



Sunshine Coast Council
Organisational Environmental
Sustainability Benchmarking
2017-2018





What is benchmarking?

This is the third annual Sunshine Coast Council Organisational Environmental Sustainability Benchmarking report for the 2017/18 financial year. It measures council's performance on environmental sustainability within the organisation, showing trends and changes by comparing performance against previous years and from the baseline year 2014/15.

This report measures progress towards becoming a zero-net emissions organisation by 2041, as a key commitment in the Environment and Liveability Strategy 2017. It also contributes to monitoring the Corporate Plan 2018-2022, performance measure to reduce council's greenhouse gas emissions.

Why benchmark?

Benchmarking allows council to track its performance over time, allowing us to see whether we are on track to meet our zero-net emissions and sustainability targets. It provides a transparent look at our operations to help identify and prioritise areas where we can be more efficient and improve our environmental outcomes. Importantly, by monitoring trends and changes over time as we implement new sustainability initiatives, we can gain insights into what has worked well and what hasn't. It also allows us to put these trends and changes within the broader context of population and organisational growth.

It also provides a transparent look at council's resources allowing for more focused efforts, cost savings for council and better sustainability outcomes.

Benchmarking benefits

- Highlights opportunities of investment for improving environmental sustainability outcomes.
- Provides evidence-based insight into business performance to develop or adjust targets, actions and resources.
- Demonstrates council leading by example and sharing best practice.
- Provides a transparent insight into council's progress towards meeting its vision and target.

Approach to benchmarking

This report compares key indicators of Sunshine Coast Council's organisational environmental sustainability performance for the 2017/18 financial year against data from the baseline year (2014/15), and the previous 2016/17 financial year to show trends and changes.

The benchmarking covers the following key areas:

- Carbon (greenhouse gas) emissions
- Waste
- Energy (electricity and fuel)
- Transport
- Water
- Environmental sustainability projects
- Environmental sustainability programs
- Environmental sustainability embedded into systems and processes.

Trends and changes in these areas are measured and reported through indicators, which have been developed based on the availability of data, and how well the indicator represents broader trends and changes in that area.

Primary indicators provide what is considered the most accurate indication of trends and changes in the relevant area; whilst supplementary ('other') indicators provide additional context and a more comprehensive picture of trends and changes.

Every year, the indicators are reviewed. The availability of new datasets, improvements in council's measurement and monitoring of activities, changes in policy, legislation and standards, and emergence of additional priorities periodically results in indicators being revised and added.

As the Sunshine Coast region, and council as an organisation, are growing over time, the indicators are standardised against either number of full-time equivalent (FTE) staff working for council, and (where appropriate) the regional population. This standardisation of indicators ensures that we can distinguish between trends that relate to having a larger population and organisation, and trends that relate to the continued improvement of our processes, systems and actions.

The indicators that are standardised against the regional population (ie per resident) relate to greenhouse gas emissions. Sunshine Coast Councils owns and operates two landfills, which are the most significant contributor to our carbon footprint and largely reflect community waste. This means standardising greenhouse gas against the regional population gives a more accurate understanding of changes over time¹.

Table 1 below shows FTE and population figures used to standardise the data.²

Table 1: Sunshine Coast Council population and FTE figures

	2014/15	2015/16	2016/17	2017/18
Population	289,133	289,389	303,400	319,500
FTE staff ³	1,450	1,553	1,661	1,654

¹ Note that some local governments own and operate water and sewerage services for the community which influence their greenhouse gas emissions. Sunshine Coast Council does not, however, own or operate water and sewerage services.

² One FTE is equal to one full-time workload that might be conducted by a single full-time employee or by several part-time employees.

³ This figure represents FTE hours paid for all established, non-established positions and agency staff for the financial year. The number of FTE's in 2016/17 was 1661.

Sunshine Coast Council's Organisational Environmental Sustainability Snap Shot 2017/18

Carbon (greenhouse gas) emissions

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total (tonnes CO ₂ e)	% change since 2016/17	Per resident (tonnes CO ₂ e)	Change per resident since 2016/17 (tonnes CO ₂ e)	
Primary indicators					
Greenhouse gas emissions ⁴	140,797 (140,238 tCO ₂ e in 2016/17)	↑ 0.4% (559 tCO ₂ e increase since 2016/17)	0.4	↓ 0.1 tCO ₂ e	Council's greenhouse gas footprint has reduced by 14% since the baseline year (2014/15).
Additional emissions (Measured to comply with National Greenhouse Gas Protocol)	47,596 (48,769 tCO ₂ e in 2016/17)	↓ 2% (1,172 tCO ₂ e reduction since 2016/17)	0.1	↓ 0.01	In preparation for the zero-net emissions organisation target, and in compliance with the National Greenhouse Gas Protocol Standards, additional emissions have been measured in 2017/18. Additional emissions include transmission and distribution loss from electricity and emissions from goods and services produced by a third party but consumed by council.
Methane captured and flared at Nambour and Caloundra landfills ⁵	46,431 (47,263 tCO ₂ e in 2016/17)	↓ 1.8% (832 tCO ₂ e reduction since 2016/17)	0.1	↓ 0.1	Variations in the amount of greenhouse gas flared each year is expected due to rainfall and other influencing factors. 31% flaring at Caloundra landfill, a reduction of 2% from 2016/17. 35% flaring at Nambour landfill, a slight 1% increase from 2016/17. ⁶

4 Council emissions include emissions from waste generated by council activities, electricity, liquid petroleum gas, fuel and streetlights. Emissions are generated from waste landfilled at Caloundra and Nambour landfills.

5 The gas flared was from emissions generated from both community waste and waste generated by council activities.

6 These percentages refer to the total amount of emissions generated from each landfill site.

Change in Sunshine Coast Council's greenhouse gas emissions (tonnes CO₂e)

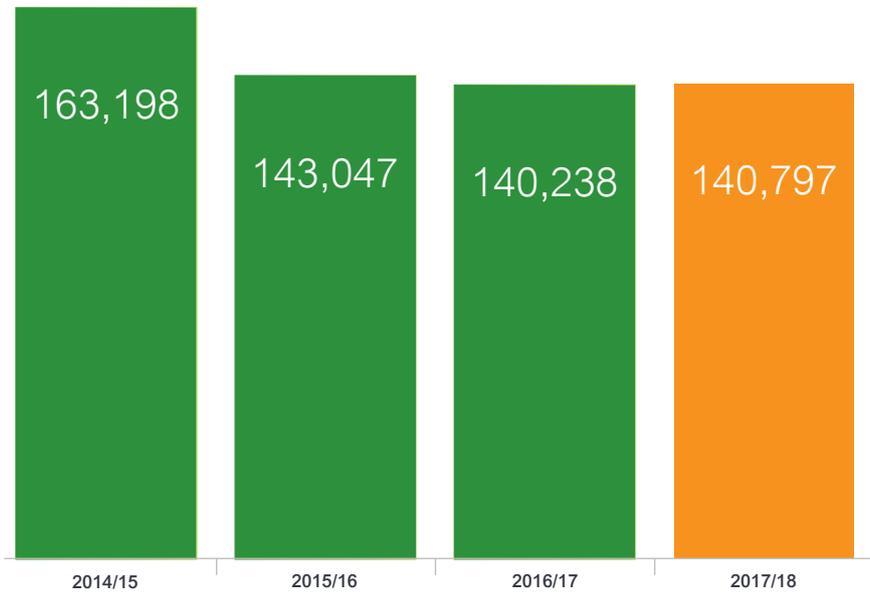


Figure 1: Sunshine Coast Council's greenhouse gas emissions for the last three years compared against the baseline year of 2014/15

Sunshine Coast Council's greenhouse gas per resident (tonnes CO₂e)

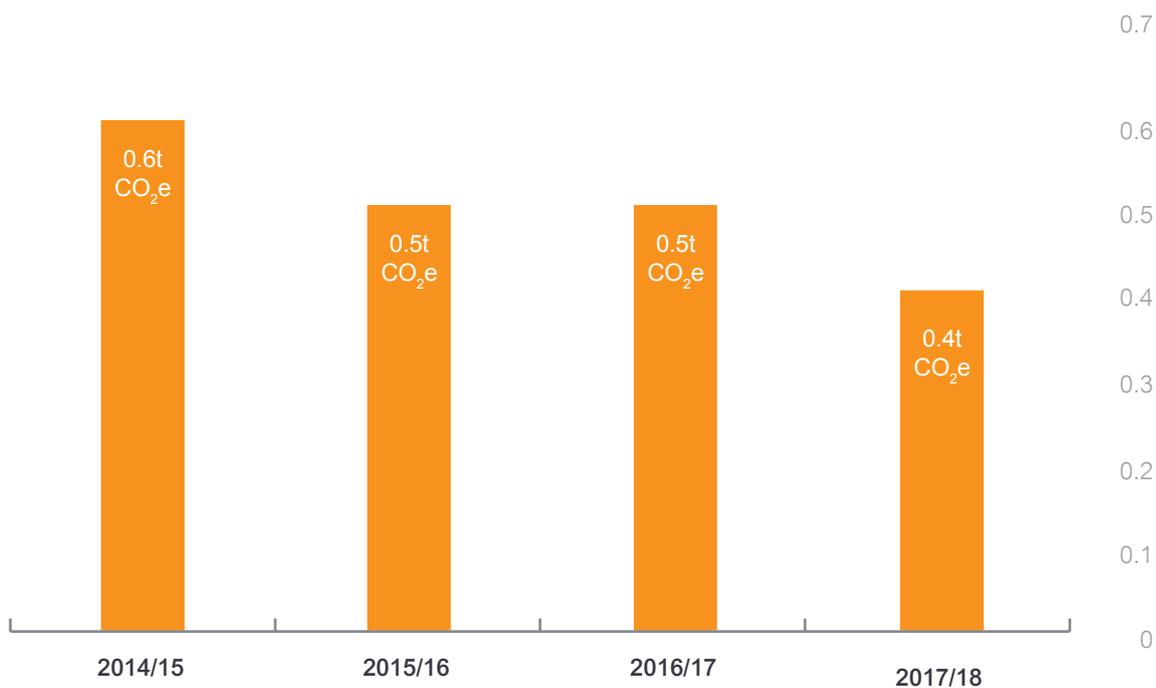


Figure 2: Sunshine Coast Council's greenhouse gas emissions per resident since the baseline year, 2014/15



Photographer: Tyrone Partington

Sunshine Coast Council's 2017/18 greenhouse gas footprint

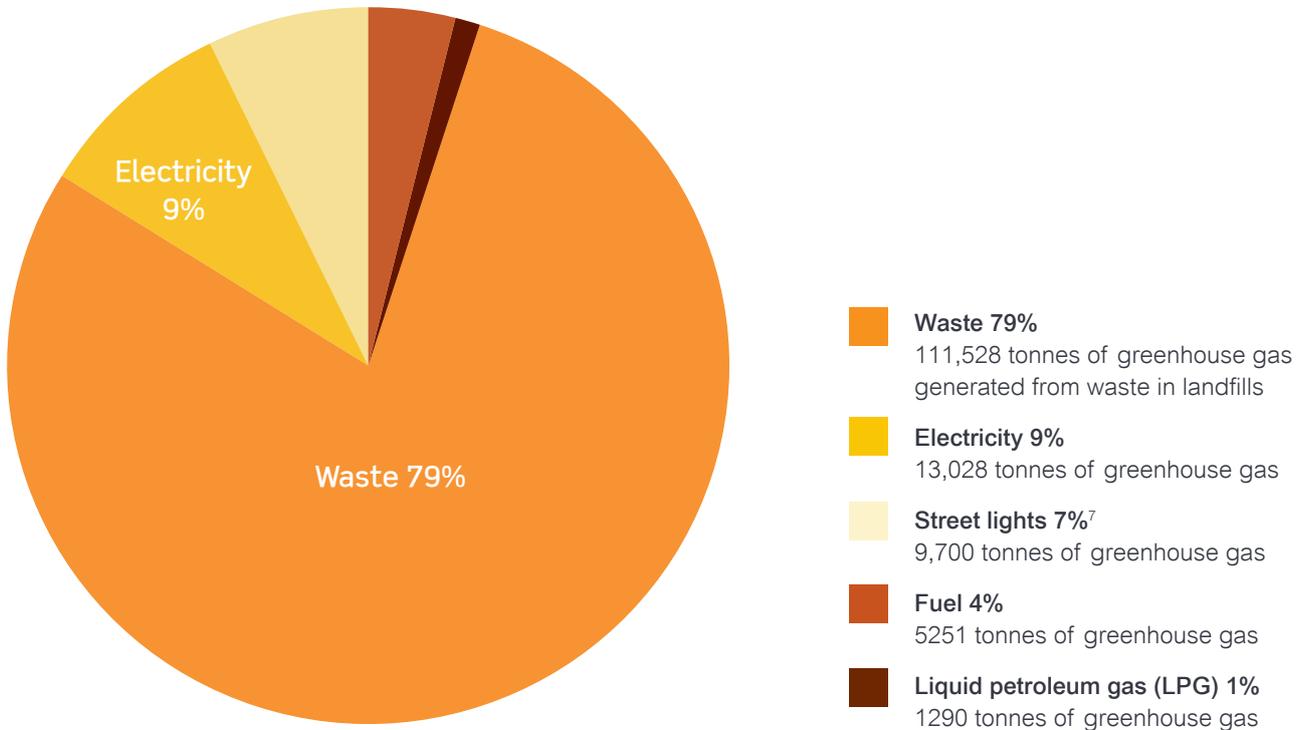


Figure 3: Sunshine Coast Council's greenhouse gas footprint (tonnes CO₂e) for the 2017/18 financial year



⁷ Street lighting has been separated out from 'Electricity' as it is a significant source of greenhouse gas emissions and is reported on as a separate item within the Corporate Plan.

Waste

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total (tonnes)	% change since 2016/17	Per FTE	Change per FTE since 2016/17	
Primary indicators					
Waste generated by council activities ⁸	7788 (5186 tonnes in 2016/17)	↑ 50% (2602 tonne increase since 2016/17)	5t	↑2t	This increase of 2602t of the waste generated could reflect the increase in council development, construction and demolition projects across the Sunshine Coast. 125% increase in waste generation since the baseline year in 2014/15.
Other indicators					
Waste generated by council activities diverted from landfill	4402 (3100 tonnes in 2016/17)	↑ 42% (1302 tonne increase since 2016/17)	3t	↑1t	Of the total waste generated in 2017/18, 57% was diverted from landfill compared to 60% in 2016/17.

Waste generated by council activities

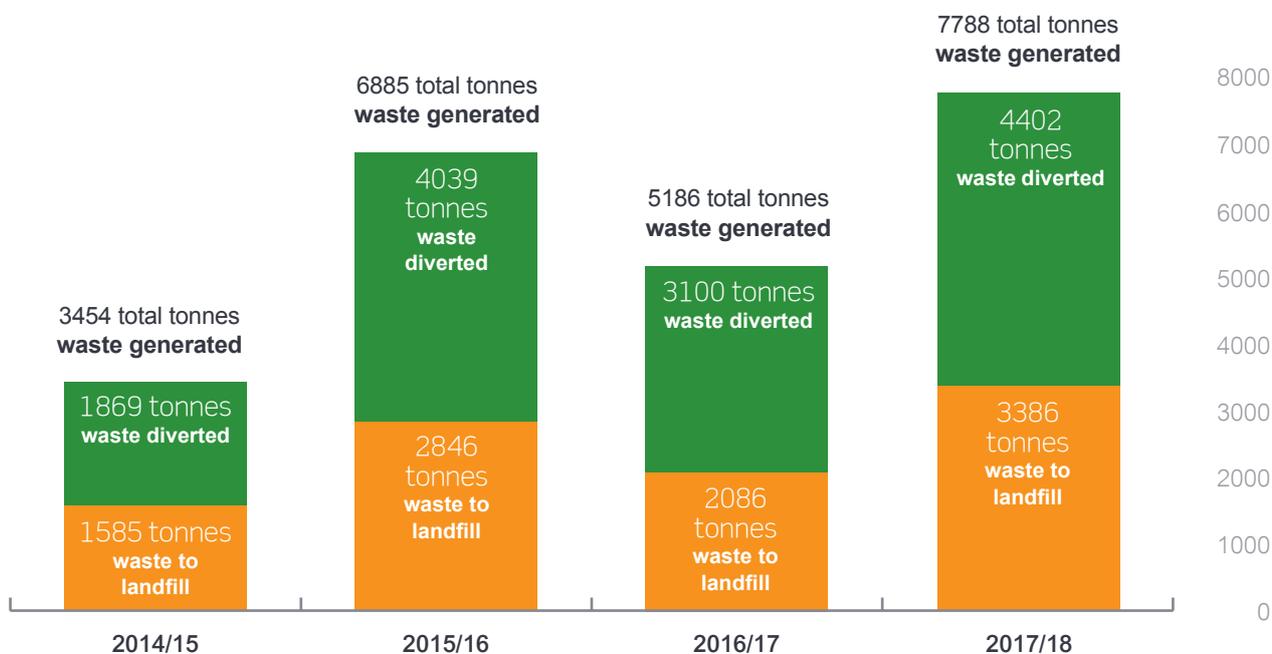


Figure 4: Change in waste generated by council activities for the last three years compared against the baseline year of 2014/15

⁸ Waste generated by council activities for contract collected waste is calculated based on bin size, service frequency and regional audit data. Self-haul waste generated by council's activities is based on actual weighbridge data; however it excludes some green waste and construction and demolition waste that is handled separately at council depots.



Energy (electricity)

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total	% change since 2016/17	Per FTE	Change per FTE since 2016/17	
Primary indicators					
Electricity consumption (excluding street lights)	16,491 MWh (21,362 MWh in 2016/17)	23% (4871 MWh reallocated since 2016/17)	9970kWh	↓ 2891 kWh	The majority of reported electricity consumption reductions is due to the transfer of responsibility for electricity bills at 10 facilities to lessees.
Other indicators					
Street lighting consumption	12,279 MWh (11,974 MWh in 2016/17)	↑ 3% (305 MWh increase since 2016/17)	7424 kWh	↑ 215 kWh	This increase is due to an additional 1061 street lights.
Total electricity costs (including all costs such as network charges and excluding street lights)	\$3,184,000 (\$4,771,000 in 2016/17)	↓ 33% (\$1,587,000 reduction since 2016/17)	\$1925	↓ \$947	Reduced costs largely reflect the transfer of electricity bills to lessees at some council facilities.
Total electricity costs for street lighting (including all costs such as service and maintenance charges)	\$4,716,000 (\$4,762,000 in 2016/17)	↓ 1% (\$46,000 reduction since 2016/17)	\$2851	↓ \$15	The reduction of 1% in costs is due to reduced network charges.
Capacity of solar (PV) panel systems on council buildings and facilities	209kW (158 kW in 2016/17)	↑ 32% (51 kW increase since 2016/17)	0.1 kW	No change (0.1 kW/FTE in 2016/17)	The increase largely reflects the addition of 46 kW at Buderim Resource Recovery Centre and at Witta and Beerwah transfer stations; and improved data collection that now includes pre-existing panels.
Electricity generated by solar (PV) panels	320,397 kWh (242,214 kWh in 2016/17)	↑ 32% (78,183 kWh increase since 2016/17)	194 kWh	↑ 48 kWh	Solar on council's buildings has offset 2% of council's electricity consumption while the Sunshine Coast Solar Farm has generated enough energy to offset a further 103%.

Sunshine Coast Council's total electricity usage and costs



Figure 5: Electricity consumption and cost trends over the last three years including the baseline year, 2014/15



Energy Savings at Caloundra Indoor Stadium

The Caloundra Indoor Stadium is a multi-purpose, air-conditioned stadium with a mix of courts for various sports. It is one of council's largest energy using facilities, due to energy intensive equipment such as the air-conditioners and water chillers.

The Building Management System (BMS) at the stadium has been programmed to control and monitor large plant equipment such as the air-conditioner, water chillers, ventilation fans and regulates energy usage.

Each plant equipment has its own individual time schedule of operation that is regulated by the BMS. The BMS monitors and controls each of these equipment by adjusting according to internal and external climatic conditions to achieve the best energy savings without disrupting the comfort of the patrons.

The system is setup that all equipment is disabled when the security system is armed or when any external doors and louvres are open. These efficiency controls prevent energy from being wasted by having plant equipment running when not required.

For the first six months of 2018, these measures achieved an average monthly energy saving of 45% and a total

reduction of 144,353 kWh of electricity over this period compared to the same time the previous year. This has saved council \$10,826 in electricity costs.

Following an earlier trial of LED lights on one of the stadium courts, the lighting on all courts will be upgraded over the coming year, and the ongoing optimisation of the BMS system will continue.

Expanding Solar by 46 kW at Council's Waste Facilities

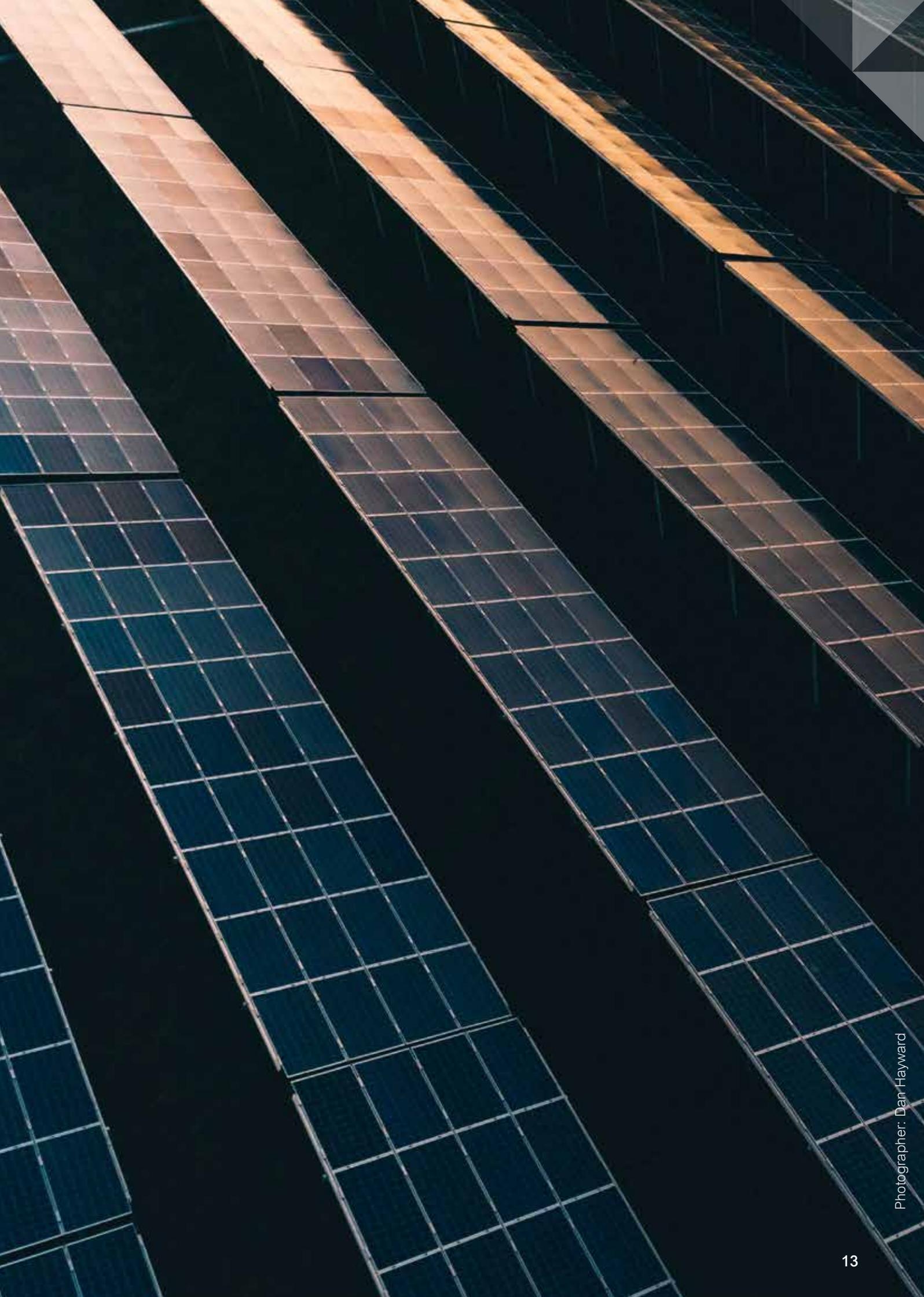
In 2012, council installed 10 kW of solar PV with solar tracking at the Buderim Resource Recovery Centre. To date, this system has produced approximately 80 MWh and saved over \$16,000.

The success of this pilot has led to the installation of an additional 46 kW of solar PV at three of council's waste resource and recovery centres:

- Buderim Resource Recovery Centre: 26.4 kW
- Witta Transfer Station: 6.6 kW
- Beerwah Transfer Station: 13.2 kW

These solar panels were recently installed in June 2018, and generated electricity will be reported in the next 2018/19 report.





Energy (fuel)

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total	% change since 2016/17	Per FTE	Change per FTE since 2016/17	
Primary indicators					
Litres of fuel used ⁹	1,944,000 L (1,911,138 L in 2016/17)	↑ 2% (32,863 L increase since 2016/17)	1175 L	↑ 24 L	Fuel consumption has reduced by 6% baseline year (2014/15).
Other indicators					
Fuel costs	\$2,280,762 (\$2,048,523 in 2016/17)	↑ 11% (\$232,229 since 2016/17)	\$1379	↑ \$146	This increase reflects both increased fuel consumption, and increased fuel prices. There has been a 12% reduction in costs since the baseline year of 2014/15.
Alternative-fuel and advanced technology fleet vehicles	2 (2 in 2016/17)	No change in the number of electric vehicles	Not measurable	No measurable change	Council has two electric vehicles which represents 0.4% of the total fleet vehicles.

Sunshine Coast Council's total fuel usage and number of fleet vehicles

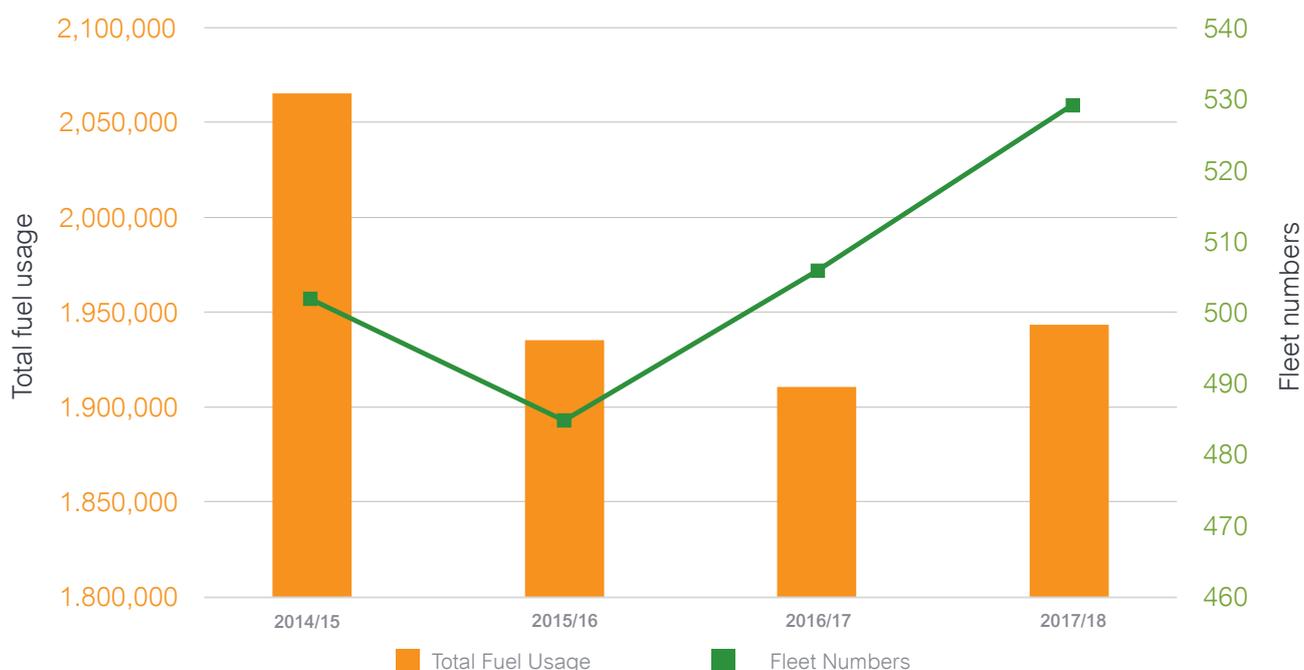


Figure 6: Council's fuel usage in litres and fleet number trends over the last three years including the baseline year of 2014/15

⁹ Fuel includes diesel, unleaded petrol for vehicles and bulk diesel used by heavy plant and equipment such as graders, rollers, tractors and mowers.



Fast Facts on Fuel Usage for 2017/18

- The number of fleet vehicles has increased, but the number per FTE remains the same
- 90% of the 529 fleet vehicles use diesel
- 71% of the fleet vehicles are 4 cylinder
- The vehicle monitoring project provides online, real-time monitoring to optimise the management and utilisation of council's fleet.

Transport

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total	% change since 2016/17	Per FTE	Change per FTE since 2016/17	
Primary indicators					
Fleet vehicles ¹⁰	529 (506 in 2016/17)	↑ 5% (increase of 23 vehicles since 2016/17)	0.3 vehicle	No change	Overall there has been a 5% increase in the number of fleet vehicles since the baseline year 2014/15.
Other indicators					
Fleet vehicles that are four cylinder	374 (352 in 2016/17)	↑ 6% (increase of 22 vehicles since 2016/17)	0.2 vehicle	No change	This represents 71% of total fleet being 4 cylinder.
Travel distance saved by staff using alternative transport (car pool, cycling, walking or public transport) ¹¹	142,104 kilometres (173,203 kilometres in 2016/17)	↓ 18% (31,099 kilometre reduction since 2016/17)	86 km	↓ 18 km	This reduction (31,099 km) in alternative transport may reflect inconsistent reporting of travel behaviour.

¹⁰ This figure includes passenger and light commercial vehicles as well as two hybrid (electric/fuel) passenger vehicles.

¹¹ This was the result of Travel Smart's 'Green Travel' program for staff. Alternative transport, outside of what has been registered through this program, has not been included.



Water

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total	% change since 2016/17	Per FTE	Change per FTE since 2016/17	
Primary indicators					
Water consumed by council ¹²	646,721 kL (611,646 kL in 2016/17)	↑ 6% (35,075 kL since 2016/17)	391 kL	↑ 23 kL	This increase likely reflects new parks and assets being added to council's portfolio. Council is working towards monitoring and tracking assets and water consumption more effectively.
Other indicators					
Council's total water cost (including all costs such as water access and sewerage charges)	\$4,704,552 (\$4,324,194 in 2016/17)	↑ 9% (\$38,358 increase since 2016/17)	\$2844	↑ \$241	This cost increase is due to increased water consumption.

Sunshine Coast Council's water use

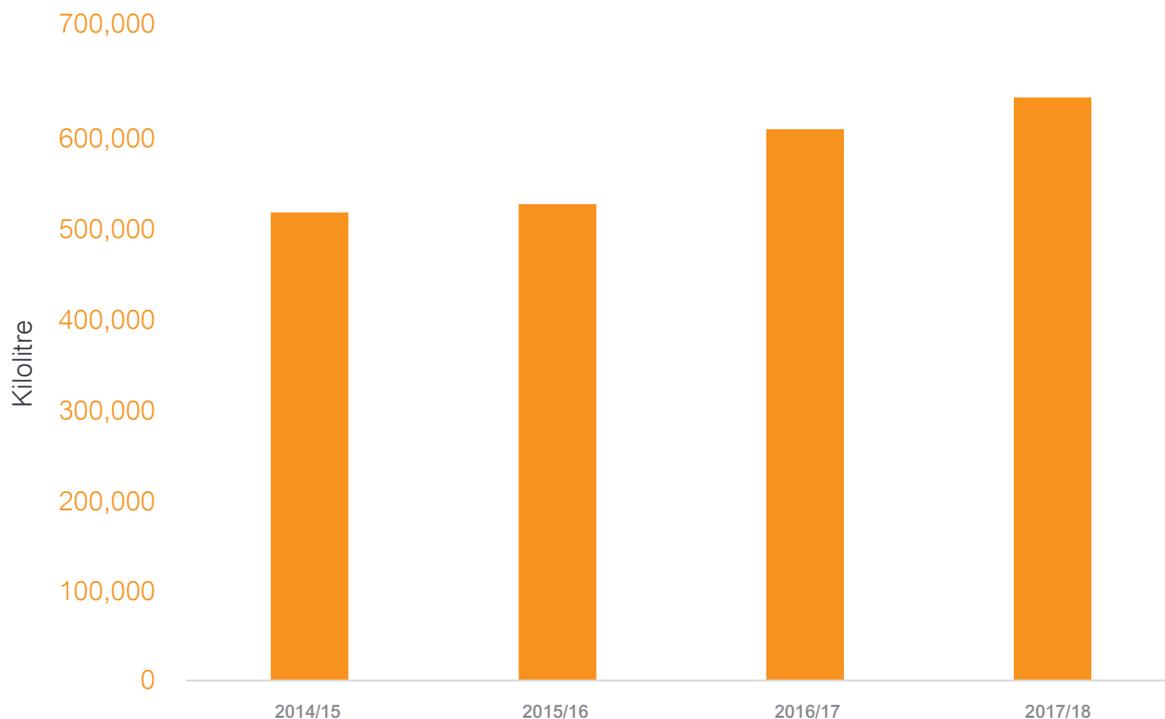


Figure 7: Changes in water usage over the last three years in relation to the baseline year 2014/15

¹² Water consumed includes the potable water that council is billed for by a water access, supply and sewerage service company (Unitywater). It does not include the use of water from other sources such as rainwater tanks.

Environmental sustainability projects

Indicators	Snap Shot Results 2017/18				Put in perspective
	Total	% change since 2016/17	Per FTE	Change per FTE since 2016/17	
Primary indicators					
Energy generated by Sunshine Coast Solar Farm	25,117 MWh	-	15 MWh	-	The solar farm became fully operational in October 2017, and has since offset 103% of council's electricity requirements since the farm became operational.
Other indicators					
Electricity cost savings against 'business as usual' after all costs	\$1.7 M	-	\$1028	-	Council's annual electricity saving is calculated after all finance and operational costs of the Solar Farm. It compares a 'business as usual' baseline which is what Council would have had to pay under a traditional electricity supply arrangement, if it didn't own a Solar Farm.



14% reduction in paper purchased; saving over \$23,000

Council has reduced their paper purchased by 14% in 2017/18 compared to the previous year, which has saved \$23,308.

One key initiative that contributed to this reduction is the introduction of the 'Follow Me Print' program, which reduces unnecessary printing of documents, by only printing a document once staff have confirmed the selection at the printer. This has eliminated the issue of uncollected printing, while also improving security, and has provided savings of over \$6,000.

Council is also now purchasing 93% of A4 paper that is 100% post-consumer recycled paper, which helps to close-the-loop with the office paper-recycling program that has been in place for many years.

Environmental sustainability programs within the organisation

Indicators	Snap Shot Results 2017/18			Put in perspective
	Total	Change since 2016/17	Per FTE	
Primary indicators				
Staff participating in work place sustainability programs and events (about waste, water, energy, greenhouse gas and transport)	1154 staff (965 in 2016/17)	↑ 12% (189 staff increase since 2016/17)	Not measurable	70% of staff participated in sustainability events and programs.
Other indicators				
Number of workplace sustainability events and programs ¹³	6 (8 programs and events in 2016/17)	↓2 number event and programs	Not measurable	There were 2 fewer programs and events for staff, however, participation numbers in 2017/18 programs and events increased significantly since 2016/17. This was due to becoming more targeted and effective at delivering relevant programs and events.

¹³ Staff environmental sustainability programs and events included World Environment Day, National Recycling Week, Earth Hour, Green Travel, Love to Ride and a workshop about applying sustainability when catering in the workplace.



Environmental sustainability embedded into systems and processes

Indicators	Snap Shot Results 2017/18			Put in perspective
	Total	Change since 2016/17	Per FTE	
Primary indicators				
Whole of organisation systems and processes that enable environmental sustainability outcomes (including procurement, human resources, governance, corporate knowledge and information and assets)	20 systems and processes (12 systems and processes in 2016/17)	↑ 8 systems and processes	Not measurable	
Other indicators				
New contracts, approved for award by the Procurements Contract Committee, exceeding the value of \$200,000, that were evaluated with regard to environmental criterion ¹⁴	69 of 78 contracts (56 of 63 contracts in 2016/17)			89% of contracts were evaluated on environmental criterion. Not all contracts require evaluation against environmental criterion due to the nature of the contact.
Number of information technology tools used in council to measure and monitor energy, waste, water, greenhouse gas, transport, environmental sustainability programs or green buildings	18 tools (15 tools in 2016/17) ¹⁵	Number of tools increased by 3 since 2016/17)		
New employees who have completed a local induction checklist at the local business area where they were informed of and encouraged to embrace council's vision of being Australia's most sustainable region	246 (100% of new employees)	100% of new employees in 2016/17		
New permanent employees ¹⁶ who have participated in a corporate orientation program where they were informed of and encouraged to embrace Council's vision of being Australia's most sustainable region	100 (100% of new permanent employees)	246 (100% of new permanent employees in 2016/17)		

¹⁴ In many cases environmental criteria are applied to the request for quote (RFQ) evaluation process for contracts under \$200,000. These are not all captured in a central location by Sunshine Coast Council, so have been omitted.

¹⁵ These tools include project management solutions, data visualisation 3D augmentation, electronic assessment and mobilisation, LiDAR algorithm pilot, Disaster Hub reporting, Smart Region Management platform, big data and analytics, event management solutions, digital connect platform and online services and open data. These tools have assisted to reduce paper use and the need for council staff to travel as well as efficiencies for water and waste, pest species identification, sustainable events and water quality monitoring

¹⁶ Not all casual (51) and temporary (95) employees are required to attend Corporate Orientation and as such are not included in this calculation.



References

Clean Energy Council, accessed June 2015,
www.solaraccreditation.com.au/consumers/purchasing-your-solar-pv-system/how-solar-pv-works.html





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