing its part to reduce greenhouse gas emissions.



## Climate change is intensifying and requires strong and sustained emission reductions.

Brighton Council, in a similar way to all other levels of government has a key role providing climate change information in a way our communities can understand. Key messages include:



Source: change in global surface temperature (decadal average) as reconstructed (1-2000) and observed (1850-2020) IPCC 6<sup>th</sup> Assessment Report



**Climate change is rapid, widespread, and intensifying.** The chances of limiting global warming, and the threat to critical tolerance thresholds for agriculture and health, to 1.5-2°C levels will be beyond reach unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions in the next decade. Many of the changes observed in the climate are unprecedented in hundreds of thousands of years, and some of the changes already set in motion—such as continued sea level rise—are irreversible over hundreds to thousands of years.<sup>1</sup>

Brighton Council is fortunate to have access to the **highest resolution climate modelling ever conducted in Australia**. The recently updated Climate Change Information for Decision Making 2020 paper, produced by the Southern Tasmanian Councils Authority found **the climate is changing via long term warming** – average temperatures in Tasmania have risen in the decades since the 1950s at a rate of up to 0.1°C and a **decline in rainfall** – average rainfall since the mid-1970s has been in decline<sup>2</sup>.

**Much more warming is expected.** In Brighton, increased evaporation and longer dry periods coupled with more extreme temperatures are likely to enhance the occurrence and intensity of bushfires. The frequency of extremely hot days (>40°C) is projected to increase. Heavier rainfall events are expected within a warmer climate. High daily runoff events are likely to increase, including erosion or flooding. Inundation along all coastal frontages will increase due to sea level rise.

**Human activities, particularly burning fossil fuels, are causing climate change.** Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years, found the Intergovernmental Panel on Climate Change through the latest 6<sup>th</sup> Assessment Report, using 234 authors, 195 member countries with 78,000 experts reviewing 14,000 climate science papers<sup>3</sup>.

**Strong and sustained reductions in emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases would limit climate change.**

<sup>1</sup> [Climate change widespread, rapid, and intensifying – IPCC — IPCC](#)

<sup>2</sup> [Climate Change in Southern Tasmania – STCA](#)

<sup>3</sup> [www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/](http://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/)



# Everyone is responsible and has a role to play. Brighton Council leads by example and over the last decade has saved emissions, reduced waste, and made significant bill savings

Brighton Council's action on climate change seeks to:

1. Demonstrate leadership and work with the community
2. Mitigate (reduce emissions) and make the transition to a low carbon society
3. Reduce risk and adapt to the climate as it changes
4. Identify local opportunities

**Local government leadership**, sharing knowledge and expertise with local, regional, national communities.

- an overall strategy via the Climate Change and Resilience Strategy – Nov 2019
- ongoing participation in the Regional Climate Change Initiative group, representing climate action across all 12 councils through the Southern Tasmanian Councils Authority
- a Cities Power Partnership member (2018-19), joining 150 councils across Australia on climate action

**Corporate emissions (and energy) reductions** across Council owned assets - vehicle fleet, buildings.

- 2021 annual report summary
- Sustainable Living Tasmania summary 2015

**Community emissions (and energy) reductions** to assist community energy use and emissions and realise cost savings across households, businesses, and community groups.

- completed updated community footprints for Brighton and other councils as in-kind support across the region.

**Corporate adaptation** increases the capacity to respond and reduce risk exposure to existing and future climate changes.

**\$1.7M SAVINGS FROM AN INVESTMENT OF \$720,000 IN ENERGY MEASURES - HEATING AND LIGHTING IMPROVEMENTS**

**1,740 TONNES OF GREENHOUSE GAS EMISSIONS AVOIDED EACH YEAR**

**375,500 UNITS OF ELECTRICITY GENERATED FROM TWO COUNCIL OWNED SOLAR SYSTEMS**

**13 MEASURES TO REDUCE EMISSIONS**  
[Brighton Council Greenhouse Accounts 2021](#)

- an endorsed Corporate Climate Change Adaptation Plan (2012)

**Community adaptation** by providing community information to manage climate change risks

- published climate impacts information in the Climate Change Information for Decision Making paper (2020)

**Other opportunities**

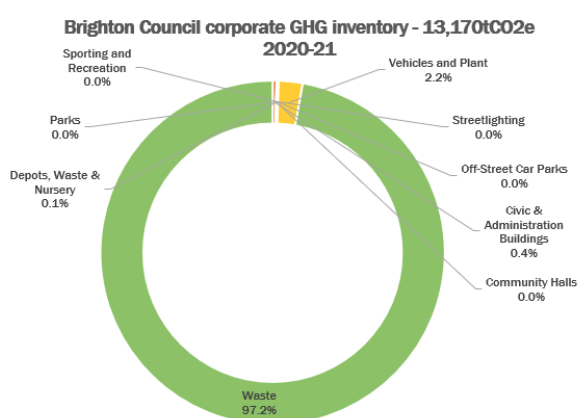
- participation in the Derwent Estuary Program, Derwent Catchment Project and support for local Landcare Tasmania group
- an ambitious street tree planting plan, the Greening Brighton Strategy 2016-2121



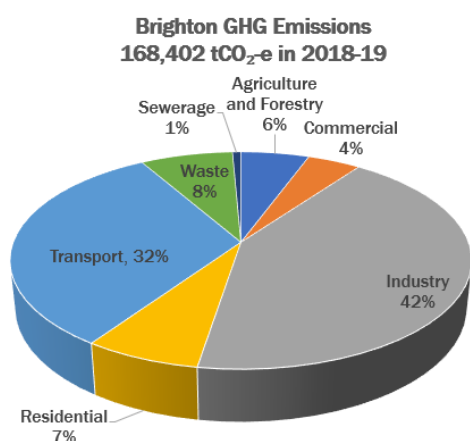
**Currently over 13,000 tonnes of carbon dioxide (equivalent to 2,364 passenger vehicles driven for one year) are released every year from Brighton Council's services:** waste, community facilities, sports grounds, vehicle fleet and plant operations, street lights and administration offices.

Most corporate emissions come from waste (97%).

Vehicle fleet and plant is responsible for the most energy use emissions (79%) from burning diesel and petrol, followed by administrative offices (13%) electricity use and streetlights and carpark lighting electricity use (1.3%), sporting and recreation facilities (<1%) and community halls, depot and parks (some LPG use).



Brighton Council (including building, vehicle fleet and waste operations) is responsible for 7.8% of the 168,402 tonnes of carbon dioxide a year in the Brighton community (in 2018-19).



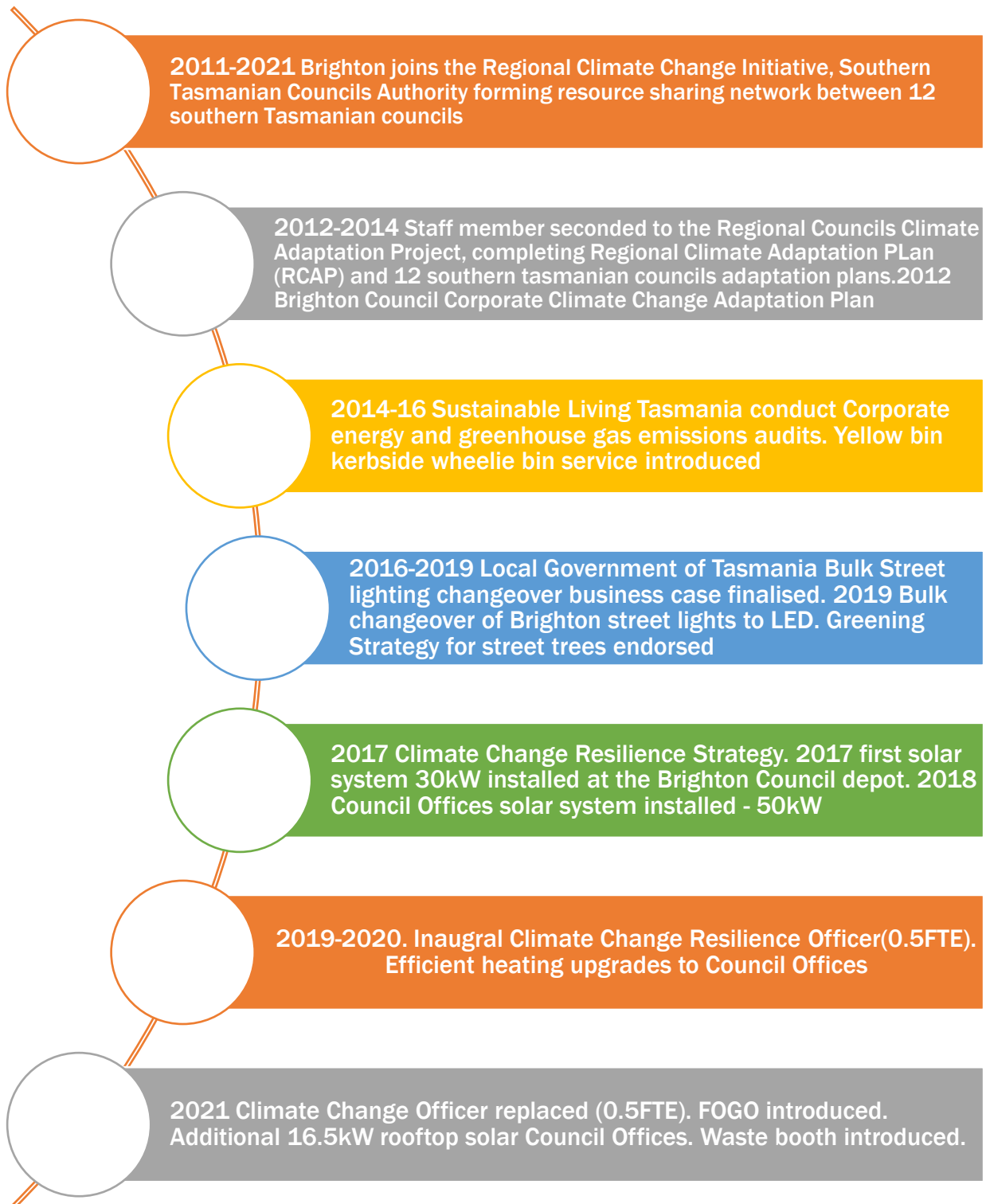
Transport and industry sectors combined are responsible for the majority (74%) of community emissions, followed by waste, then the residential, commercial, forestry and agricultural sectors and sewerage.



Everyone has a role to play to reduce emissions – while Tasmania's, and Brighton's footprint might be smaller than some of our neighbours, our contribution still matters.

Area of inventory	Greenhouse gas emissions released each year	Comparisons
Brighton Corporate operations (inc waste services)	13,000 tonnes equivalent of 2598 vehicles driven for a year	Brighton Council is responsible for <b>7.8%</b> of Brighton community emissions
Brighton Council community (inc waste)	168,402 tonnes equivalent of 33,225 vehicles driven for a year	The Brighton Community is responsible for <b>2.8%</b> of southern Tasmanian emissions
Regional footprint – Southern Tasmania (exc waste)	2,400,000 million tonnes equivalent of 473,507 vehicles driven for a year	Southern Tasmania is responsible for <b>50%</b> of Tasmania's energy related emissions
Tasmania	3,800,000 million tonnes (exc forestry offsets, just energy emissions) equivalent of 749,719 vehicles driven for a year	Tasmania is responsible for less than <b>1%</b> of Australia's emissions
Australia	590,297,000 million tonnes equivalent of 116 million vehicles driven for a year	Australia is a smaller portion of worldwide emissions yet has high emissions per person

## Brighton Council climate change action timeline



## Brighton Council savings summary

Initially has invested in 13 projects, which have returned significant benefits and financial savings, including but not limited to:

- FOGO introduction – waste emissions are saved over a 30-year period saving 1,560tCO<sub>2</sub>e a year
- energy efficiency changeovers, including switching 1150 lights to LED, save Brighton Council an estimated \$100,000 a year
- 96kW of onsite solar generation, 240 panels generating 375,500 units of solar electricity so far cumulative from two Council sites, from two council owned buildings – Council Offices and the Depot
- 2 electric Toyota Rav4 hybrid vehicle purchases that demonstrate electric hybrid can be cost comparable
- on the ground solutions - works crew have been recycling green waste from Council parks maintenance onsite, which has made significant emission saving gains of 83tCO<sub>2</sub>e each year by reducing methane emissions from waste
- switchover to 8 electric handheld maintenance equipment (chainsaws, hedge trimmer or blowers), improving work health and safety for staff

Measures	Lifetime \$ savings #	\$ investment (exc GST)	Financial return for investment	Payback period(yrs)	Lifetime kgCO <sub>2</sub> e savings#
54 tonnes green waste composted each year at depot	\$2,808	\$0	NA	0.0	837,540
1096 streetlights switched to LED (bulk 80W)	\$1,000,000	\$480,000	2.1	4.8	595,286
49 streetlights TasNetworks switched to LED	\$91,711	\$14,700	6.2	1.6	34,334
30kW solar system depot	\$161,708	\$40,000	4.0	6.2	143,719
50kW solar system Council offices	\$274,298	\$45,146	6.1	4.1	205,723
15.45kW solar system addition Council offices	\$85,082	\$13,148	6.5	3.9	63,811
2 x Toyota RAV4 hybrid electric vehicles (fuel savings) compare like for like	\$13,704	\$76,588	0.2	NA	25,056
Insulation hallway and offices	\$7,556	\$2,418	3.1	9.6	5,667
Council offices 15 x 35W halogen to 8W LED	\$3,548	\$2,411	1.5	6.8	2,661
4 x 450W floodlights to 150W LED and 18 round lights in eaves	\$23,179	\$1,885	12.3	0.8	17,384
2 x electric hedge trimmers, 1 x blower and 1 x chainsaw	\$11,729	\$3,765	3.1	3.2	36,837
1 x Electric brush cutter 2 x trimmer 2 x blowers	\$12,744	\$5,265	2.4	4.1	38,360
Council offices heat pumps North side (2x 10kW) and South side (1 x 16kW)	\$110,160	\$50,124	2.2	4.6	97,200
Food and organics waste collection service (FOGO)	\$0	NA	NA	NA	46,824,000
<b>Brighton Council TOTAL</b>	<b>\$1,706,514</b>	<b>\$720,750</b>	<b>4.1</b>	<b>4.1</b>	<b>48,893,243</b>
<b>Other investment TOTAL</b>	<b>\$91,711</b>	<b>\$14,700</b>	<b>6</b>	<b>1.6</b>	<b>34,334</b>
#most 10 years, but some longer					

## Brighton Council corporate greenhouse gas summary 2021



**13,170 tonnes of carbon dioxide emissions are released each year from Council's waste services and community halls, buildings, streetlights, and vehicle fleet energy use.**

Greenhouse gases are released from using fuel (diesel, petrol, and LPG) and from using electricity.

For example, 150g of emissions are created from every unit of grid electricity used, as in Tasmania still sources some electricity from coal fired electricity on the mainland.

As Brighton Council uses over 467,000 units of electricity each year this is the equivalent amount as burning 2,864 cylinders of LPG gas<sup>1</sup>.

Waste is responsible for 97% of corporate greenhouse gas emissions.

Vehicle fleet is responsible for the greatest energy use (76%), representing 20 passenger vehicle fleet and 28 heavy vehicle fleet (trucks and plant). Most greenhouse gas emissions come from burning diesel and to a lesser proportion petrol.

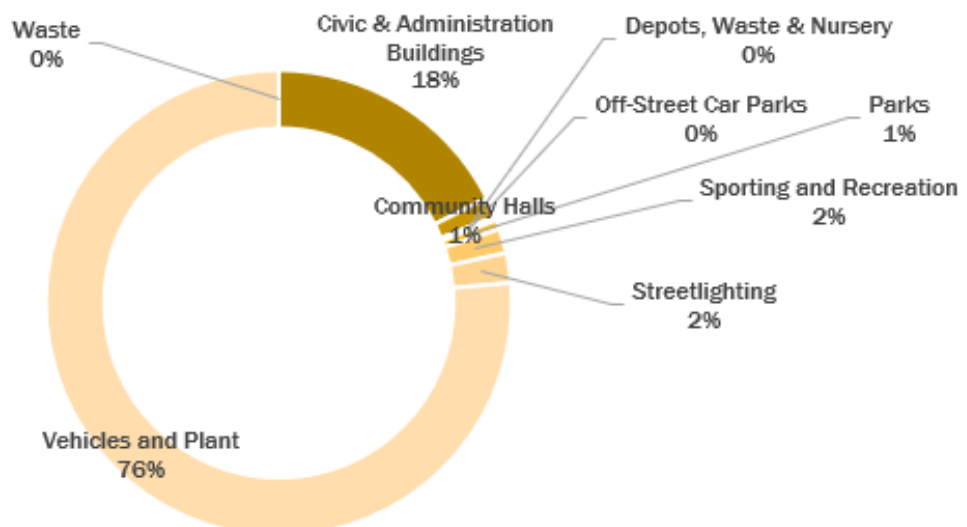
Council Offices uses the greatest amount of energy followed by the Civic Centre and then 205 Brighton Road out of 'Civic and administration buildings'.

Streetlights and sporting and recreation consume 1.3% of Brighton Council's energy budget.

Streetlighting energy use has at least halved and costs \$100,000 less each year since the bulk changeover to LED lamps.

Waste and energy services cost an estimated three quarters of a million dollars in bills to Brighton Council each year. In general, resource and waste minimisation lead to financial savings and can help reduce these operating costs.

### Proportion of energy use (Gigajoules - GJ) across Council operations





## Pathway towards zero emissions

The world is moving towards a zero-emission scenario and in some cases into net carbon sinks, where more emissions are absorbed than emitted each year.

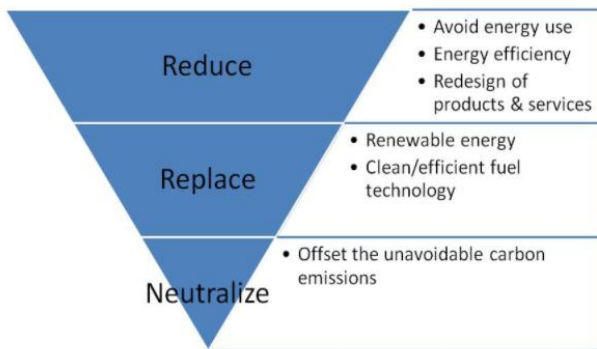
The internationally accepted approach is to follow a carbon hierarchy or reduce, replace, and then neutralise. Emissions reductions centre on improving energy efficiency, switching to low emission energy sources, and choosing low carbon locally produced products and services. Emission reduction, rather than absorption measures, represent the most cost-effective abatement and deliver the highest financial return, in some case, such as LED lighting upgrades, paying off the initial investment within two years.

Offsetting projects are considered a last resort, requiring a direct financial outlay without financial savings, each year emissions are released in perpetuity. Some carbon accounting standards exclude the use of offsetting due to the questionable ability to directly reduce emissions<sup>ii</sup>.

Moving forwards the overall focus is on leadership and improving community waste services

- waste reduction – aiming for a further 2/3rds diverted from garbage bin
- awareness raising with schools
- increasing solar where possible

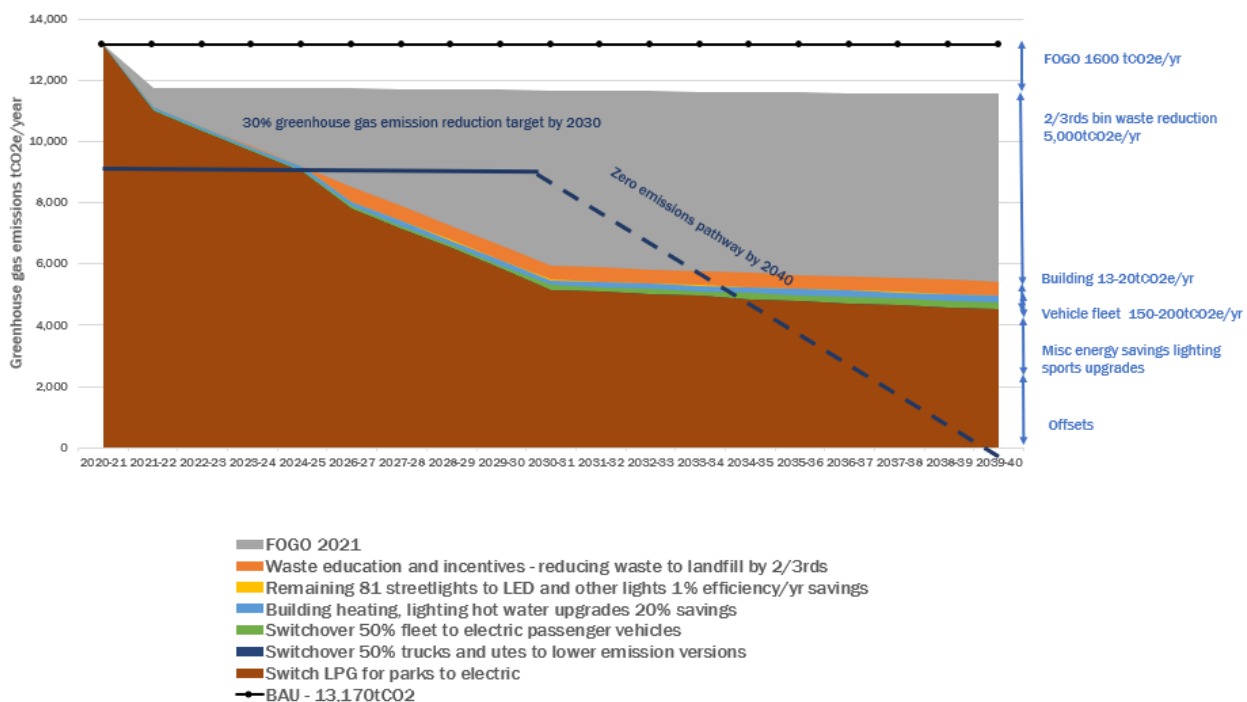
### Carbon hierarchy



Source: Detroit Environmental

Agenda: [Slide4.jpg \(960x720\) \(detroitenv.org\)](#)

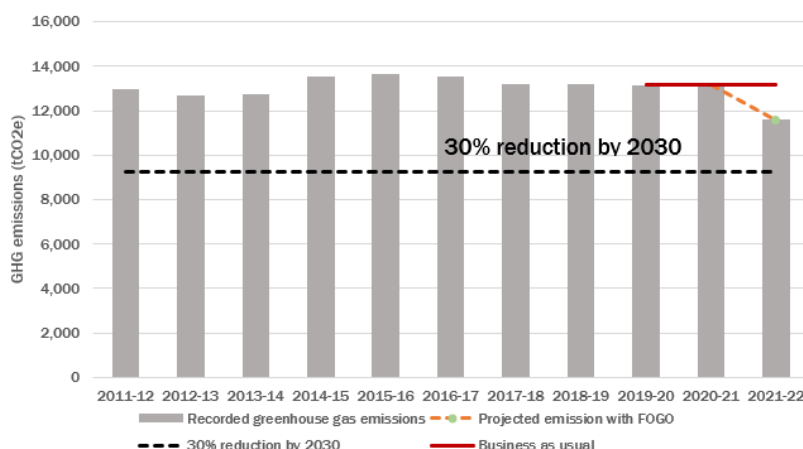
### Corporate zero emissions pathway 2021 to 2040





- energy efficiency and heating upgrades as well as vehicle fleet switchover to electric options

Brighton Council greenhouse gas results 2021



Brighton Council's greenhouse gas emissions increased over the last decade from 2011 to 2021 due to waste to landfill increases. Recently, from 2019-20 to 2020-21 greenhouse gas emissions flatlined decreasing by <1%. The introduction of the Food Organics and Garden organics waste service is expected to save 1,560 tonnes of carbon dioxide each year.

Lasting greenhouse gas emissions can be hard to achieve as population grows and Council services continue to expand. For example, street lighting assets tend to increase with expanding development and council managed community buildings are under increasing demand.

A 30% Corporate emission reduction by 2030 based on 2021 levels is a moderate interim target.

There are several options for setting interim greenhouse gas emission reduction targets (before 2050) on the pathway to zero emissions both in absolute figures as well as types of targets; aspirational (stretch targets), science based and incremental (what is possible based on resources available resources)

Limiting global warming level	Proposed target based on 2021 levels	Corporate emission reductions required tCO2e/yr	Estimated cost@\$14/t and \$35/tCO2e demonstrated in benefits so far
In line with 2C warming – 50% chance of limiting warming by 2100	11.07% by 2030	1,457	\$20,000 with \$50,000 in other benefits
In line with well-below 2C – 66% chance of limiting warming by 2100	22.5% by 2030	2,963	\$41,000 and \$103,000 in other benefits
<b>30% by 2030</b>	<b>30% by 2030</b>	<b>3,951</b>	<b>\$55,000 and \$138,000 in other benefits</b>
In line with 1.5C – 50% chance of limiting warming by 2100	40.5% by 2030	5,333	\$75,000 and \$186,000

**NB:** Some accounting methods, such as the internationally accepted Science Based Targets initiative, responsible for directing more than 600 corporations globally will not recognise offsetting as directly achieving emission reductions at this critical time.