

Carbon Neutral Public Disclosure Summary

BRISBANE CITY COUNCIL CARBON NEUTRAL REPORTING PERIOD: 2017-18

FINAL REPORT

Declaration

To the best of my knowledge, the information provided in this Public Disclosure Summary is true and correct and meets the requirements of the National Carbon Offset Standard (NCOS) for Organisations.



Date: 1.11.18

Colin Jensen
CHIEF EXECUTIVE OFFICER



1. Carbon neutral information

1A. Introduction

Brisbane City Council (Council) is Australia's largest local government authority in terms of both population and budget. It is dedicated to ensuring Brisbane is a great place to live and providing leadership and good governance for the people of Brisbane.

As Queensland's capital, Brisbane has a thriving economy and significant infrastructure investment. The Greater Brisbane economy was valued at \$162 billion in 2017-18, accounting for 49% of Queensland's economic output and nine per cent of Australia's output¹. Brisbane has a warm, subtropical climate, extensive parklands and recreational facilities, a diverse natural environment and vibrant central business district, retail, arts and entertainment precincts.

Council is made up of 26 wards, spanning a geographic area of 1,342 square kilometres. It provides a broad array of services for the city's 1,206,607 residents, manages local infrastructure and assets valued at more than \$23 billion and has an annual budget in the order of \$2.8 billion.

The *City of Brisbane Act 2010* (the Act) creates a framework for the city's day to day operations and long-term plans. The Act provides for the way in which Council is constituted and its responsibilities and powers.

Brisbane Vision 2031 is Council's long-term community plan for the city. The main priorities for the plan are to maintain and improve quality of life for the Brisbane community and ensure Brisbane meets the liveability and sustainability opportunities of the future. *Brisbane Vision 2031* outlines aspirations for the city's future and identifies targets to be achieved by 2031, including carbon neutral status for Council operations.

Brisbane has been a leader in sustainability practices for more than 20 years and was named Australia's Most Sustainable City by the Keep Australia Beautiful Foundation in 2014 and again in 2016. Council has been active in responding to climate change, focusing on the performance of its own operations, as well as delivering initiatives to support Brisbane residents and businesses to reduce their greenhouse gas emissions. To further demonstrate its sustainability leadership, Council committed to achieve and maintain carbon neutral status for its operations from 2016-17.

As at December 2016, Council had met all requirements to self-declare that it had achieved carbon neutrality for its operations in accordance with the National Carbon Offset Standard (NCOS). Council obtained certification of its carbon neutral status under the NCOS Carbon Neutral Program following finalisation of its 2016-17 carbon accounts in early 2018.

This 2017-18 Carbon Neutral Public Disclosure Summary (2017-18 PDS) is Council's first annual report under the NCOS Carbon Neutral Program and provides an update on progress made in 2017-18. It outlines the 2017-18 carbon accounts, including changes from the 2016-17 base year, recently implemented emissions reduction measures, and details of the annual offset reconciliation.

1B. Overview of Council operations

In 2017-18, Council provided the following services to the residents of Brisbane:

- land use planning and development assessment
- operation of public transport services, including one of the largest bus fleets in Australia and the iconic CityCat and CityFerry network
- transport network development and maintenance
- waste management services, including operation of a landfill facility
- provision of on and off-street parking services
- development and maintenance of urban parks
- provision and management of arts and cultural facilities and events
- provision and maintenance of libraries, community halls and sports and recreational facilities
- street cleaning and graffiti removal
- animal management
- vaccination services

¹ Brisbane City Council estimate based on Australian Bureau of Statistics (ABS) and Queensland Treasury data.

- mosquito control and pest management
- disaster response and recovery
- flood risk management
- biodiversity conservation
- green community initiatives, including programs and events to support greater sustainability action by households, students and businesses.

The infrastructure and assets managed by Council in 2017-18 included:

- 571 picnic grounds
- 2,127 parks, comprising 9,283 hectares of natural areas and 6,679 hectares of urban parks (including sports parks)
- 143 dog off-leash areas in parks
- 34 libraries, including a mobile library
- 22 swimming pools
- 12 cemeteries and crematoria
- 4,833 kilometres of paths and walkways
- 659 bus stops
- 21 CityCat ferries
- 1,223 buses
- 9 cross river ferries
- 8 cross river bridges (excluding the Clem 7 tunnel)
- 80 wharves, jetties and pontoons.

1C. Council's organisational emissions boundary

Council's 2017-18 emissions inventory was prepared in accordance with the *NCOS for Organisations* (1 November 2017 version) and relevant national legislation and international standards. These included:

- *National Greenhouse and Energy Reporting (Measurement) Determination 2008*, Compilation No. 9, Registered 3 July 2017
- *Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard*, 2004
- *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011.

The organisational emissions boundary was defined in accordance with section 2.3.1 of the *NCOS for Organisations* using an 'operational control' approach. It included all entities for which Council had the full authority to introduce or implement its operating policies.

The entities included within the organisational emissions boundary are Council and its six operational divisions, the Resource Recovery Innovation Alliance (RRIA)² and Council's eight wholly-owned subsidiaries. These include:

- Brisbane Marketing Pty Ltd
- Brisbane Powerhouse Pty Ltd
- City of Brisbane Investment Corporation (CBIC) Pty Ltd
- City Parklands Services Pty Ltd
- Brisbane Green Heart CitySmart Pty Ltd
- Museum of Brisbane Pty Ltd
- TradeCoast Land Pty Ltd
- Oxley Creek Transformation Pty Ltd.

In addition to the wholly-owned subsidiaries, Council has part or shareholder interests in a number of other entities. However, as Council does not have operational control of these entities, they are excluded from the organisational boundary. The excluded entities and Council's equity share are as follows:

- Brisbane Bus Build (50%)
- Brisbane Housing Company (6.6%)
- Major Brisbane Festivals (50%)
- Queensland Urban Utilities (85%)
- SEQ Regional Recreational Facilities (12.5%).

² The RRIA is an alliance arrangement between Council and a third party contractor for the innovative and environmentally sustainable management of Council's waste transfer stations and Rochedale landfill facility. The alliance was previously known as the Brisbane Waste Innovation Alliance.

All direct emissions (scope 1) and indirect emissions from purchased electricity (scope 2) arising from the activities of the included entities have been identified and included within the emissions boundary, where possible. Other indirect emissions occurring as a result of the included entities' activities (scope 3) were considered by Council and have been included within the emissions boundary, where they were deemed to be relevant and material. There were no emissions generating activities associated with TradeCoast Land Pty Ltd or Oxley Creek Transformation Pty Ltd in 2017-18³.

Section 2.3.1 of the *NCOS for Organisations* outlines scope 3 emissions sources deemed to be relevant to all organisations. These emissions sources have been included in Council's emissions boundary, regardless of size.

The *GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard* was applied in the consideration of other scope 3 emissions sources. Council considered emissions from the 15 categories listed in section 5.4 of the standard and sought to quantify emissions from all relevant sources. The following criteria, also listed in section 2.3.1 of the *NCOS for Organisations*, were applied in determining the relevance of identified scope 3 emissions sources:

- the source is likely to be large relative to Council's scope 1 and 2 emissions
- the source has the potential to contribute to Council's greenhouse gas risk exposure
- the source is deemed to be relevant to key stakeholders
- Council has the potential to influence reductions from the source
- the source relates to emissions from outsourced activities previously performed in-house or activities outsourced by Council that are typically performed in-house by other local government authorities.

When assessing whether scope 3 emissions sources were large relative to scope 1 and 2 emissions, a one percent materiality threshold was applied to the overall carbon footprint, in line with section 2.3.1 of the *NCOS for Organisations*. The total amount of emissions excluded (not quantified) on the basis that materiality does not exceed five percent.

As noted above, Council provides municipal waste management services to the residents of Brisbane. These services are delivered by Council and RRIA, either directly or under contract, and include kerbside waste collection, operation of four resource recovery centres, transportation of waste from resource recovery centres for final disposal or processing and operation of the city's landfill at Rochedale. Where these services are delivered directly by Council or RRIA, they are accounted for under scope 1 and 2 emissions. Where the services are provided by contractors, they are accounted for as scope 3 emissions.

As Council (through RRIA) is deemed to have operational control of the Rochedale landfill, all emissions generated from waste disposal at the site, including the disposal of municipal waste, is included in the organisational emissions boundary and accounted for under scope 1 emissions. However, any emissions occurring as a result of the disposal or processing of municipal waste at sites operated by third parties (e.g. private landfill, composting or recycling facilities) are excluded from the emissions boundary on the basis that they are associated with the resident population, rather than Council operations.

Emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydro-fluorocarbons (HFCs), per-fluorocarbons (PFCs) and sulphur hexafluoride (SF₆) were considered in preparing Council's emissions inventory. All emissions are accounted for in tonnes of carbon dioxide equivalent (tCO₂-e). No PFC or SF₆ emissions were identified in 2017-18.

1D. Emission sources within the organisational emissions boundary

The emissions sources included within Council's emissions boundary in 2017-18 are outlined in **Table 1**.

³ TradeCoast Land Pty Ltd and Oxley Creek Transformation Pty Ltd operate out of Council facilities and any associated emissions are accounted for within the emissions inventory prepared for Council's operational divisions.

Table 1: Included emissions sources

Scope	Emissions source
1	Fuel combustion – stationary energy
1	Fuel combustion – transport
1	Fuel use – oils and greases
1	Fugitive emissions – landfill
1	Fugitive emissions – refrigerants
2	Electricity use – buildings and facilities
2	Electricity use – Council-controlled streetlights
3	Asphalt production input materials
3	Business travel – accommodation
3	Business travel – flights
3	Business travel – rental cars
3	Business travel – taxis
3	Cleaning services
3	Construction materials and services
3	Contracted bus services
3	Downstream leased assets
3	Employee commuting
3	Energy extraction, production and transportation (E,P&T)
3	Food and catering
3	Green waste transportation
3	Hired vehicles and equipment
3	Horticultural services
3	ICT applications and services
3	ICT equipment
3	Mowing and tree maintenance services
3	Municipal waste transportation
3	Office supplies
3	Paper use
3	Postage, courier and freight
3	Printing and publications
3	Professional services
3	Purchased vehicles
3	Quarry services
3	Third-party controlled streetlights
3	Transportation components and systems
3	Transportation repairs and maintenance
3	Upstream leased assets – base building services
3	Venue hire
3	Waste
3	Water use

Emissions from the following sources have not been quantified in line with the abovementioned provisions of the *NCOS for Organisations*. The exclusion of these sources is not expected to materially affect Council's overall emissions.

Table 2: Excluded emissions sources

Scope	Emissions source	Justification for exclusion
1	Fugitive emissions – landfill gas management	Council works with a third party to manage fugitive emissions at its operating landfill at Rochedale, through landfill gas capture and combustion via electricity generation or flaring. Any emissions (or reductions) associated with the capture and combustion of landfill gas at the site are excluded from Council's organisational boundary on the basis these activities are undertaken by an independent third party and are outside of Council's operational control. The third party retains all rights and responsibilities in relation to landfill gas captured and transferred.
1	Fugitive emissions – closed landfill sites	Council is responsible for managing around 150 closed landfill sites, all of which ceased operations between 1940 and 1996, long before Council committed to achieve carbon neutral status for its operations. While active landfill gas management still occurs at five of these legacy sites, the vast majority have been converted for alternative use as public parks or sporting fields and are no longer identifiable as landfills. In most cases, limited (or no) information is available about the waste that was deposited, making it impossible to generate reasonable estimates of emissions continuing to be released (if any).
3	Investments	Council has interests or shareholdings in a number of entities that are excluded from the organisational emissions boundary on the basis that they are outside of Council's operational control.
3	Machinery and equipment	Emissions from machinery and equipment are estimated to be less than one per cent of total emissions and do not meet other relevance criteria.
3	Office equipment	Emissions from office equipment are estimated to be less than one per cent of total emissions and do not meet other relevance criteria.
3	Other purchased goods and services (not captured in categories listed in Table 1)	Emissions from other purchased goods and services are individually estimated to be less than one per cent of total emissions and do not meet other relevance criteria.

The following emissions sources are included in the emissions boundary, but were only partially accounted for in 2017-18, due to gaps in the available data. Council will continue to work towards filling these gaps in 2018-19 and beyond by taking the steps outlined in **Table 3**. It should be noted, however, that Council is relying on tenants and landlords to provide data that is generally not required to be reported under existing lease agreements. Data will therefore only be included in future emissions reports, where provided.

Table 3: Data management plan for emissions sources partially accounted for in 2017-18

Scope	Emissions source	Data management plan
3	Downstream leased assets	Council has over 650 downstream leases, including approximately 39 commercial and retail leases, 22 pools, three golf courses and more than 590 community leases (e.g. halls, sporting venues etc.). Electricity consumption data was obtained for 18 commercial leases, 21 pools, two golf courses and 177 community facilities in 2017-18. Council will continue to seek data from all lessees and work towards comprehensive reporting of emissions from downstream leased assets in future carbon accounts.
3	Upstream leased assets – base building services	Council and its subsidiaries occupy 15 leased facilities where base building services are provided by the lessor. In 2017-18, emissions have been quantified for three Council facilities, including the primary tenancy at Brisbane Square, Brisbane Marketing Pty Ltd and Brisbane Green Heart CitySmart Pty Ltd. Data will continue to be sought from all lessors to enable quantification in future carbon accounts.
3	Water use	Water consumption data is currently available and associated emissions have been estimated for all Council owned facilities and 17 of 44 upstream leased sites. Data will continue to be sought for all remaining upstream leases to enable comprehensive quantification in future carbon accounts.

In addition, Council is continuing to rely on expenditure data and emissions factors developed using generalised input-out analysis⁴ to estimate emissions associated with several scope 3 sources, including construction materials and services. While the input-output factors are expected to generate conservative estimates of emissions associated with these sources, Council is working to improve the accuracy of its emissions calculations by moving to alternative activity-based methods, where available.

1E. Diagram of organisational emissions boundary

See Appendix A.

⁴ Input-output factors represent the emissions intensity of a dollar spent in a particular sector of the Australian economy and are derived from Australian Bureau of Statistics (ABS) data for total sector emissions and expenditure.

2. Emissions reduction measures

2A. Emissions over time

The *Final 2016-17 Carbon Neutral Public Disclosure Summary* provided details of Council's carbon accounts for the 2016-17 reporting period. As the first year of comprehensive carbon reporting, the 2016-17 carbon accounts formed Council's baseline for future emissions reporting.

In 2017-18, there was very little change in Council's overall carbon footprint, with emissions decreasing one per cent on baseline levels in the reporting period. While the overall change was small, however, there were significant changes in scope 1 and 3 emissions.

Scope 1 emissions reduced by 14% in 2017-18, largely due to reduced fugitive emissions from landfill. Lower emissions were the result of improvements to landfill gas capture infrastructure, which saw an increase in the capture rate in the reporting period.

The reduction in scope 1 emissions was offset by an 11% increase in scope 3 emissions. This was primarily driven by additional construction activity resulting from major road infrastructure projects, such as the Kingsford Smith Drive and Wynnum and Telegraph Road upgrades and Council's ongoing road resurfacing program.

Other minor changes to scope 3 emissions arose from improved data collection, which enabled the inclusion of additional activity data and the shift from expenditure to activity-based emissions estimation methodologies for a number of sources.

An assessment of the impacts of changes in data and methods on 2016-17 emissions has been undertaken and found to have an immaterial impact (<1%). As such the baseline has not been recalculated in 2017-18.

Table 4. Emissions since base year

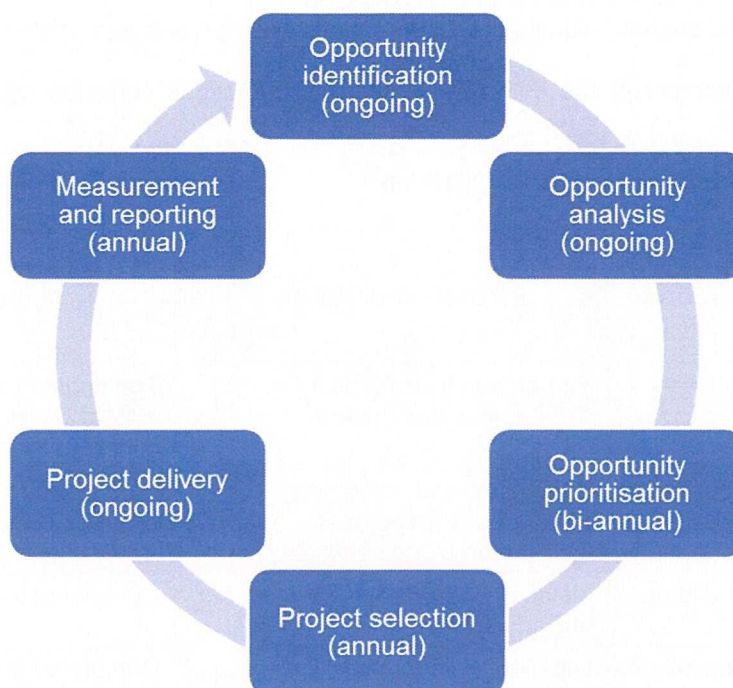
Emissions source	2016-17 base year (tCO ₂ -e)	2017-18 (tCO ₂ -e)	Change in emissions (tCO ₂ -e)	% change
Scope 1	285,376	244,751	-40,625	-14
Scope 2	51,563	48,530	-3,133	-6
Scope 3	329,896	367,096	+37,200	+11
TOTAL GROSS EMISSIONS	666,835	660,886	-5,949	-1
EMISSIONS REDUCED THROUGH VOLUNTARILY RETIRED LARGE-SCALE GENERATION CERTIFICATES	22,796	25,534	2,558	+12
TOTAL NET EMISSIONS	644,039	635,352	-8,687	-1

2B. Emissions reduction strategy

Council is reducing its carbon footprint through investments in energy efficiency and emissions reduction projects, as well as renewable energy purchases. From 2016-17, carbon offsets have been purchased on a financial year basis to negate remaining emissions and maintain Council's carbon neutral status.

The *Corporate Plan 2016-17 to 2020-21 – 2017 Update* outlines Council's objective to continually improve energy and carbon management (Program 3 – Clean, Green and Sustainable City). This being achieved through the ongoing identification, analysis and prioritisation of a pipeline of energy and carbon abatement opportunities. **Diagram 1** below provides a visual representation of Council's approach to continuous improvement in energy and carbon management.

Diagram 1: Council's continuous improvement process



The *Carbon Neutral Council Emissions Management Plan (EMP) 2017-18 to 2020-21* outlines Council's emissions reduction strategy. It comprises a four-year rolling program of priority energy efficiency and emissions reduction projects and actions in the following areas.

1. Improve the energy efficiency and emissions profile of **existing assets and services**, where possible and cost-effective.
2. Ensure the design and delivery of **new assets and services** is informed by an understanding of expected energy consumption and associated emissions and, where practical, incorporates measures to improve energy and emissions performance.
3. Encourage changes in **employee behaviour** to support improved energy efficiency and emissions reduction outcomes.
4. Develop **organisational capacity** to identify and deliver ongoing improvements in energy and carbon management across Council operations.

2C. Emissions reduction actions

Council has determined the carbon emissions from its major emissions sources, including landfill, fuel and electricity use since 2008 and has a strong track record of delivering energy efficiency and emissions reduction projects, including:

- retrofitting more than 25,000 streetlights with energy efficient lamps
- retrofitting the iconic Story Bridge and multiple Council buildings, including bus depots, city car parks and the Hibiscus Sports Complex with LED lighting
- ensuring all new and replacement lamps in street and other public lighting applications are LEDs, where possible
- installing 660 kilowatts (kW) of solar photovoltaic (PV) systems on Council buildings and facilities, including 100 kW systems at Toowong bus depot and the Brisbane Powerhouse Pty Ltd
- including electric vehicles in Council's passenger fleet.

In addition, over the 13 years from 2003 to 2016, Council purchased more than 890,000 megawatt hours (MWh) of electricity from renewable energy sources, reducing its greenhouse gas emissions by more than 700,000 tCO₂-e, and purchased and cancelled around 1.6 million carbon offsets.

In 2017-18, Council implemented the following emissions reduction measures:

- purchased 32,322 MWh of electricity from renewable energy sources
- installed 191 kW of solar PV systems at six libraries and the Karawatha Forest Centre
- LED lighting upgrades at the Toowong and Garden City Bus Depots

- additional street and public LED lighting installations
- additional upgrades of traffic signals with LED lights
- utilisation of recycled asphalt, reducing requirements for bitumen and aggregate in asphalt production.

Table 5 provides a summary of the estimated emissions reductions achieved as a result of measures implemented in 2017-18.

Table 5: Emissions reduction measures (2017-18)

Scope	Emissions source	Action undertaken	Status	Annual emissions reduction (tCO ₂ -e)
1	Fuel combustion – transport	Eco-driving training pilot for 370 Council bus drivers	Training completed in 2016-17 – reductions achieved in 2017-18	217
2	Electricity – buildings and facilities	Purchased and voluntarily surrendered Large-scale Generation Certificates (LGCs)	Purchased for electricity consumed in 2017-18	25,534
2	Electricity – buildings and facilities	Installed 38 kW solar PV system at Banyo library	Completed in 2017-18	46
2	Electricity – buildings and facilities	Installed 25 kW solar PV system at Bulimba library	Completed in 2017-18	30
2	Electricity – buildings and facilities	Installed 25 kW solar PV system at Carina library	Completed in 2017-18	30
2	Electricity – buildings and facilities	Installed 27 kW solar PV system at Everton Park library	Completed in 2017-18	33
2	Electricity – buildings and facilities	Installed 30 kW solar PV system at Nundah library	Completed in 2017-18	36
2	Electricity – buildings and facilities	Installed 8 kW solar PV system at Sandgate library	Completed in 2017-18	10
2	Electricity – buildings and facilities	Installed 38 kW solar PV system at Karawatha Forest Discovery Centre	Completed in 2017-18	46
2	Electricity – buildings and facilities	Retrofitted traffic signal lights at 29 intersections across the city with more efficient LEDs	Completed in 2017-18	99
2	Electricity – buildings and facilities	Retrofitted Toowong and Garden City bus depots with LED lighting	Completed in 2017-18	70
2,3	Electricity – Council Controlled streetlighting Third party streetlights	Installation of LED lights in street and other public lighting applications	Completed in 2017-18	379
3	Asphalt production input materials	Utilisation of recycled asphalt in asphalt production	Completed in 2017-18	1,270
TOTAL				27,800

As noted in **Table 2**, while these sources are excluded from the organisational emissions boundary, Council continues to work with third parties to actively manage landfill gas at the Rochedale landfill and other closed landfill sites, where it remains technically feasible to do so. Landfill gas capture and combustion at the Rochedale landfill reduced greenhouse gas emissions by 298,802 tCO₂-e in 2017-18. Gas captured and combusted at closed landfill sites reduced greenhouse gas emissions by a further 54,230 tCO₂-e.

3. Emissions summary

3A. Final 2017-18 carbon accounts

Council's carbon footprint is made up of emissions from landfill, fuel combustion, and electricity use and other indirect emissions sources, such as construction materials and services, third-party controlled streetlighting, municipal and green waste transportation and catering services.

In 2017-18, the four largest emissions sources accounted for around 66% of Council's total carbon footprint, before accounting for renewable energy purchases. These were construction materials and services (22%), fugitive emissions from Council's operating landfill at Rochedale (19%), fuel combustion for stationary energy and transport purposes (18%), and electricity use at buildings and facilities and for Council controlled streetlighting (seven per cent).

Council's operational divisions accounted for the vast majority of emissions with 79% of the gross emissions footprint. RRIA accounted for 19% of total emissions with the subsidiaries contributing the remaining two per cent.

Table 6 provides a summary of emissions by source in the reporting period. **Table 7** provides a summary of emissions by responsible entity.

Table 6: Council's emissions by source (2017-18)

Scope	Emissions source	Emissions (tCO ₂ -e)
1	Fuel combustion – stationary energy	13,632
1	Fuel combustion – transport	106,077
1	Fuel use – oils and greases	43
1	Fugitive emissions – landfill	122,676
1	Fugitive emissions – refrigerants	2,380
2	Electricity use – buildings and facilities	46,405
2	Electricity use – Council controlled streetlights	2,126
3	Asphalt production input materials	7,788
3	Business travel – accommodation	100
3	Business travel – flights	535
3	Business travel – rental cars	16
3	Business travel – taxis	39
3	Cleaning services	1,283
3	Construction materials and services	147,695
3	Contracted bus services	1,783
3	Downstream leased assets	16,884
3	Employee commuting	8,116
3	Energy E,P&T	19,214
3	Food and catering	803
3	Green waste transportation	764
3	Hired vehicles and equipment	26,667
3	Horticultural services	7,916
3	ICT applications and services	8,828
3	ICT equipment	13,113
3	Mowing and tree maintenance services	2,461
3	Municipal waste transportation	9,394

Scope	Emissions source	Emissions (tCO ₂ -e)
3	Office supplies	581
3	Paper use	191
3	Postage, courier and freight	2,790
3	Printing and publications	3,366
3	Professional services	13,980
3	Purchased vehicles	4,579
3	Quarry services	1,483
3	Third-party controlled streetlights	35,340
3	Transportation components and systems	11,964
3	Transportation repairs and maintenance	8,022
3	Upstream leased assets – base building services	2,542
3	Venue hire	879
3	Waste	7,809
3	Water use	622
TOTAL GROSS EMISSIONS		660,886
EMISSIONS REDUCED THROUGH VOLUNTARILY RETIRED LGCs		25,534
TOTAL NET EMISSIONS		635,352

Table 7: Council's emissions by responsible entity (2017-18)

Responsible entity	Emissions (tCO ₂ -e)
Council operational divisions	522,650
RRIA	127,306
Brisbane Marketing Pty Ltd	2,069
Brisbane Powerhouse Pty Ltd	1,757
City of Brisbane Investment Corporation Pty Ltd	760
City Parklands Services Pty Ltd	6,026
Brisbane Green Heart CitySmart Pty Ltd	188
Museum of Brisbane Pty Ltd	130
TradeCoast Land Pty Ltd	0
Oxley Creek Transformation Pty Ltd	0
TOTAL GROSS EMISSIONS	660,650
EMISSIONS REDUCED THROUGH VOLUNTARILY RETIRED LGCs	25,534
TOTAL NET EMISSIONS	635,352

4. Carbon offsets

4A. Offsets summary

In 2016-17, Council forward allocated 660,717 offset units to negate forecast 2017-18 emissions and banked 375,756 units for future use.

As Council's final 2017-18 carbon accounts resulted in a net carbon footprint of 635,352 tCO₂-e, 25,365 surplus units have been carried over for use in 2018-19. An additional 308,750 offset units were purchased in 2017-18, bringing total holdings available for the 2018-19 reporting period to 709,871 tCO₂-e.

Council's carbon footprint is forecast to increase slightly in 2018-19 to 659,973 tCO₂-e, net of expected renewable energy purchases. Sufficient offset units have been allocated to cover forecast emissions in this period leaving 49,898 units to be banked for use in 2019-20.

Offset units retired in advance to negate Council's 2017-18 emissions are detailed in **Table 8**. Units carried over from 2017-18 and allocated for use in 2018-19 are detailed in **Table 9**.

Table 8: Offset units retired to negate 2017-18 emissions

Offset type	Registry	Serial numbers	Year retired	Quantity
VCU	APX	4805-198288508-198328136-VCU-015-APX-KR-1-786-01012012-31122012-0	2016-17	39,629
VCU	APX	2960-130880970-130980969-VCU-010-MER-CN-1-438-01012011-25062011-1	2017-18	100,000
VCU	APX	4813-199726754-199751753-VCU-010-MER-ID-1-487-01012011-31122011-1	2017-18	25,000
CER	CDM	CN-5-777472750-1-1-0-4138 to CN-5-777481674-1-1-0-4138	2016-17	8,925
CER	CDM	CN-5-822207955-1-1-0-4401 to CN-5-822337067-1-1-0-4401	2016-17	129,113
CER	CDM	CN-5-811348616-1-1-0-3862 to CN-5-811477906-1-1-0-3862	2016-17	129,291
CER	CDM	CN-5-746231094-1-1-0-4416 to CN-5-746356043-1-1-0-4416	2016-17	124,950
NKACCU	ANREU	3,746,854,037 - 3,746,860,446	2017-18	6,410
NKACCU	ANREU	3,747,063,944 - 3,747,081,582	2017-18	17,639
NKACCU	ANREU	3,747,154,791 - 3,747,158,980	2017-18	4,190
NKACCU	ANREU	3,747,637,112 - 3,747,638,877	2017-18	1,766
NKACCU	ANREU	3,746,964,919 - 3,746,981,609	2017-18	16,691
VCU	APX	4816-199814907-199822862-VCU-048-APX-IN-1-1315-18082012-31122012-0	2017-18	7,956
VCU	APX	4819-199927863-199951654-VCU-048-APX-IN-1-1315-01012013-31122013-0	2017-18	23,792
TOTAL OFFSETS RETIRED TO NEGATE 2017-18 EMISSIONS				635,352
TOTAL NET EMISSIONS AFTER ACCOUNTING FOR OFFSETS				0

Table 9: Offset units carried over and allocated in advance to negate projected 2018-19 emissions

Offset type	Registry	Serial numbers	Year retired	Quantity
VCU	APX	4819-199951655-199954917-VCU-048-APX-IN-1-1315-01012013-31122013-0	2017-18	3,263
VCU	APX	4815-199786204-199802515-VCU-048-APX-IN-1-1315-01012014-31122014-0	2017-18	16,312
VCU	APX	4814-199756754-199762543-VCU-048-APX-IN-1-1315-01012015-31122015-0	2017-18	5,790

Offset type	Registry	Serial numbers	Year retired	Quantity
VCU	APX	4815-199802516-199814906-VCU-048-APX-IN-1-1315-01012014-31122014-0	2018-19	12,391
VCU	APX	4812-199723428-199726753-VCU-048-APX-IN-1-1315-01012016-31032016-0	2018-19	3,326
VCU	APX	4814-199762544-199786203-VCU-048-APX-IN-1-1315-01012015-31122015-0	2018-19	23,660
VCU	APX	4805-198328137-198664515-VCU-015-APX-KR-1-786-01012012-31122012-0	2018-19	336,379
VCU	APX	5705-255967630-255982353-VCU-034-APX-IN-1-1579-01012015-31122015-0	2018-19	14,724
VCU	APX	5700-255816754-255842395-VCU-034-APX-IN-1-1579-01012016-31122016-0	2018-19	25,642
VCU	APX	5703-255908526-255918282-VCU-034-APX-IN-1-1418-01012017-30112017-0	2018-19	9,757
VCU	APX	5286-221928510-221928847-VCU-048-APX-IN-1-1418-01012014-31122014-0	2018-19	338
VCU	APX	5704-255945679-255967629-VCU-034-APX-IN-1-1418-01062015-31122015-0	2018-19	21,951
VCU	APX	5702-255866836-255908525-VCU-034-APX-IN-1-1418-01012016-31122016-0	2018-19	41,690
VCU	APX	5729-256953449-257003821-VCU-028-APX-CN-1-438-01012014-31122014-1	2018-19	50,373
VCU	APX	5730-257023449-257084075-VCU-028-APX-CN-1-438-26052015-25122015-1	2018-19	60,627
ACCU	ANREU	3,765,803,809 - 3,765,820,557	2018-19	16,749
ACCU	ANREU	3,756,628,973 - 3,756,643,972	2018-19	15,000
ACCU	ANREU	3,768,304,431 - 3,768,306,431	2018-19	2,001
TOTAL OFFSETS CARRIED OVER/ALLOCATED TO NEGATE 2018-19 EMISSIONS				659,973
TOTAL OFFSETS BANKED FOR FUTURE USE				49,898

4B. Offsets purchasing and retirement strategy

Council forward purchases and cancels carbon offsets at the beginning of each reporting period. Forward purchases are based on the final carbon accounts for the previous year, with adjustments to account for any projected changes in the emissions profile in the reporting period.

A 'true-up' occurs following finalisation of the carbon accounts for the financial year, with any surplus offsets carried over for use in the subsequent reporting period. In the event that Council underestimates its emissions, additional offsets will be purchased and retired to cover the shortfall. Details of any carryover or shortfall will be included in the PDS for the subsequent reporting period.

The purchase of financial instruments, including carbon offsets and Renewable Energy Certificates, is covered by Council's *Financial Risk Management Framework* and must be undertaken by Corporate Finance, under delegation from the Chief Executive Officer. Carbon offsets may be purchased in a single annual transaction or at regular intervals throughout the year, depending on market conditions, including availability and price.

Council takes delivery of carbon offset units in its own public registry accounts, wherever possible. In this case, units are retired as allocated for use in a given reporting period. Where Council does not have an account in the registry that holds the particular type of carbon offset units purchased, the units may be transferred into the supplier's registry account and retired by the supplier on Council's behalf. In these instances, retirement is to occur at the time of purchase. Council maintains an internal record of its carbon offset holdings, including status of units, registry accounts and the reporting period to which the units are allocated.

Council considers the following criteria when undertaking carbon offset purchases:

- NCOS-eligible – all purchased offsets must be eligible for use under the NCOS
- cost – all purchased offsets are to represent value for money in line with Council's procurement principles, measured by price as well as merit against other criteria
- potential negative impacts – any offset projects with negative economic, social, or environmental outcomes are to be avoided
- location – it is desirable to purchase some offsets from local or Australian projects, where available
- technology – consideration is to be given to the technology applied in the offset project with a view to broadening the offset portfolio to include a range of technologies and spread investment risk
- positive impacts – Council will favour offset projects that have a positive economic, social or environmental impact or provide co-benefits.

Council will only purchase offsets where it can be verified that the emissions reductions have occurred.

4C. Offset projects (co-benefits)

Table 10 provides details of the co-benefits provided by the offset projects supported via Council's 2017-18 offset purchase and cancellation.

Table 10: Co-benefits provided by supported offset projects (2017-18)

Project name	Co-benefit verification standard	Location	Proportion of offset purchase (%)	Co-benefits
China Rural Small Grouped Hydro	Social Carbon	China	19%	<ul style="list-style-type: none"> • Provides a stable electricity supply to poor rural communities. • Supports local economic development outcomes including job creation and improved community infrastructure. • The project has supported complementary activities in the local area including: <ul style="list-style-type: none"> ◦ providing job training and education programs for children ◦ delivering an agricultural education program and establishing a library of agricultural resources for use by local farmers ◦ establishing a disaster relief fund. • supplying composting toilets.
Re-generation of native forest in marginal farming lands (various projects)	-	Australia	7.3%	<ul style="list-style-type: none"> • Support improved local environmental, economic and social outcomes including: <ul style="list-style-type: none"> ◦ increased biodiversity and habitat value ◦ mitigation of soil erosion and salinity risk ◦ increased awareness of and access to opportunities for farmers in the delivery of environmental services ◦ diversification of on-farm income streams.

Appendix A: Council's organisational emissions boundary

