

# National Carbon Offset Standard Carbon Neutral Program Public Disclosure Summary



An Australian Government Initiative

## 1. Organisation and Product Information

Table 1: Organisation and Product Information

Organisation Name	Zoos Victoria	
Name of the subject(s) of certification	Zoos Victoria	
Type of certification (tick all applicable)	<input checked="" type="checkbox"/> Organisation <input type="checkbox"/> Product/service <input type="checkbox"/> Part of organisation <input type="checkbox"/> Event	
Reporting year period	From 1/07/2013	To 30/06/2014
Emissions in this reporting year	14,803.09 t CO <sub>2</sub> -e	
Base year period <sup>1,2</sup>	From 1/07/2011	To 30/06/2012
Emissions in the base year	14,913.84 t CO <sub>2</sub> -e	

<sup>1</sup> First year for which the GHG Inventory has been completed – this will be considered to be the base year against which emission reduction activities will be measured.

<sup>2</sup> For events, a reference case can be provided against which emissions may be compared.



## 2. Description of Organisation Activities

Zoos Victoria is a not-for-profit conservation organisation aimed at saving endangered wildlife from extinction. Zoos Victoria operates Healesville Sanctuary, Werribee Open Range Zoo and Melbourne Zoo. Combined these zoos see more than 2 million visitors each year and Zoos Victoria is dedicated to connecting these visitors to wildlife and providing them with actions they can take to help save species in the wild. Zoos Victoria sees first-hand the impact of climate change and other human-induced threats to wildlife and this has spurred the organisation to take great lengths to decrease its environmental footprint.

## 3. Organisational & Geographic Boundary/ Scope & system Boundary

For the purposes of certification, Zoos Victoria defines its organisational boundary in accordance with NCOS. More specifically, Zoos Victoria adopts an operational control consolidation approach to defining its boundary definition. All corporate group members and facilities are included in the boundary, including:

- i. the controlling corporation – Zoos Victoria
- ii. subsidiaries –that operate within the Zoos Victoria boundary
- iii. joint ventures - none
- iv. partnerships – none

The Zoos Victoria emissions boundary definition includes all scope 1 & 2 emissions and scope 3 emissions from business air travel, staff travel to and from work, waste to landfill, energy supply, paper use, reticulated water and the supply of animal foods. Scope 3 emissions are included on the basis of materiality and measurability. The diagram overleaf identifies key Zoos Victoria activities (applicable and measured at all sites), together with the breakdown of emission sources and the organizational boundary for emissions

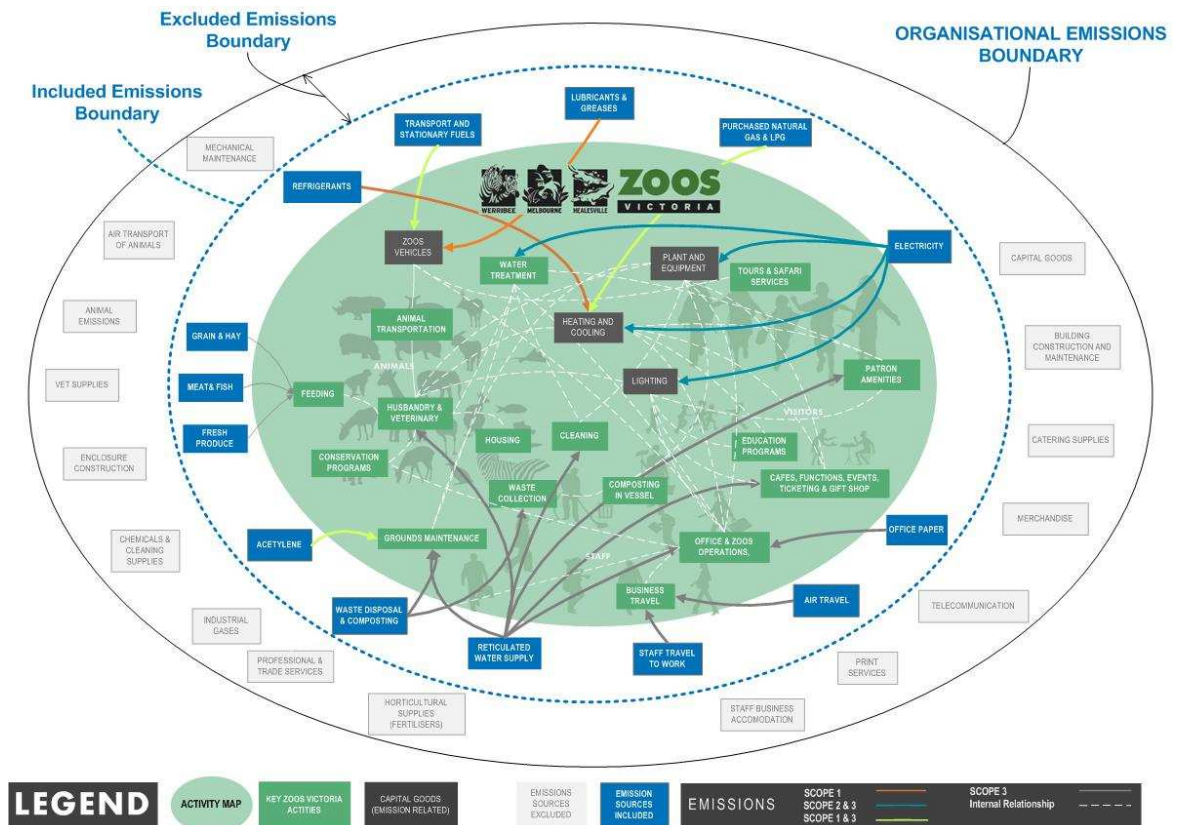
In line with the NCOS, the following sources are excluded:

- Animal Travel
- Business accommodation
- Telecommunications
- Chemicals and Cleaning Supplies
- Vet Supplies
- Animal Emissions
- Mechanical Maintenance
- Industrial Gasses
- Horticulture Supplies
- Professional & Trade Services
- Print Services
- Building Construction
- Catering Services
- Merchandise

These sources are not expected to have a material impact on the overall emissions based on:

- Lack of influence on the scope 3 emission reductions.
- Small size of the emission source and accuracy of the data.
- High uncertainty and lack of quantifying data.

#### 4. Diagram of the Boundary of the Subject of Certification



#### 5. Purchase of GreenPower and Retirement of GreenPower Eligible Large-Scale Generation Certificates (LGCS)

Table 2: GreenPower

Type	Volume	Unit	t CO <sub>2</sub> -e	Status
GreenPower	0	kWh	0	Choose an item.

Table 3: LGCs Surrendered

Details of LGCs Voluntarily Surrendered	
Quantity	Serial No.
0	Nil

## 6. Purchase of NCOS Carbon Neutral Products

Table 4

Product/service	Company	Quantity	Units	t CO <sub>2</sub> -e (if known)
Nil	Not Applicable	0	Nil	0
Total (if known)				0

## 7. Total Carbon Footprint

Table 5: Emission sources, scopes and quantities

Scope	Emission source	t CO <sub>2</sub> -e <sup>3</sup>
1	Petrol for vehicles	73.90
1	Diesel for vehicles	206.48
1	LPG for vehicles	0.42
1	Refrigerant losses	94.59
1	Greases and lubricants for transport	0.43
1	Natural gas usage for buildings	669.88

<sup>3</sup> = Activity data x energy content factor (if applicable) x emission factor converted to tonnes CO<sub>2</sub>-e

Scope	Emission source	t CO <sub>2</sub> -e <sup>3</sup>
1	LPG usage for buildings	12.42
1	Acetylene	0.05
1	Composting on site	38.01
2	Purchased electricity for buildings	8,563.15
3	Purchased electricity for buildings (fuel extraction, production & transport and transmission & distribution losses)	1,097.84
3	Natural gas usage for buildings (extraction, production & transport)	50.90
3	LPG usage for buildings (extraction, production & transport)	1.04
3	Petrol for vehicles (extraction, production & transport)	5.85
3	Diesel for vehicles (extraction, production & transport)	15.68
3	LPG for vehicles (extraction, production & transport)	0.03
3	Municipal solid waste	894.42
3	Air travel	218.99
3	Purchased animal food	1,635.95
3	Purchased office paper	3.34
3	Employee travel to and from work	774.35
3	Reticulated water supply	463.01
3	Acetylene	0.00
	<b>Total carbon footprint in tonnes CO<sub>2</sub>-e</b>	<b>14,820.73</b>

Scope	Emission source	t CO <sub>2</sub> -e <sup>3</sup>
	Less Renewable Energy generated and used on site - 13,363 kWh <sup>4</sup>	17.64
	Net carbon footprint in tonnes CO <sub>2</sub> -e	14,803.09

## 8. Carbon Offset Purchases and Retirement for this Reporting Period

### Offset Purchasing and Cancellation Strategy

Our offset purchasing and cancelling is done at the end of the reporting period. This is in line with our annual reporting on environmental indicators. As a leading zoo-based conservation organisation, we will purchase NCOS acceptable offsets that have co-benefits that promote habitat protection, biodiversity and with social benefits.

For financial year 2013-14 we purchased 14,900 tonnes of NCOS acceptable carbon credits. As our emissions for financial year 2013-14 is 14,803.09, this gives us a balance of 96.91 tonnes of carbon offsets in credit. Our balance from 2012-13 is 199.24 which gives our total leftover or excess retired carbon offsets in credit of 296.15 tCO<sub>2</sub>-e. This credit will be used as a top up and buffer for yearly NCOS submissions.

Summary of retired carbon offsets in credit:

Offset type	Registry	Serial number	Quantity (t CO <sub>2</sub> -e)
VCU	Markit	2646-115117045-115123004-VCU-016-MER-AU-14-641-01072011-15042012-0	96.91
VCU	Markit	2646-115092684-115098655-VCU-016-MER-AU-14-641-01072011-15042012-0	199.24
		Total in Credit	296.15

### Offset Cancellation

<sup>4</sup> Generated at Healesville Sanctuary by a 12.5kW solar PV system, tracked through a meter.

Offset type	Registry	Serial number	Quantity (t CO <sub>2</sub> -e)
VCU	APX VCS Regsitry	2574-110948516-110951495-VCU-001-MER-KE-14-612-01012011-31122011-1	2,980
VCU	APX VCS Regsitry	3607-159528767-159531746-VCU-006-MER-PE-14-844-01012009-31122012-0	2,980
VCU	Markit	1597-66337263-66340242-VCU-006-MER-MY-14-672-01012007-31122010-0	2,980
VCU	Markit	2646-115117045-115123004-VCU-016-MER-AU-14-641-01072011-15042012-0	5,960
Total			14,900

## 9. Emission Reduction Measures

Table 2: Emission Reduction Measures

Emission source	Reduction Measure	Scope	Status	Reduction t CO <sub>2</sub> -e
Electricity consumption	Solar PV – 12.5kW at Healesville Sanctuary	2	Implemented this reporting period	17.64
Potable water Reduction	Leak detection and remedial actions. Upgraded filtration systems and added recycled water points at Melbourne Zoo.	3	Implemented this reporting period	56.74
Waste to Landfill	Process changes to the in-vessel composting at Melbourne Zoo	3	Implemented this reporting period	221.18
Transport – fuel	Efficient vehicle (bus) change at Werribee Open Range Zoo	1 & 3	Implemented this reporting period	27.24
Paper consumption	Paper Cut software for swipe card or pin printing.	3	Implemented this reporting period	1.91
Electricity consumption	Solar PV – 20 kW at Werribee Open Range Zoo	2	Planned for future reporting period	39.4
Electricity consumption	99.75 kW Solar PV at Melbourne Zoo	2	Planned for future reporting period	197
Electricity consumption	Wind Power – 20 kW at Werribee Open Range Zoo	2	Planned for future reporting period	70
Total emission reductions implemented in this reporting period				324.71
Total expected emission reductions in future reporting periods				306.4



## 10. Other Information

Becoming the first zoo-based conservation organisation in the world to be certified carbon-neutral was a significant achievement, but the challenge remains for our complex business of operating zoos with a variety of activities such as animal husbandry and breeding, veterinary, horticulture, education, visitor services and administration to further reduce greenhouse gas emissions.

We have many animals in our collection who naturally inhabit different climates to Victoria so it's important that we provide them with appropriate conditions through all seasons. This can result in additional challenges for environmental sustainability whilst maintaining the best animal care and welfare.

While we have used a variety of heating techniques for animals and their enclosures, such as double-glazing the roof at the Butterfly House and heat pumps to produce hot water for the Elephant Barn, our greenhouse gas emissions have not been decreasing as fast or as substantially as we would like. This is largely due to our expansion in terms of new exhibits and significant increase in visitor numbers.

Priorities for the coming year:

We have set ourselves a challenging target to reduce our carbon footprint by 10 per cent every year for the next five years through resource efficiency, renewable energy and greater staff engagement. Energy efficiency is also a major focus for our zoos as many of our animals require heating, such as our young elephants, that need to be kept warm. We will measure our efforts through our greenhouse gas inventory.

We will roll out our new Environmental Sustainable Development Guidelines to make all our new developments carbon neutral with zero waste to landfill. It is much harder to retrofit for sustainability, so the guidelines will make sure we curb and reduce our environmental impacts from the start with strict environmental conditions in all contracts.

We are taking our waste one step further by ensuring that our waste is separated and appropriately recycled, reused or converted to energy, thus achieving zero waste to landfill by 2019. We will achieve this through our existing in vessel composting system, expanding on our organics composting at all zoos through worm farming or other measures, separation of all other recyclables such as plastics for recycling and conversion of waste to energy.

Zoos Victoria has developed an Environmental Sustainability Investment Prospectus to prioritise projects that will reduce our environmental footprint. As a carbon neutral organisation, the prospectus highlights a number of renewable energy as well as energy efficiency projects that can keep us moving towards sustainability in all aspects of our business. Projects on the horizon include a range of solar and wind projects to generate green power, reduce power bills and greenhouse gases.

We have so far have committed to install 132.25kW of solar photovoltaic panels by the end of 2014.

## 11. Declaration

To the best of my knowledge and having implemented the quality controls and standards required under the NCOS Carbon Neutral Program and made all appropriate inquiries, the information provided in this Public Disclosure Summary is true and correct.

Kiam Yoong



Name of Signatory

Signature

Manager Environmental Sustainability

Position / Title of Signatory

15/01/2015

Date