



Commissioner
for Environmental
Sustainability
Victoria



Strategic Audit

Implementation of environmental management systems in
Victorian Government 2015-16

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The Office of the Commissioner for Environmental Sustainability proudly acknowledges Victoria's Aboriginal community and their rich culture and pays respect to their Elders past and present. We acknowledge Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.



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Abbreviations

CES	Commissioner for Environmental Sustainability
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP	Department of Environment, Land, Water and Planning
DET	Department of Education and Training
DHHS	Department of Health and Human Services
DJR	Department of Justice and Regulation (Victoria)
DPC	Department of Premier and Cabinet (Victoria)
DTF	Department of Treasury and Finance (Victoria)
EMS	Environmental Management System
EPA	Environment Protection Authority (Victoria)
FRD	Financial Reporting Directive
FTE	Full Time Equivalent
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
SV	Sustainability Victoria

Dr Gillian Sparkes
Commissioner for
Environmental Sustainability



Foreword

I am pleased to present the 2017 Strategic Audit on the implementation of environmental management systems (EMS) in mandated Victorian Government agencies. This report for the financial year 2015-16 is based on the aggregate of annually reported information provided by Victorian Government departments, Sustainability Victoria (SV) and the Environment Protection Authority Victoria (EPA), according to the mandatory reporting requirements described by Financial Reporting Directive (FRD) 24C. FRD 24C applies minimum criteria for government to report its office-based impacts consistently.

The *Performance at a glance* summary shows the performance of mandated government agencies for 9 of the 16 indicators either improved or was maintained since 2014-15. The areas of improvement were in office energy use per square metre, total water use and water use per full time equivalent (FTE), passenger vehicle use, air travel, and waste per FTE. The top three areas of improvement (percentage change) over 12 months were in office energy use as intensity (megajoules per square metre), water use per FTE and an equal reduction in both transport passenger vehicle use and air travel (kms). Eleven of the 16 indicators either improved or were maintained over the seven-year period since the base year of 2009-10.

My previous two Strategic Audit reports (that is, for 2013-14 and 2014-15) reflect on the currency of the reporting framework FRD 24C – last updated in 2008 – and note that it is time to update this framework to improve and expand the minimum reporting criteria for departments and agencies. The *Method* section of this year's report further highlights some of the limitations of the current reporting approach, including that only 11% of the greenhouse gas (GHG) emissions reported by government departments in their 2016 annual reports were reportable under FRD 24C. [We recognise some agencies go beyond the minimum reporting standards in their annual environmental reporting now and commend them for their work, but this extra reporting is currently discretionary and inconsistent between agencies. Updating the minimum reporting standard to reflect contemporary approaches would ensure *consistency and comparability* of performance.]

Improved efficacy of reporting is increasingly critical now that the TAKE2 pledge program is in place. TAKE2 is a unique pledge program announced in June 2016, where the Victorian Government committed to reduce its own carbon emissions and to encourage Victorians to voluntarily commit to reducing their carbon footprint to help achieve the state's GHG emissions reduction target. The Victorian Government set a target to reduce the state's GHG emissions by 15-20 % below 2005 levels by 2020.

TAKE2 includes three different types of pledges:

1. The *operational* pledge requires all Victorian Government departments to cut their carbon emissions, by taking specific actions in areas like transport and procurement of goods and services. These departmental pledges will contribute to a whole-of-government pledge.
2. The *sector* pledge ensures Victorian Government policies and programs will drive emissions reductions across key sectors of the Victorian.
3. The *voluntary* pledge. Local governments, businesses, community organisations, educational organisations, individuals and families can pledge to specific emissions reductions.

TAKE2 pledges are voluntary and can be made by all Victorian-based organisations including business, local government, educational institutions, community organisations and individuals.

In addition, the Climate Change Framework (released on 29 January 2017) commits the Victorian Government to reducing reported emissions from its own operations by 30 % below 2015 levels by 2020. The initiative to reduce the environmental footprint of government operations is to be commended. The Climate Change Framework states the 30% reduction will be against FRD reportable, and not total, GHG emissions; that is, the 30% reduction is from a low base. While this is a modest first step, the pledging process itself should help to encourage government department leaders to consider emissions reduction and provide a platform for more ambitious reductions in future.

Encouragingly, the Department of Environment, Land, Water and Planning (DELWP) advised it will work with the Department of Treasury and Finance (DTF) during 2017 to develop new approaches for assessing opportunities to reduce emissions from operational activities. The impact of the pledge process relies on the efficacy of the approaches departments take to the assessment and reporting (that is, the frameworks that guide departmental processes). Refreshing the FRD 24C as an outcome of this work is critical.

SV prepared this year's case study: *Delivering TAKE2 and moving SV towards the Global Reporting Initiative (GRI)*. Reflecting its leadership role in delivering the TAKE2 program, SV provides an early insight into the program and the progress being made through pledges. It also shares its plans to transition to the Global Reporting Initiative (GRI) to improve the efficacy of its environmental and sustainability reporting framework and provide an example for DELWP and DTF to consider for their work together in this area.

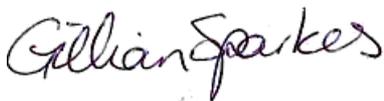
Public sector procurement is a significant lever through which government can effect positive change for the environment, and generate broader benefits for the economy and community. Last year's report considered the opportunities changes to the Victorian Government vehicle fleet procurement policy may present, for example. Pleasingly, DTF made progress in this area during 2015-16, via the following initiatives:

- Under a TAKE2 pledge, four-cylinder operational fleet vehicles will be mandated (except for station wagons or where an exemption is granted based on fit-for-purpose).
- An increased variety of smaller engine cars such as the Astra and hybrid Corolla are now available for fleet selection.
- In the range available to executives, many models have been recategorised from 'prestige' to 'more upmarket' to make them available to a larger pool of eligible executives.
- With the phase-out of Australian manufactured cars, a new policy post-2018 will encourage greater uptake of four-cylinder cars.
- Options for trialling the latest electric cars are being considered.

The Victorian public sector is well placed to lead sustainability performance, and the pledge to reduce operational GHG emissions by 30% from 2015 levels is a modest yet important step and reinforces that view.

I am honoured to be Victoria's Commissioner for Environmental Sustainability and to report on the progress of the public sector to improve its environmental footprint. I look forward to DEWLP and DTF completing their work, to develop a common approach to environmental assessment and reporting frameworks for the public sector. I am also encouraged by the commitment of the Victorian Government departmental leaders to GHG reduction pledges and consequently, departments actively participating in climate action and improving the efficacy of the mandatory environmental reporting framework over time.

Finally, I would like to acknowledge and thank the EMS coordinators from the departments and agencies for their work again this year. Collecting, collating and validating environmental performance data is a cornerstone of a successful EMS (or TAKE2 pledge) implementation strategy. The role of the environmental coordinators and officers is pivotal to monitor the progress of the Victorian public sector in the quest to reduce its environmental footprint.



Dr Gillian Sparkes

Commissioner for Environmental Sustainability

January 2017

Performance at a glance

Table 1: Indicator trends from base year of 2009-10 and for one year from 2014-15

Indicator	% change vs base yr*		% change in past yr*	
	2009-10 to 2015-16		2014-15 to 2015-16	
Total greenhouse gas emissions (tonnes CO ₂ equivalent)	+8	↓	+7	↓
Office emissions (tonnes CO ₂ equivalent)	+29	↓	+9	↓
Transport emissions vehicles (tonnes CO ₂ equivalent)	-13	↑	+1	↓
Transport emissions air travel (tonnes CO ₂ equivalent)	-63	↑	0	—
Total energy use (megajoules)	+16	↓	+14	↓
Green energy use office (megajoules)	-99	↓	0	—
Energy intensity office (megajoules/m ²)	-4	↑	-15	↑
Transport-passenger vehicle use (kms)	-15	↑	-4	↑
Transport-air travel (kms)	-41	↑	-5	↑
Total waste produced (tonnes)	-37	↑	+17	↓
Waste recycling rate (%recycled by tonnes)	-12	↓	-8	↓
Waste per FTE (kg/FTE)	-3	↑	-2	↑
Total paper use (reams)	-23	↑	+6	↓
Paper use per FTE (reams/ FTE)	-17	↑	0	—
Total water use (litres)	-10	↑	-2	↑
Water use per FTE (litres/FTE)	0	—	-14	↑

* % rounded to whole number

Improvement	↑	No significant change	—	Deterioration	↓
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Performance summary 2015-16

- The performance of mandated government agencies for 9 of the 16 indicators either improved or been maintained since 2014-15. The areas of improvement were in office energy use per square metre of office space, total water use and water use per FTE, passenger vehicle use, air travel, and waste per FTE.
 - The top three areas of improvement (percentage change) in the past year were office energy use as intensity (megajoules per square metre), water use per FTE, while there was an equal reduction in both transport passenger vehicle use and air travel (kms).
- The performance of mandated government agencies for 11 of the 16 indicators either improved or was maintained over the seven-year period since the base year of 2009-10.
- Although the waste recycling rate (percentage recycled by tonnes) deteriorated by 8% in the past year and 12% since the base year of 2009-10, total waste produced fell by 37% in 2015-16 compared with the base year; that is, significantly less waste is being produced overall.
- The top three emitters of GHG in 2015-16 were the Department of Economic Development, Jobs, Transport and Resources (DEDJTR), the Department of Health and Human Services (DHHS) and the Department of Environment, Land, Water and Planning (DELWP), respectively.
- While total energy used increased by 16% from the base year (2009-10) and 14% in the past 12 months, it is significant that energy usage per square metre of office space decreased by 4% on the base year and 15% in the past year.¹
- Victorian Government agencies used 23% less paper in 2015-16 than in 2009-10, but the level of paper consumption rose by 6% over the year since 2014-15, the first increase in six years. The average paper used per FTE was maintained at 12 reams per FTE in the past year. Paper use per FTE across the agencies ranged from five (SV) to 18 (DJR) reams per FTE.

¹ Intensity measures, such as emissions per FTE or per m², are very important indicators. However, the current reporting processes used by mandated government agencies do not apply intensity measures such as office areas and FTE consistently across their reporting parameters. These inconsistencies reflect the methods by which agencies obtain their reporting data for the different parameters and factors such as the presence, absence and location of meters.

Method

Background

Since 2003, Victorian Government departments,² the EPA and SV – referred to collectively as ‘agencies’ – have been required to implement environmental management systems (EMS). This requirement was introduced with an office-based focus, modelled on the ISO 14001 standard³ and enabled by the FRD 24C.⁴ Section 18 of the *Commissioner for Environmental Sustainability Act 2003*⁵ (CES Act) requires that not later than 31 January each year, the Commissioner for Environmental Sustainability (the Commissioner) must report to the Minister for Energy, Environment and Climate Change on ‘the implementation of environmental management systems by agencies and public authorities’. Agencies are determined by the Victorian Government, as set out in section 18 (2) a of the CES Act.

This Strategic Audit presents environmental performance and analysis for the 2015-16 period, as provided to the Commissioner or obtained from annual reports, in general accordance with FRD 24C⁶ and consistent with section 18 of the CES Act.

The Victorian Government’s FRD 24C sets minimum reporting requirements for office-based activities with environmental impacts, including:

- **GHG emissions** – those associated with building energy use, vehicle fleet use, air travel and waste production (any offsets purchased are also reported)

² Applies to all entities as defined in part (a) of the definition of ‘department’ under section 3 of the *Financial Management Act 1994* (FMA) and to the environmental agencies (EPA and SV) referred to in FRD 24C as ‘entities’. Other public sector entities are encouraged to adopt the requirements of this FRD to their annual reports.

³ ISO 14001 is the recognised international voluntary standard that sets generic requirements for preparing an EMS. An organisation must prepare an EMS that identifies and controls the environmental impact of its services and products, continually improves its environmental performance and implements a systematic approach to setting, achieving and monitoring progress towards meeting environmental objectives and targets.

⁴ Victorian Department of Treasury and Finance, *FRD 24C Reporting of office-based environmental data by government entities*, Melbourne, 2007. Available at: <http://www.dtf.vic.gov.au/Publications/Government-Financial-Management-publications/Financial-reporting-policy/Financial-reporting-directions-and-guidance>.

⁵ *Commissioner for Environmental Sustainability Act 2003*. Available at: <http://www.ces.vic.gov.au/sites/default/files/publication-documents/CES%20Act%202003.pdf>

⁶ Includes Department of Education and Training; Department of Premier and Cabinet, Department of Justice and Regulation, Department of Treasury and Finance, Department of Environment, Land, Water and Planning, Department of Health and Human Services and Department of Economic Development, Jobs, Transport and Resources; Environment Protection Authority Victoria and Sustainability Victoria.

- **energy use** – stationary energy: building consumption such as electricity (including GreenPower), natural gas, liquefied petroleum gas, heating oil, diesel and solid fuel
- **transportation** – vehicle fleet energy use and air travel
- **waste production** – waste to landfill, waste sent for recycling and composted waste
- **paper use** – paper used for printing and photocopying
- **water consumption** – domestic water use, rainwater and reused water
- **procurement** – a discussion of whether and how procurement activities are environmentally responsible.

The FRD 24C requires nominated agencies to measure and report both relative resource use (efficiency or intensity indicators such as *energy consumption per floor area* or *per number of FTE employees*, or *greenhouse gas emissions per kilometres travelled*), as well as total resource use or ‘absolute’ consumption such as *total energy use* or *total greenhouse gas emissions*.

Data integrity

All figures provided to the Commissioner are verified in annual reports where available. As in previous years, and in some cases, agencies revised the 2014-15 data during the 2015-16 annual reporting process (that is, compared with that presented in the Commissioner’s 2014-15 Strategic Audit) in line with the final billing cycle data and/or data corrections. This Strategic Audit reflects the latest data consistent with the 2015-16 annual reports.

Result summaries and text generally refer to figures rounded to a whole number. Charts and other data visualisation may include results shown to one decimal place.

Limitations of the report

Following the Victorian state election in November 2014, and the appointment of a new government, a number of machinery-of-government changes were made to the Victorian Public Sector commencing 1 January 2015. These are in addition to several significant changes to the machinery-of-government and make-up of reporting entities since the introduction of the CES Act in 2003 and the phased introduction of FRD 24C from 2007.

The net effect of these changes, introduced to meet the policy objectives of successive governments, is that it is difficult to consistently track and compare EMS data for a given department or entity.

As with previous Strategic Audits, this report uses data from across the mandated departments and entities as provided to the Commissioner and/or published in annual reports.

For this report, the relative performance over the past 12 months (that is, from 2014-15 to 2015-16) is considered more reliable because department configuration remained relatively stable since the machinery-of-government changes of 1 January 2015.

The Commissioner recognises the need for reporting consistency across agencies by having a mandated direction that includes all Victorian Government agencies, their facilities and their FTE staff numbers. This change would provide a more complete picture, rigorous enough to measure meaningful performance trends over time.

Data shows that in some cases, agencies collect and report far beyond office-based facilities as required in FRD 24C. In fact for this reporting year, the proportion of GHG emissions from FRD 24C reportable facilities is only 11% of the total reported emissions in the 2015-16 annual reports and exemplifies the need to update FRD 24C (figure 1). The FRD specifies a minimum standard and defined reporting scope, both of which are important for efficacy of reporting into the future.

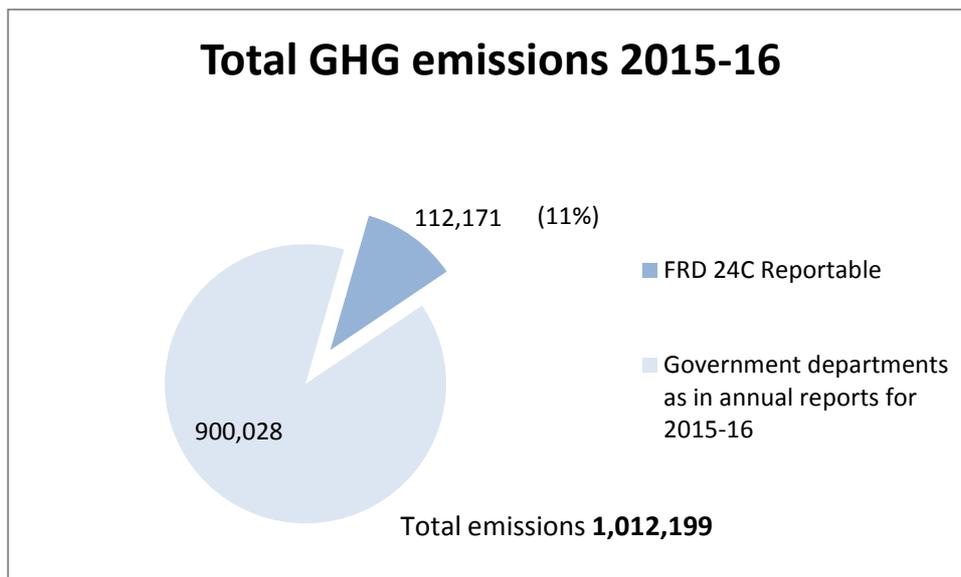


Figure 1: Total GHG emissions 2015-16

Intensity measures are very important for monitoring the environmental performance of agencies given government staff numbers (FTE) and office space can materially increase and decrease over time.

The Commissioner supports and commends all measures agencies took to improve the accuracy and understanding of the impact of changes in FTE, office floor area and methods of measurement as they relate to the environmental performance of the entities.

Results

Greenhouse gas emissions

Table 2: Summary of result	% change 2009-10 to 2015-16	% change 2014-15 to 2015-16
Total greenhouse gas emissions (tonnes CO₂ equivalent)	+8	+7
Office emissions (tonnes CO ₂ equivalent)	+29	+9
Transport emissions vehicles (tonnes CO ₂ equivalent)	-13	+1
Transport emissions air travel (tonnes CO ₂ equivalent)	-63	0

The total reported GHG emissions from Victorian Government mandated agencies rose by 8% from the 2009-10 result (table 2). As noted above, this report presents updated figures for 2014-15 in 2015-16 annual reports for mandated agencies. Based on the revised figures for 2014-15, total emissions increased by 7% over the past year.

Energy use in office buildings was the largest contributor to GHG emissions, accounting for 76% of emissions in 2015-16, up 2 percentage points on last year (figure 2). Vehicle use and air travel accounted for 19% and 5% of total emissions, compared with 20% and 5% in 2014-15 respectively. Office-based waste accounted for less than 1% of total emissions.

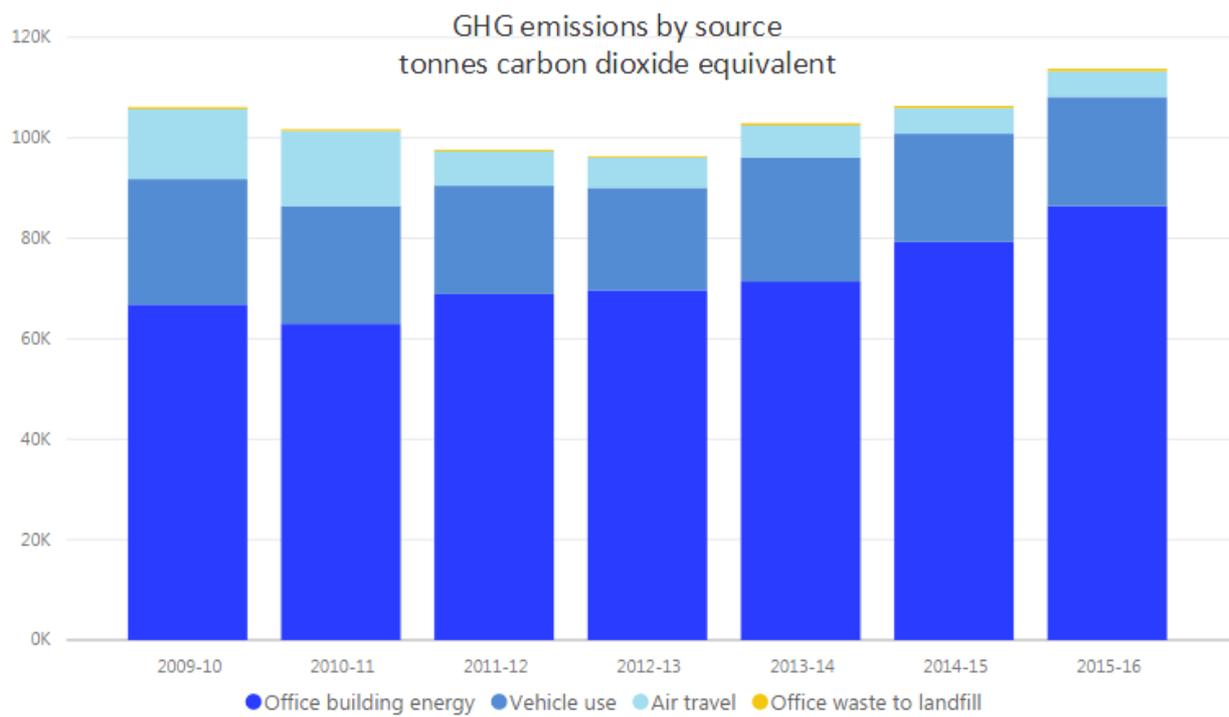


Figure 2: GHG emissions by source⁷

Reported emissions from gas and electricity use in office-based facilities increased by 29% over the seven years from 2009-10 to 2015-16 and by 9% in the past 12 months.

Figure 3 presents the percentage change against the base year of 2009-10 for each emission source (office energy, vehicles, air travel, office waste) below. Similarly, figure 4 presents the percentage change in the past year.

⁷ The multiplier used to calculate air travel emissions was revised in 2011-12. Consequently, emissions before 2011-12 appear to be overestimated.

Percentage change in GHG emissions by source, 2009-10 to 2015-16

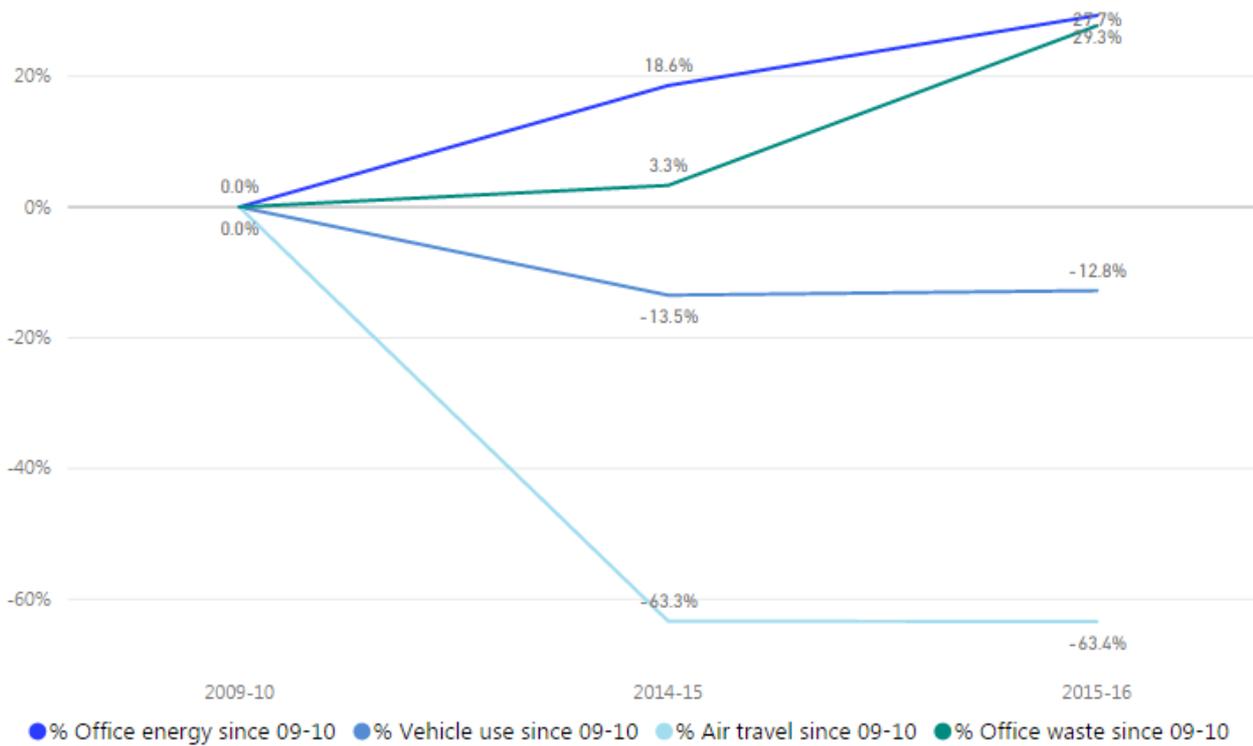


Figure 3: Percentage change in greenhouse gas emissions by source, 2009-10 to 2015-16

Percentage change in GHG emissions by source 2014-15 to 2015-16

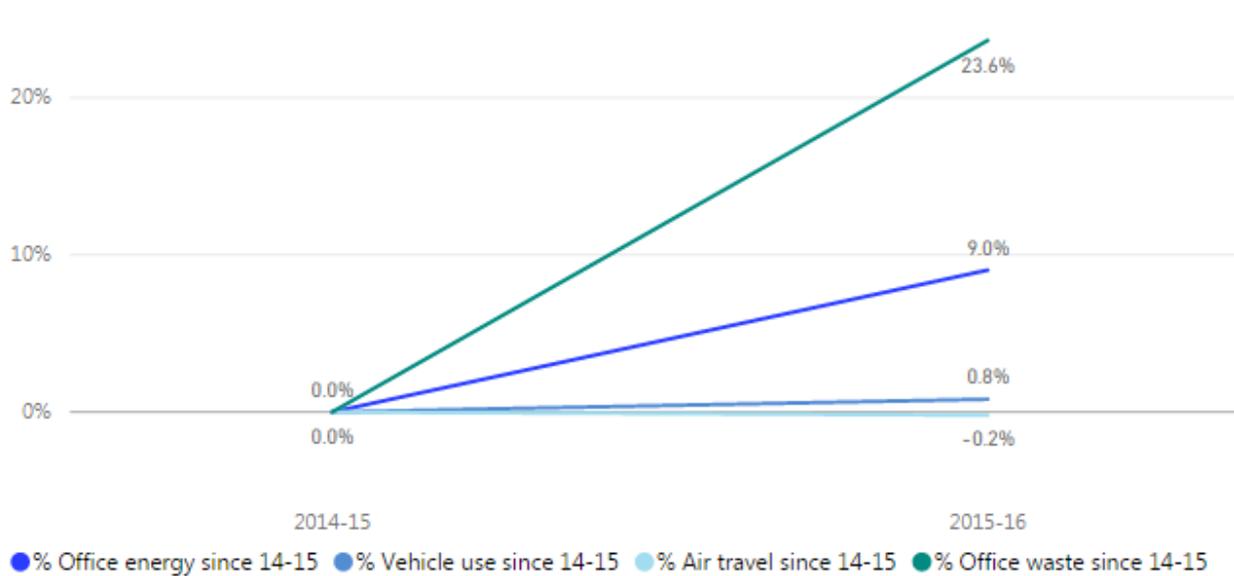


Figure 4: Percentage change in greenhouse gas emissions by source, 2014-15 to 2015-16

Figure 5 below shows the relative emission contribution and emissions for the 12 month period 2014-15 to 2015-16 for mandated departments and agencies. DEDJTR, DHHS and DELWP were the top three contributors to GHG emissions.

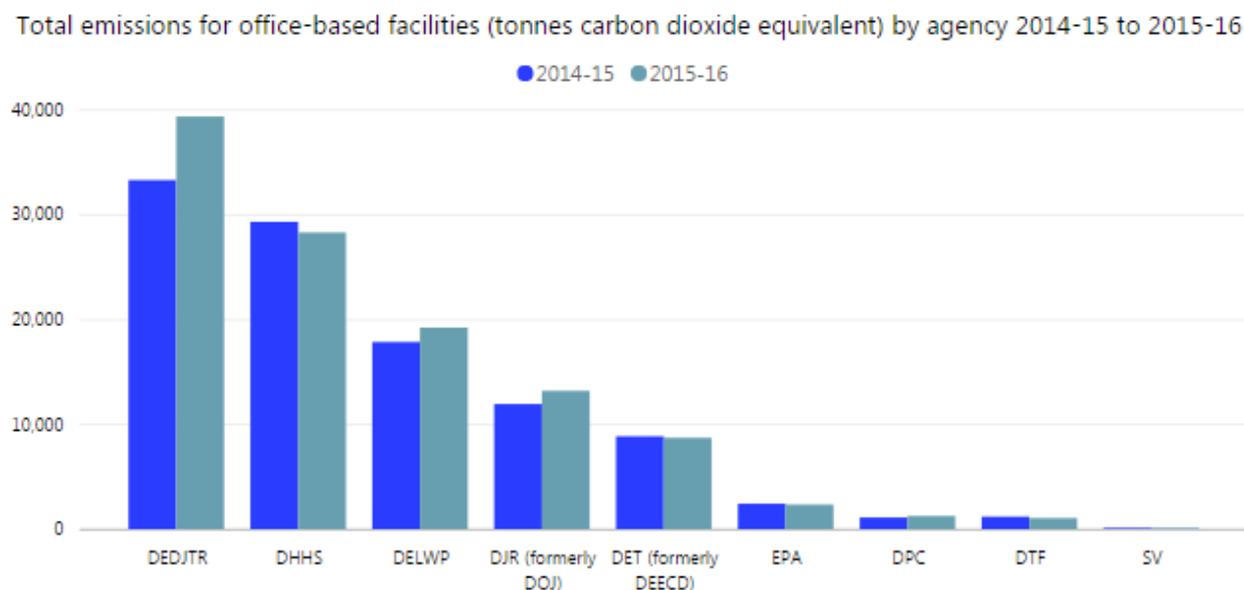


Figure 5: Greenhouse gas emissions from Victorian Government mandated agencies, 2014-15 to 2015-16

Looking at the top three energy consuming agencies, DEDJTR’s increase in energy use over the year largely reflects increased activity at AgriBio (Centre for AgriBioscience Bundoora). This facility comprises offices, laboratories, animal handling facilities and glasshouses, hosting both LaTrobe University and departmental staff. The department reports on 75% of the centre’s energy consumption as an estimated split. AgriBio alone comprises 50% of DEDJTR’s FRD 24C reportable energy consumption. Other contributing factors were including more sites in the data (42 last period; 54 this period) and improved data availability at previously reported sites.

The DHHS emissions decreased during the last period, via a concerted effort to reduce energy consumption in the central office space. Initiatives at 50 Lonsdale Street, such as upgrades to the building automation system, return air dampers and halogen light replacements, contributed to the building achieving a five-star NABERS rating.

DELWP’s energy consumption increased due to gas consumption at a new site at Broadford.

Table 3 presents percentage changes from last year for each agency.

Table 3: Percentage change in GHG from Victorian Government mandated departments and entities, 2014-15 to 2015-16

Department/entity	% change 2014-15 to 2015-16
DEDJTR	+18.2
DHHS	-3.5
DELWP	+7.7
DJR (formerly DOJ)	+10.5
DET (DEECD)	-1.6
EPA	-3.4
DPC	+12.8
DTF	-11.0
SV	-31.2

Energy use

Office

Table 4: Summary of results

	% change 2009-10 to 2015-16	% change 2014-15 to 2015-16
Total energy use (megajoules)	+16	+14
Green energy use office (megajoules)	-99	0
Energy intensity office (megajoules/m ²)	-4	-15

Energy use in office buildings includes heating, ventilation, air conditioning, water heating, appliances, lighting and installed equipment such as computers. The most common energy sources are electricity and natural gas.

Even though total energy used increased by 16% from the base year (2009-10) and 14% in the past 12 months, energy usage per square metre of office space decreased by 4% and 15% on the base year and over the past 12 months, respectively (table 4).

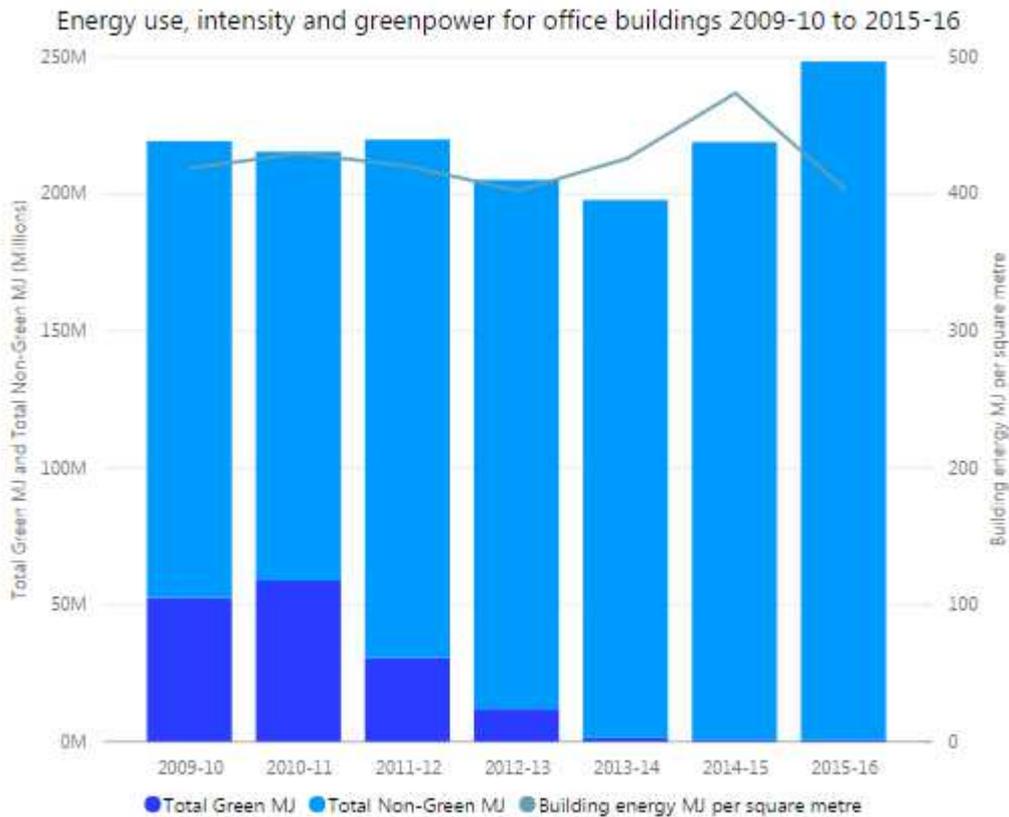


Figure 6: Energy use, intensity and GreenPower purchased for office buildings, 2009-10 to 2015-16¹⁸

GreenPower

A portion of electricity purchased by Victorian Government agencies includes renewable sources or GreenPower. GreenPower generates less pollution than power from fossil fuels and contributes no net increase in GHG emissions, so the higher the proportion of green energy purchased, the lower the GHG emissions for the same quantity of energy consumed.

Electricity purchased as GreenPower reduced from a high of 27% in 2010-11, exceeding the 25% whole-of-government target set for 2010-11 (figure 6).⁹ The rate is now 0.3%.

⁸ The figure includes DELWP's large ongoing research component at many of its sites (accounting for a significant portion of overall energy consumption) and EPA's electricity and gas use in all offices, electricity consumed by its laboratories and air monitoring stations, and a portion of base building consumption for shared buildings.

⁹ Guidance for FRD 24C Reporting 2008.

Change in electricity purchased as GreenPower 2009-10 to 2015-16

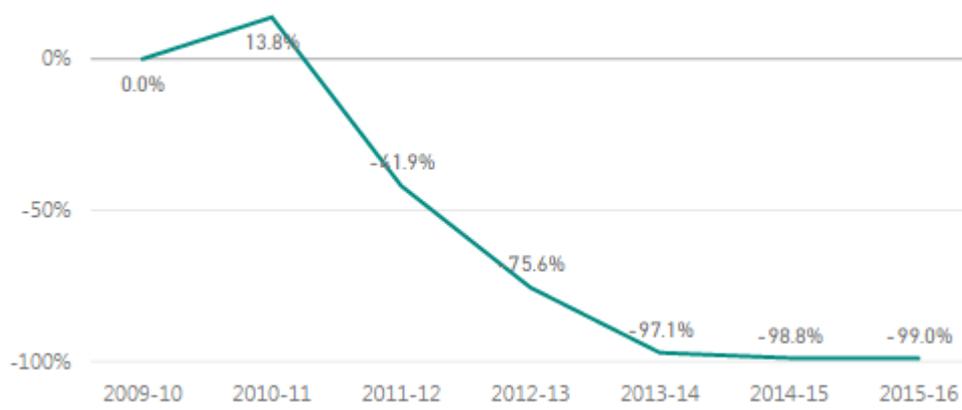


Figure 7: Change in electricity purchased as GreenPower, 2009-10 to 2014-15

Transport energy and usage

To remain consistent with FRD 24C, transportation usage is reported by GHG emissions (refer to GHG section for passenger vehicles and air travel emissions), energy consumption (vehicles), vehicle fleet composition, vehicle travel distance and air travel distance. The data for travel distance is required to determine emissions and is a good metric to track overall usage patterns over time. This section reports on the vehicle fleet energy consumption, passenger fleet composition, vehicle travel distance and air travel distance.

Table 5: Summary of results

	% change 2009-10 to 2015-16	% change 2014-15 to 2015-16
Passenger vehicle energy consumption (MJ)	-12	0
Land travel distance (passenger fleet vehicles) (kms)	-15	-4
Air travel distance (kms)	-41	-5

Passenger fleet energy and usage

Passenger vehicle energy consumption reduced by 12% over the seven years from 2009-10 to 2015-16, but did not change significantly in the past year. While the overall energy consumption changed little in the past 12 months, the land distance travelled decreased by 4%, supporting an improved vehicle energy efficiency across this segment of the Victorian Government fleet.

Victorian Government passenger vehicle use (measured in kilometres) reduced by 15% when compared with 2009-10. Variations from year to year can be influenced by actual numbers of vehicles in the fleet and/or more efficient travel. The vehicle distance travelled decreased by 4% from 2014-15 to 2015-16 while the fleet size increased by 1%.

Changes in reporting processes make comparisons over time difficult. For example, in 2013-14, the then Victorian Department of Environment and Primary Industries expanded reporting to include all operational vehicles (passenger, two- and four-wheel drive utilities) accounting for an increase in that year. In addition to more vehicles being captured in the 2013-14 data, four-wheel drive utilities account for a significant proportion of vehicle kilometres and contribute comparatively higher CO₂ emissions. Similarly, from the 2014-15 period, the DJR passenger fleet data excluded judiciary vehicles, after Courts Services Victoria was created on 1 July 2014.

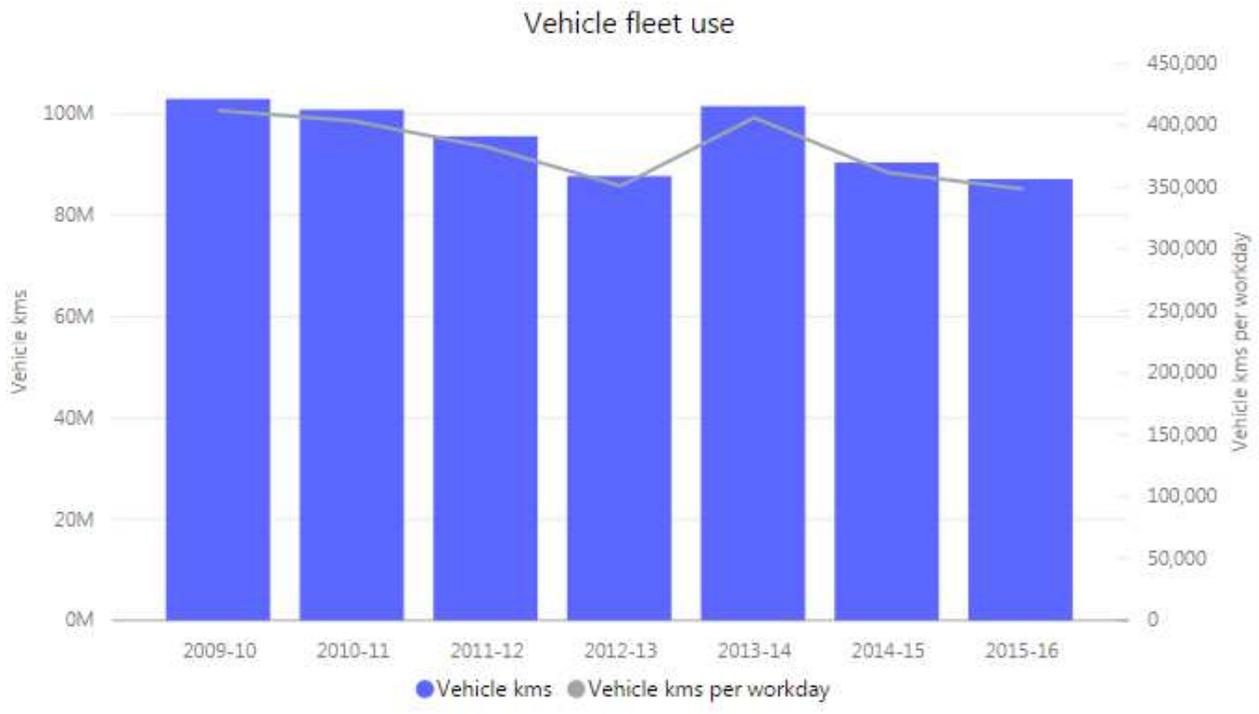


Figure 8: Vehicle fleet use, 2009-10 to 2015-16

Passenger fleet composition

The number of vehicles increased by 1% overall from 2014-15. The trend to increase four-cylinder and decrease six-cylinder vehicles continued. Over half (53%) of the executive fleet and 29% of operational vehicles were six-cylinder. Hybrid vehicles reportedly constituted 10% of the executive fleet and 48% of the operational fleet. Additional information supplied by DTF and Toyota Australia indicated 27% of the entire operational passenger vehicle fleet in Victorian Government (including areas not captured in this report, but excluding police) are hybrid vehicles. The Victorian Government hybrid fleet is the largest hybrid fleet in Australia. New hybrid vehicle sales figures are shown below (figure 9).



*Data supplied by Toyota Australia. Note that the Camry is the only hybrid purchased for Victorian Government operational fleet.

Figure 9: New Hybrid sales (Camry) to Victorian Government fleet, 2009-10 to 2015-16

The operational fleet composition continues to shift away from LPG toward diesel vehicles. No electric cars were reported in either the operational or executive fleet in the 2015-16 period (figure 10).

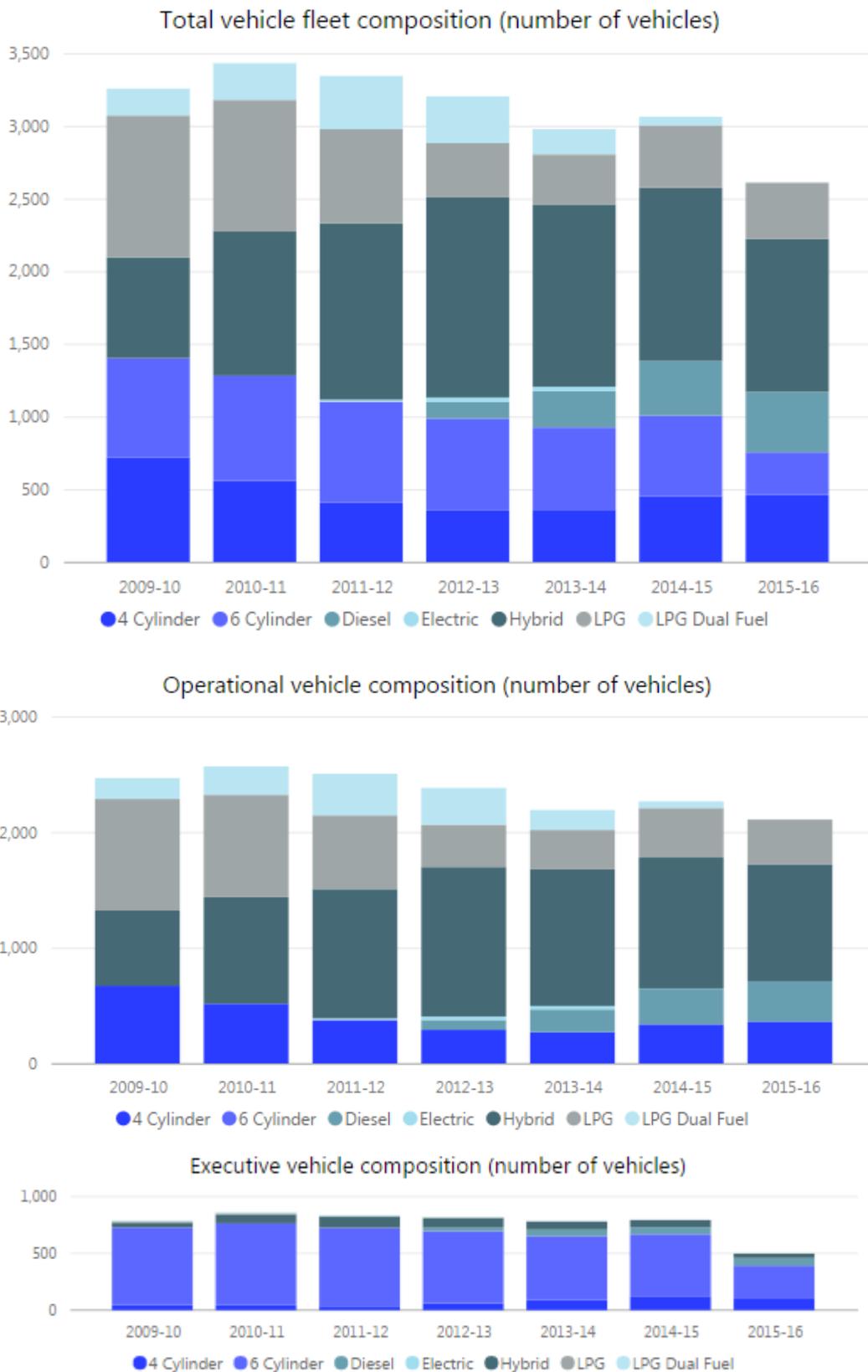


Figure 10: Victorian Government passenger vehicle fleet composition (total, operational and executive vehicles), 2009-10 to 2015-16

The net shift to more fuel-efficient passenger vehicles has resulted in a reduction of the vehicle emission rate (based on manufacturer's stated performance) from 215 g CO₂/km in 2009-10 to 173 g CO₂/km in 2014-15. This notwithstanding, a higher actual emission intensity of 250 g CO₂/km was reported for the Victorian government fleet in 2015-16. This may be due to manufacturers specifications being derived from standardised testing scenarios. The actual overall emissions of a vehicle fleet will be impacted by vehicle selection choices, the proportion of kilometres travelled in non-passenger vehicles, trip length and/or the driving location and conditions. The impact of city and country driving is likely to be high.

Last year's Strategic Audit included a brief overview of the opportunities that may be presented through a refresh of the Victorian Government vehicle fleet procurement policy and noted that there is an opportunity to make fuel efficiency and advanced environmental performance, a procurement priority in a new policy. It is pleasing to report that since then DTF has initiated several changes to continue improving the environmental performance of their fleet.

The DTF advises the following initiatives were achieved:

- Under a TAKE2 pledge, four-cylinder operational fleet vehicles will be mandated (except for station wagons or where an exemption is granted based on fit-for-purpose).
- More, smaller engine cars such as the Astra and hybrid Corolla are now available for fleet selection.
- In the range available to executives, many models have been recategorised from 'prestige' to 'more upmarket', to make them available to a larger pool of eligible executives.
- A new policy post-2018 that will encourage greater uptake of four-cylinder cars is in development to coincide with the phase out of Australian manufactured cars.
- Options for trialling the latest electric cars are under serious consideration.

Air travel

Air travel information is obtained from the whole-of-government travel services contract, and covers domestic and international flights.

Victorian Government agencies air travel distance in 2015-16 was 41% below that in 2009-10 and 5% less than 2014-15.

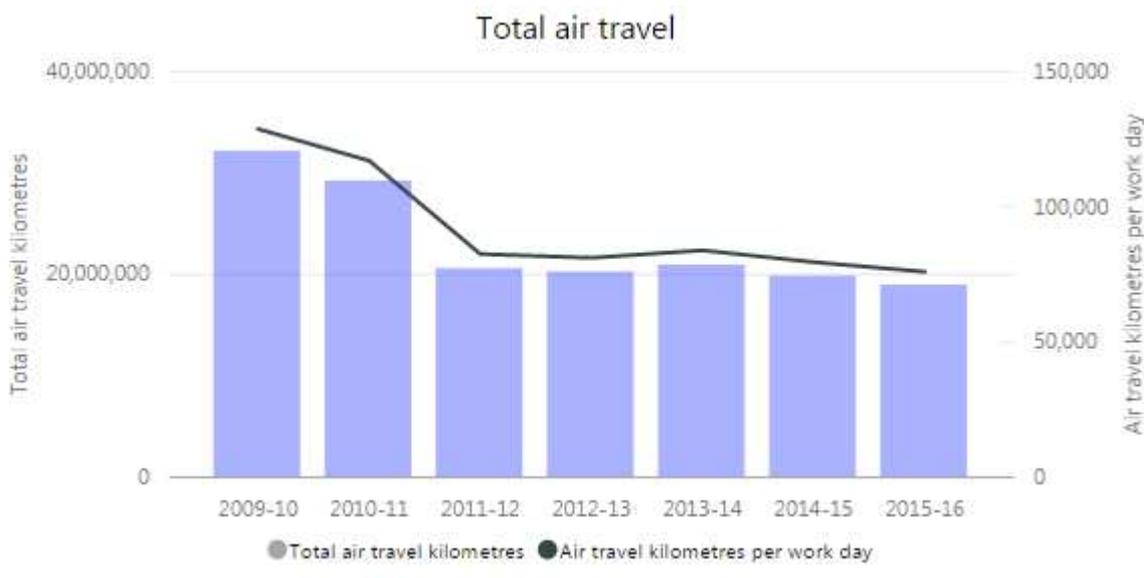


Figure 11: Total air travel by kilometres from 2009-10 to 2015-16

Waste

Table 6: Summary of results

	% change 2009-10 to 2015-16	% change 2014-15 to 2015-16
Total waste produced (tonnes)	-37	+17
Waste recycling rate (%recycled by tonnes)	-12	-8
Waste per FTE (kg/FTE)	-3	-2

Waste in Victorian Government offices is separated and measured as different waste streams, which includes:

- waste to landfill
- waste (including paper) sent for recycling, and
- composted organic waste.

Importantly, variations in reported data strongly reflect changes in waste audit methodology, which make year-on-year comparisons difficult.

The waste recycling rate (percentage recycled by tonnes) deteriorated by 12% since the base year of 2009-10 and by 8% in the past year. Pleasingly, however, total waste produced decreased by 37% in 2015-16 compared with the base year, which means Victorian Government agencies are producing significantly less waste overall.

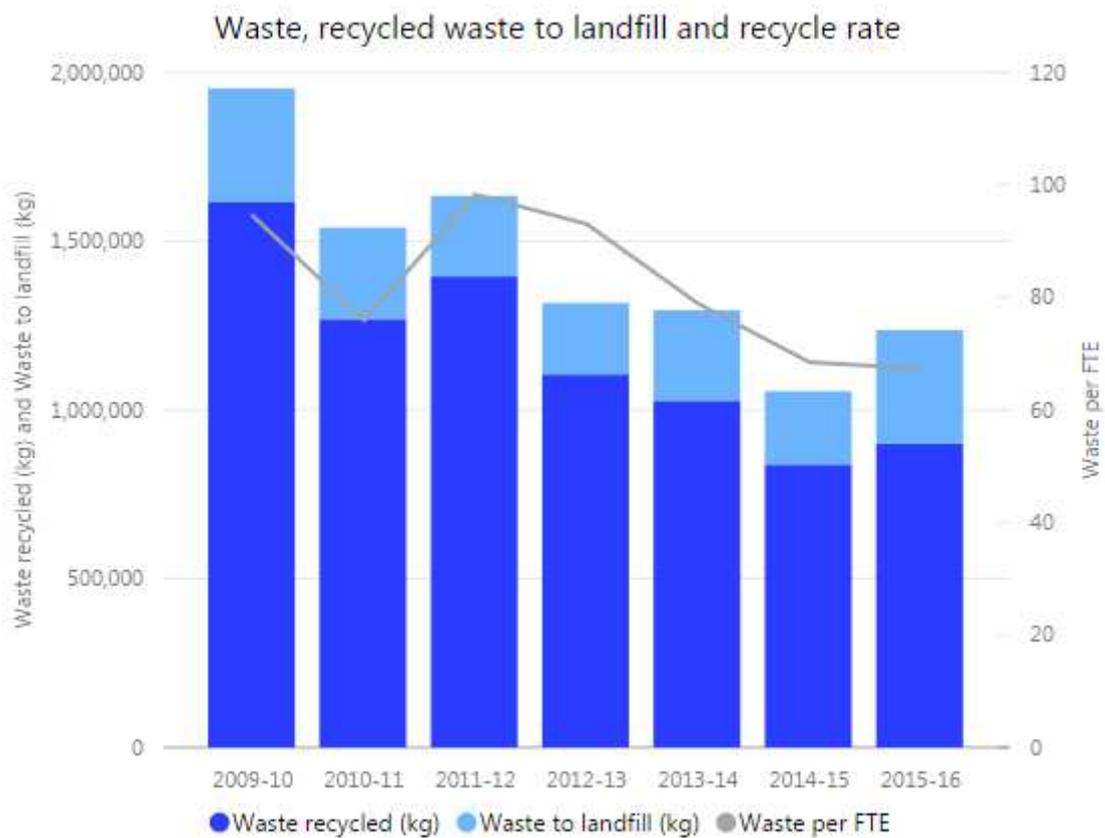


Figure 12: Waste produced, waste intensity and recycling rate, 2009-10 to 2015-16¹⁰

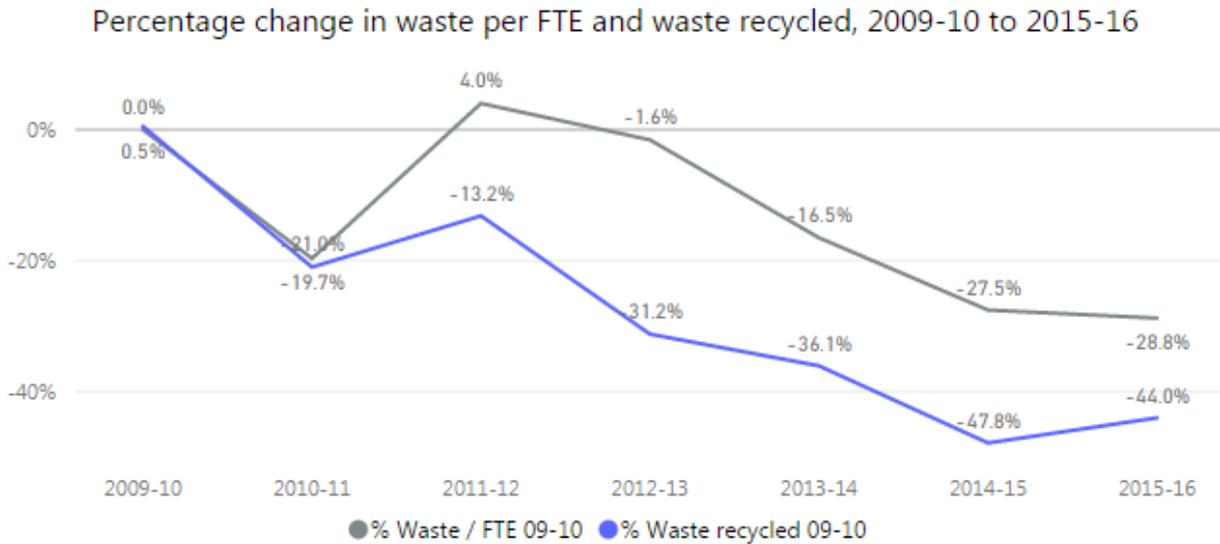


Figure 13: Percentage change in waste per FTE and waste recycled, 2009-10 to 2015-16

¹⁰ 2012-13 excludes SV data. The then Department of Environment and Primary Industries reported an increase in waste going to landfill, leading to an increase in associated greenhouse gas emissions in 2013-14. This was due to separated organics at some sites going to landfill instead of composting.

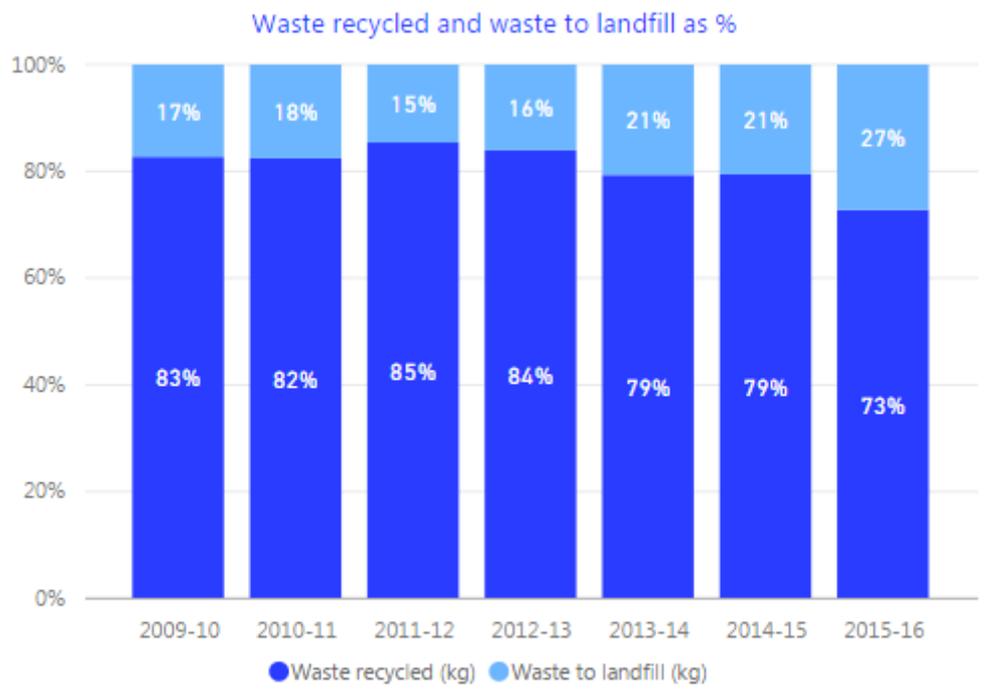


Figure 14: Percentage change in waste categories, 2009-10 to 2015-16

Paper use

Table 7: Summary of results

	% change 2009-10 to 2015-16	% change 2014-15 to 2015-16
Total paper use (reams)	-23	+6
Paper use per FTE (reams/ FTE)	-17	0

Victorian Government agencies used 23% less paper in 2015-16 than in 2009-10, but paper consumption rose by 6% in the latest year, the first increase in six years (table 7). The average paper used per FTE was maintained at 12 reams per FTE in the past year (figure 15). Paper use per FTE across the agencies ranged from five (SV) to 18 (DJR) reams per FTE.

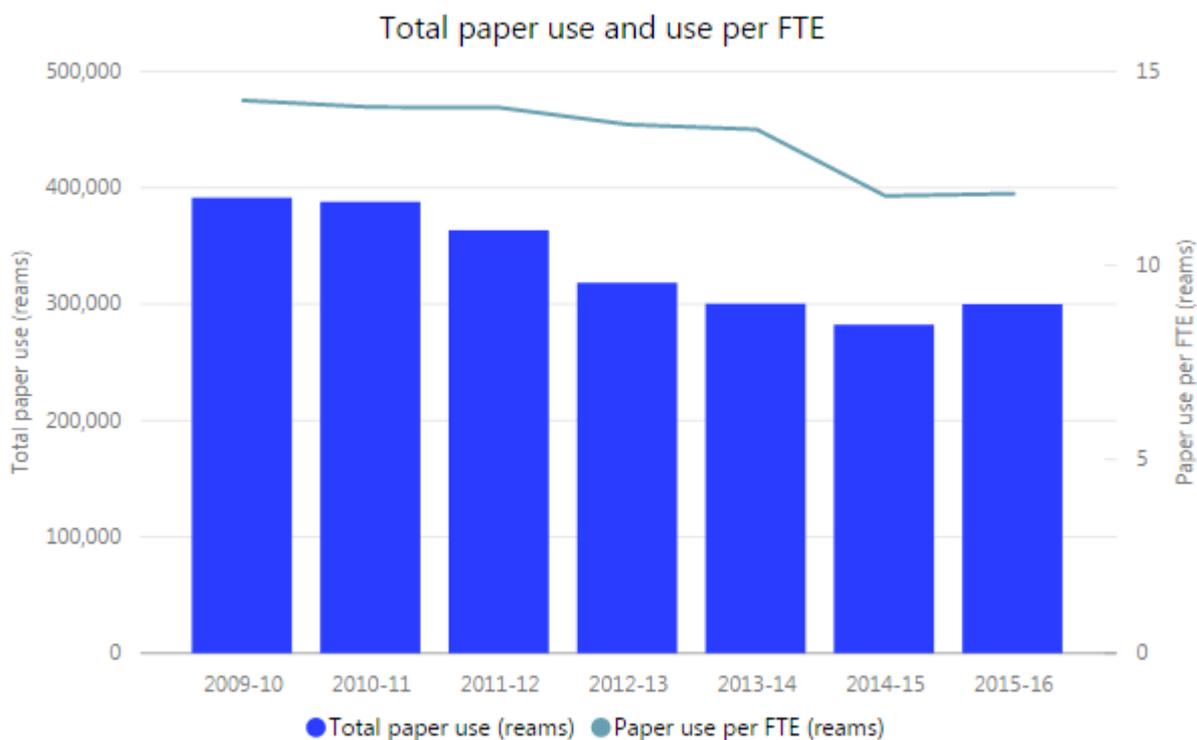
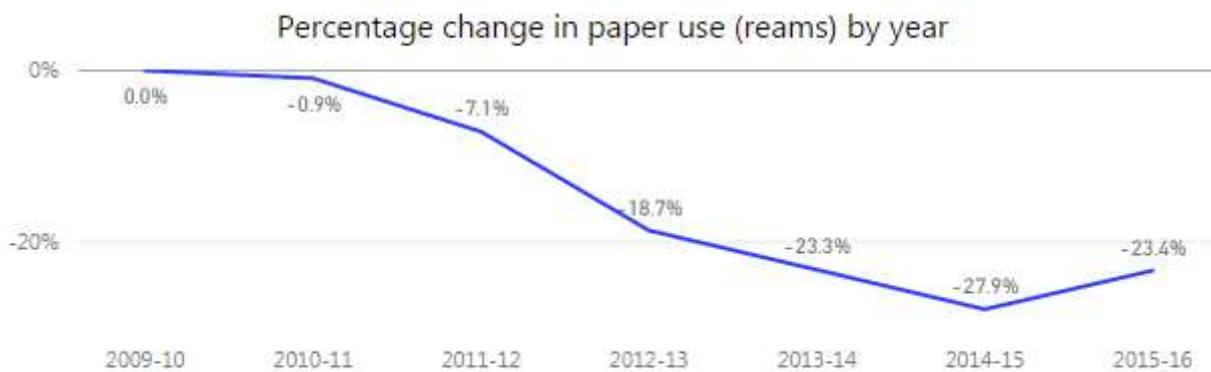


Figure 15: Paper use and use per FTE 2009-10 to 2015-16



Percentage change in paper use per FTE (reams) by year

Figure 16: Percentage change in paper use, 2009-10 to 2015-16

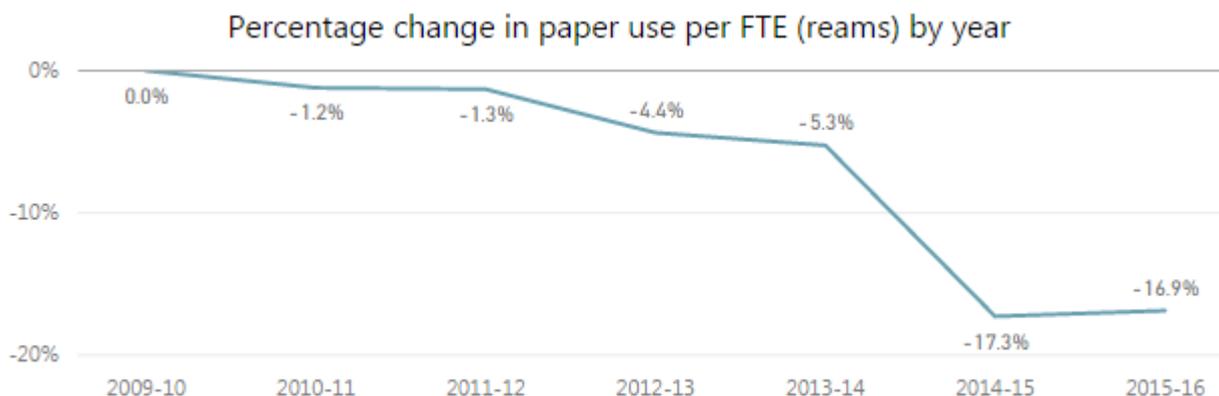


Figure 17: Paper use and usage per FTE, 2009-10 to 2015-16

Government agencies purchase products, including paper, from the new mandatory whole-of-Victorian Government supplier. Each product must meet at least one of the following criteria:

- contains recycled content
- is recyclable
- is either biodegradable, or
- contains less packaging than comparable products.

The State Purchase Contract (SPC) for stationery and workplace consumables was established following an open tender process undertaken by DTF. The SPC commenced on 11 October 2015 for three years, and expires on 10 October 2018 with two one-year extension options. The SPC secures sole supplier arrangements with a company that offers a range of stationery and workplace consumables.

The shift to purchasing a greater proportion of 100% recycled paper is becoming evident and is likely to continue in the future, particularly as locally manufactured, 100% recycled paper will soon be available (figure 18).

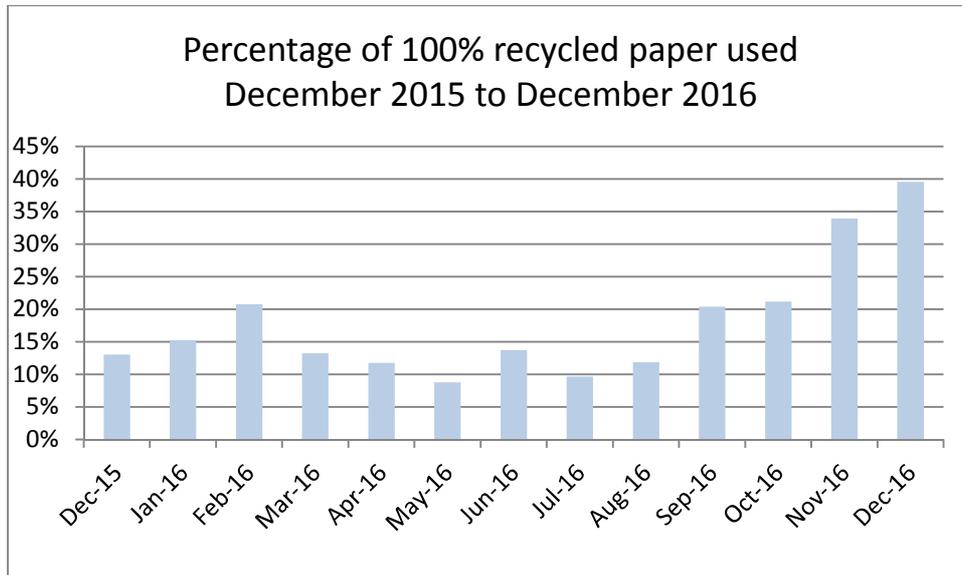


Figure 18: Percentage of 100% recycled paper use, December 2015 to December 2016¹¹

¹¹ Data supplied by DTF.

Water use

Table 8: Summary of results

	% change 2009-10 to 2015-16	% change 2014-15 to 2015-16
Total water use (litres)	-10	-2
Water use per FTE (litres/FTE)	0	-14

Office-based water use data includes water consumption for drinking, washing, cleaning and toilet flushing, and base building requirements such as heating and cooling systems.

Victorian Government agencies have been implementing a range of initiatives to reduce potable water use in office-based accommodation. Initiatives range from flow restrictors on taps, harvesting and reusing water from roofs, to installing water meters and real-time water tracking.

Results for the year from 2014-15 to 2015-16 show both a reduction in total water use (-2%) and in the amount used per FTE (-14%) (Table 8).¹²

¹² DTF attributed an increase in water consumption per FTE to improved reporting and fewer employees. DJR advised significant variations between years reflected that DJR office data now included sites (previously reported separately) following the machinery-of-government changes in 2015.

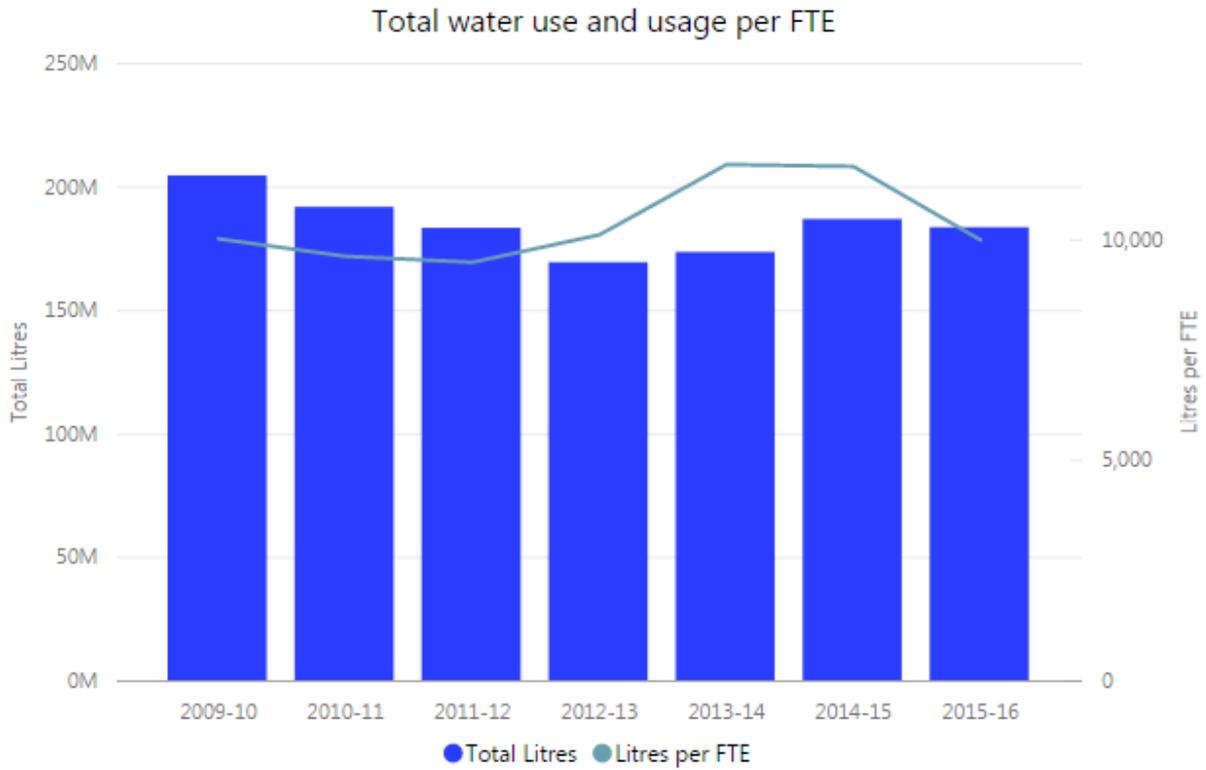


Figure 19: Total water use and water use per FTE, 2009-10 to 2015-16

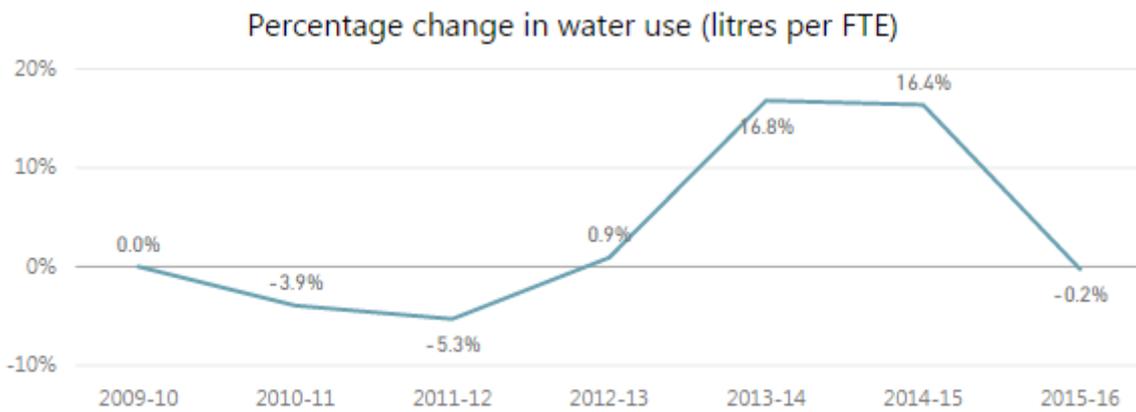


Figure 20: Percentage change in water use, 2009-10 to 2015-16

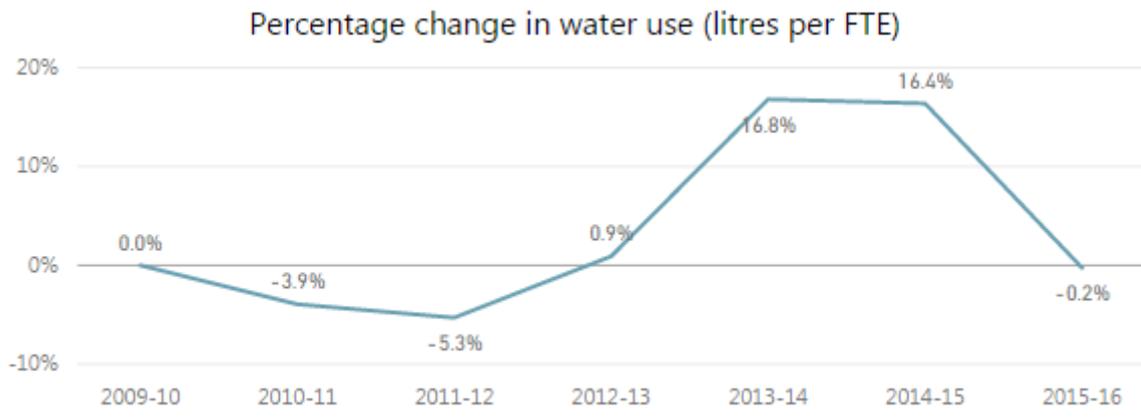


Figure 21: Percentage change in water use per FTE, 2009-10 to 2015-2016

Case study by Sustainability Victoria

Delivering TAKE2 and moving SV towards the Global Reporting Initiative (GRI)

Under the unique TAKE2 pledge program, the Victorian Government is committing to reduce its own carbon emissions and to encouraging Victorians to voluntarily commit to reducing their carbon footprint.

The program is Australia's only government-led voluntary climate change pledge program. It aims to create a groundswell of climate change action across the state.

TAKE2 includes three different types of pledges:

- The *operational* pledge requires all Victorian Government departments to cut their carbon emissions, by taking specific actions in areas like transport and procurement of goods and services. These departmental pledges will contribute to a whole-of-government pledge.
- The *sector* pledge ensures Victorian Government policies and programs will drive emissions reductions across key sectors of the state.
- The *voluntary* pledge. Local governments, businesses, community organisations, educational organisations, individuals and families can pledge to specific emissions reductions.

TAKE2 pledges are voluntary and can be made by all Victorian-based organisations including business, local government, educational institutions, community organisations and individuals.

Delivered by SV, TAKE2 recruits Victorian-based organisations and individuals to pledge to: reduce their GHG emissions; select climate change actions tailored to their circumstances; and promote the work they have done, are doing or have pledged to do to reduce their carbon footprint.

It is hoped that highlighting the work already being done by Victorian organisations to combat climate change will inspire and motivate others to reduce their carbon emissions too. Ultimately, the aim is to make sustainable living the new 'normal' in Victoria.

TAKE2 groundswell underway

The response to TAKE2 from Victorian-based organisations has been significant.

From June to December of 2016, TAKE2 recruited over 200 founding partners, including:

- 28 local governments representing more than half the state's population
- large businesses like Qantas, Unilever and the National Australia Bank
- smaller businesses such as La Madre Bakery, Emma & Tom's and De Bortoli Wines
- educational organisations including the University of Melbourne and RMIT University, and
- community organisations such as the Country Women's Association and the Islamic Council of Victoria.

TAKE2 case studies

Local government

Many Victorian local governments have been leaders in reducing their own greenhouse gas emissions – and happily share their knowledge and successes with members of the community.

For example, local government influence community members to live more sustainably, by offering free ‘green living’ workshops and smaller council-collected household rubbish bins. They also provide residents with discounts on solar panels through group purchasing schemes.

Local governments are making a big contribution to Victoria’s collective goal of net zero GHG emissions by 2050 through initiatives such as:

- the City of Moreland’s 2020 goal to cut greenhouse gas emissions by 30%
- the Mornington Peninsula Shire harnessing landfill gases to power the equivalent of 1,400 homes, and
- four western Melbourne councils joining force to install 25,000 energy efficient street lights.

Victorian Government – Zoos Victoria

As a Victorian Government entity, Zoos Victoria must reduce its GHG emissions, in line with the TAKE2 program.

Zoos Victoria operates three world class zoos at Melbourne, Werribee and Healesville, and the organisation became the world’s first certified carbon neutral zoo in 2013.

With 2 million visitors annually, 600 staff and 300 species of wildlife, the zoos could leave a significant carbon footprint. But their climate change actions have seen them composting 750 tonnes of organic waste a year at Melbourne Zoo, double glazing the glass roof of the Butterfly House and installing solar panels, with more to come.

The solar panels alone reduced the zoos’ carbon emissions by more than 300 tonnes – which is the same as removing 71 cars from the road for a year.

Big business

The Melbourne Cricket Ground’s (MCG) hallowed turf is even greener these days, thanks to the Melbourne Cricket Club’s (MCC) commitment to sustainable operations.

TAKE2 founding partners, the MCC and MCG recently completed an energy efficiency upgrade that will convert the stadium to one of the most environmentally sustainable in the world.

The MCG use 1 million litres less of water each year on the turf and they recycle 75% of waste, making them one of the world's best. With these new energy efficiency improvements, they expect to save enough annual electricity to light up the MCG for six years.

The building industry

When it comes to sustainable buildings, Australia is a global leader. Importantly, sustainable buildings could meet more than one quarter of emissions reduction targets, making the building industry one of the most cost-effective.

A TAKE2 founding partner, the Property Council of Australia, believes Victoria's built environment plays a crucial role in reaching net zero GHG emissions by 2050. The council advocates for sustainable building among all members of the industry, as well as informing consumers about the benefits of green buildings.

Among those leading the way is Mirvac, another TAKE2 founding partner. The company implements innovative ways to achieve net positive water and energy use by 2030 – like the 'house with no bills' project. The real-life project is a house in suburban Cheltenham, which will be typical in every way, other than its lack of energy bills, because of sustainable features like increased insulation, solar panels and energy efficient appliances.

Mirvac has also set itself the goal to educate 1 million people about sustainability by 2020. The company joined SV and other TAKE2 founding partner, John Holland, to back the innovative Australian Supply Chain Sustainability School. The school (also a TAKE2 partner) gives all building suppliers in the construction and infrastructure industry environmental sustainability content, resources and self-assessment tools via a free, online hub. It will increase the use of green building principles and processes.

As well as funding the school, John Holland and Mirvac are driving this project through their own supply chains.

Community

Baptcare has been supporting Victoria's most vulnerable communities for over 70 years, including the elderly, children, families, people with disabilities, the financially disadvantaged and those seeking asylum.

Climate change brings with it new challenges that may have a greater impact on vulnerable members of our community. Baptcare believes that ensuring equity for all Victorians is a crucial part of the climate change discussion.

Concern about the effect global warming will have on the needy inspired this faith-based organisation to become a TAKE2 founding partner and to keep its own GHG emissions in check.

Baptcare's journey towards cleaner, greener operations started five years ago, and by 2020, expects to cut emissions by 20%.

The company fitted solar panels at six Baptcare sites, and upgraded its insulation and lighting, installed better insulated windows, introduced water tanks, and replaced old hot water units with energy efficient heat pumps.

[SV transitions to Global Reporting Initiative Standards](#)

The Commissioner for Environmental Sustainability is advocating for the global reporting initiative (GRI) to be implemented in Victoria, to better assess the environmental performance and impact of government departments and agencies.

The GRI is a system used to transparently and consistently report on an organisation's economic, environmental and social performance and impact. The system is currently used by a large number of organisations globally, such as ANZ, Lend Lease and Vic Super.

Significantly, SV has begun implementing the GRI in its business reporting. Implementing a more contemporary sustainability reporting framework such as the GRI is vital to SV's work and will improve understanding of the environmental impacts of SV's sustainability actions and their socio-economic effects. The GRI links financial performance to the non-financial and will make the impact of SV's environmental programs and policies easier to evaluate and benchmark against other reporting entities within government and more broadly.

SV started implementing the GRI during the 2015-16 annual reporting process. It undertook a materiality assessment to identify which issues mattered most to SV stakeholders, and then used these issues to define

the reporting boundaries. The most important material aspects to stakeholders were SV's energy consumption, waste generation and disposal methods, and GHG emissions.

SV will build on its GRI work throughout 2017. An additional goal is to identify and communicate how its work will help realise the 17 United Nations Sustainable Development Goals that were ratified in 2015.

The benefits of the GRI (such as effective benchmarking and clearer comparisons of impact) will become clear over time, particularly as other government departments implement and measure their mandatory carbon reduction goals. Adopting the GRI as a standard reporting framework will help government departments and agencies better understand which approaches to reducing GHG emissions are most successful.

Moving to this form of environmental performance reporting and updating the FRD 24C is particularly important, given we must now evaluate the impact of the carbon reduction pledges Victorian Government departments and agencies make as a part of the TAKE2 program.

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