

Australian Government  
Carbon Neutral Program  
Public Disclosure Summary



An Australian Government Initiative

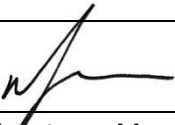
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NAME OF CERTIFIED ENTITY: QANTAS AIRLINES (PASSENGER PRODUCT)

REPORTING PERIOD: 01 JULY 2017 – 30 JUNE 2018

### 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 Carbon Neutral Program.

Signature 	Date 18 January 2019
Name of Signatory: Megan Flynn	
Position of Signatory: Group Manager Environment & Carbon Strategy	

Carbon neutral certification category	Product
Date of most recent external verification/audit	18 January 2019
Auditor	Ndevr Environmental
Auditor assurance statement link	Attached



**Australian Government**  
**Department of the Environment and Energy**

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## Carbon neutral information

### 1A. Introduction

#### Product Description

The Qantas Group's product offering is the provision of voluntary carbon neutral passenger services to both our customers and employees.

To assess the volume of emissions attributable to a passenger flying a sector (from one airport to another), Qantas has undertaken a comprehensive life cycle assessment (LCA) of energy usage in flight (aviation fuel) and on the ground (catering centres, engineering facilities, airport terminals, office and ground transport vehicles). The LCA includes the embodied energy of the aircraft flown by the airline, but excludes all Qantas Freight related activity (in flight and on the ground).

Freight activities are excluded because the product offers carbon neutral services for emissions only attributable to passenger travel. Qantas offers a separate carbon neutral Freight product for our customers.

The LCA is updated each financial year. Qantas have selected emission factors that are geographically specific to the emission sources accounted for in the product LCA. There are no geographic limitations to the scope of the LCA as we are a global airline.

The objective of the LCA is to assess the emissions footprint of our customers in sufficient detail to evaluate the global warming potential attributable to a passenger travelling on a Qantas Group aircraft. An average emissions footprint per passenger kilometre is applied to codeshare and other non-Qantas Group flights for carbon neutral certification under the NCOS-CN program.

Using Qantas Group activity data over the previous 12 months and 'full fuel cycle' emission factors published by the Australian Government (National Greenhouse Accounts), the passenger's specific portion of emissions released by a given Qantas Group fleet are added to the related emissions released from ground activities and divided by the total distance travelled. For Qantas Group sectors, these rates are weighted by the aircraft used on that sector as well as distance travelled.

#### Qantas Airlines

Founded in regional Queensland in 1920 – as the Queensland and Northern Territory Aerial Service – Qantas is one of Australia's most iconic brands and has played a central role in the development of the Australian and international aviation industry.

Today the Qantas Group is a diversified global aviation business, comprising Qantas Domestic, Qantas International, the Jetstar low-cost carrier group and Qantas Loyalty.

In total, the Qantas Group, together with its codeshare and oneworld partners, offers flights to more than 1,200 destinations around the world.

The Qantas Group's fleet numbers 313 aircraft with an average age of 10.3 years including the acclaimed Qantas A380 and the Jetstar Boeing 787 Dreamliner.

Qantas is ranked the world's safest airline by AirlineRatings.com, the best airline of the decade named by travellers in the Traveller.com.au, and holds many major awards for service, lounges, food and wine, technology and innovation.

The Qantas Group carries 55 million passengers each year and employs more than 30,000 people.

## Functional Unit

The functional unit for domestic travel is the transport of a single passenger over a specified distance from entry into the airport terminal at origin to exiting the airport terminal (i.e., kg CO<sub>2</sub>-e per passenger-kilometre).

For international travel the functional unit is the transport of a single passenger over a specified distance from entry into an Australian airport terminal at origin to exiting the aircraft at an international port. Similarly for the return trip to Australia, the functional unit is the transport of a single passenger over a specified distance from entry into the aircraft at an international port to exiting at an Australian airport terminal (expressed in kg CO<sub>2</sub>-e per passenger-kilometre).

## Standard

The LCA has been prepared in accordance with the NCOS-CN Guidelines and in accordance with international standards ISO 14040:2006 and ISO 14044:2006.

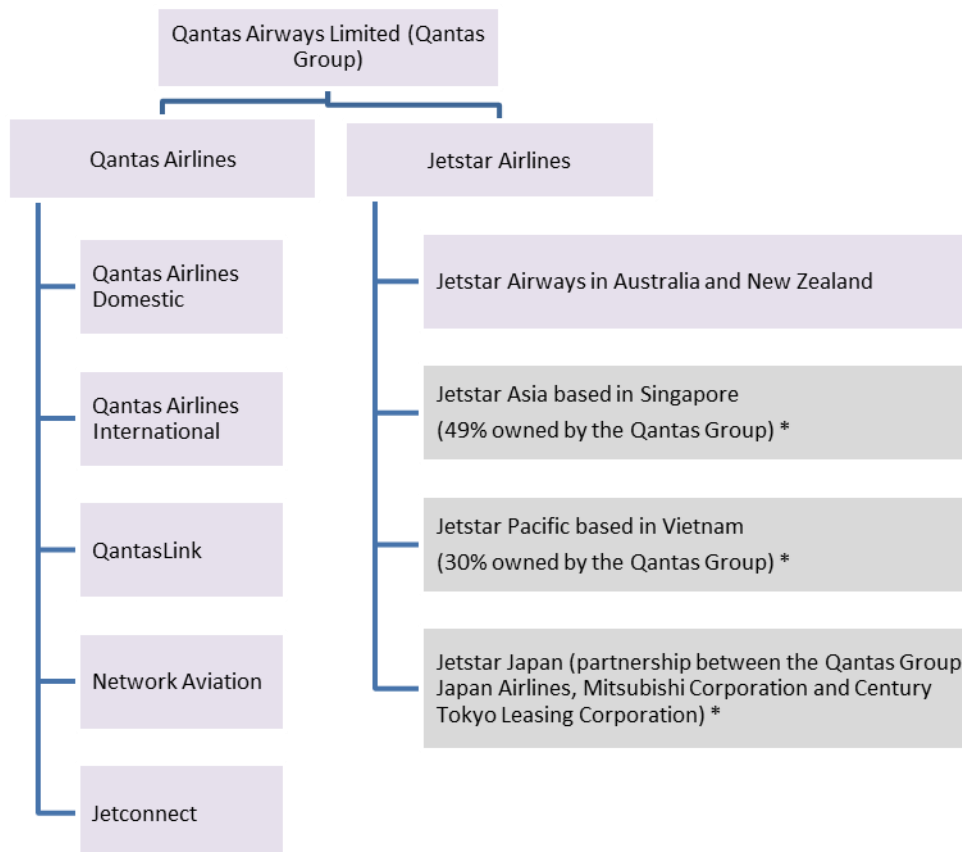
## Greenhouse gases considered

Greenhouse gases considered include carbon dioxide, nitrous oxide and methane and relevant refrigerants.

## Consolidation Approach

An operational consolidation approach has been used and includes the entities shown in Figure 1. It should be noted that the organisational diagram represents the reporting structure for the purpose of NCOS accreditation and does not reflect the legal corporate structure of the Qantas Group:

Figure 1: Organisational diagram representing the reporting structure for the purpose of NCOS accreditation.



\* These organisation’s activities have been excluded from the carbon footprint assessment that forms the basis for calculating emissions per passenger-kilometre rates that are subsequently used to estimate emissions per passenger for each sector (from airport to another) the product is offered (see section 3). These organisations do not form part of the CN program. Duty travel has also been excluded as it is offset separately by Qantas and Jetstar.

## 1B. Emission sources within certification boundary

### Quantified sources

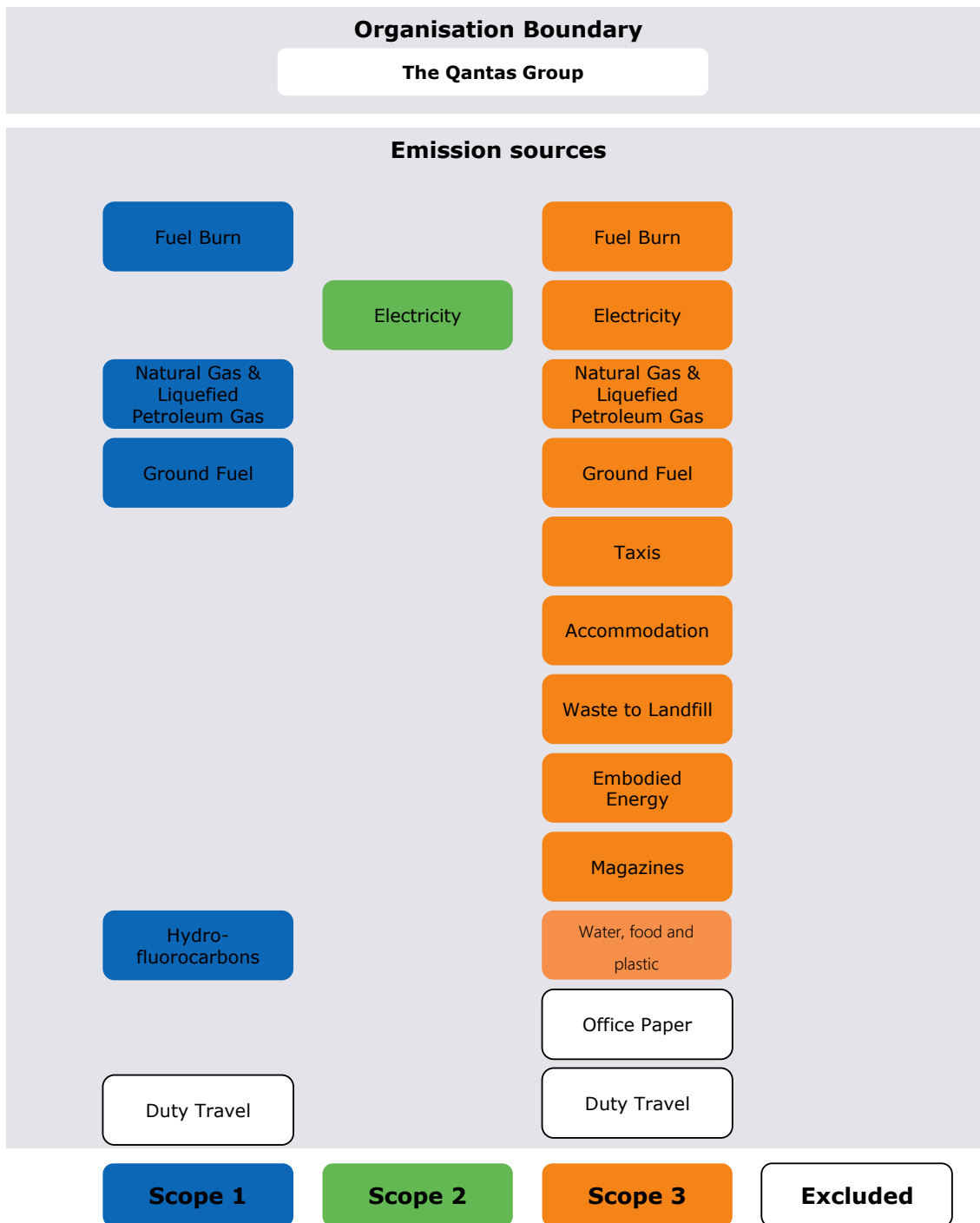
- Kerosene (Stationary and transport) – Scope 1 and 3
- Diesel (stationary and transport) – Scope 1 and 3
- Gasoline (transport) – Scope 1 and 3
- LPG (stationary and transport) – Scope 1 and 3
- Natural gas (stationary and transport) – Scope 1 and 3
- Electricity – Scope 2 and 3
- Refrigerants – Scope 1
- Oils, Greases and solvents – Scope 1 and 3
- Inflight magazines for Jetstar and Qantas – Scope 3
- Accommodation and Taxis – Scope 3
- Waste (Food and Commercial and Industrial)- Scope 3
- Embodied energy of aircraft – Scope 3
- Onboard catering including food, drink and plastic consumables across all airlines (Jetstar and Qantas Mainline) – Scope 3
- Water use – Scope 3

### Excluded sources

The following emission sources have not been quantified in line with the provisions in the NCOS. The impact of excluding these sources is not expected to affect the overall total emissions.

Emission source	Scope	Justification for exclusion & overall implications for footprint
Office Paper	3	Emissions from office paper use is negligible (relative to other Scope 3 emissions) and the administrative burden involved in collating the data is considered to outweigh the benefit.
Ground fuels at international ports	3	Ground fuels at international ports are outside Qantas’ operational control and outside the scope of this LCA.
Electricity at international ports	3	Electricity use at international ports are outside the scope of this LCA.
International scope 3 emissions (except for fuel burn and embodied energy related emission sources)	3	International scope 3 emissions are deemed immaterial and beyond operational control.
Airline Related Business Travel	1 & 3	The Qantas Group offsets all employee and contractor business travel. Since our corporate travel is offset, we exclude business travel from our emissions profile to prevent double counting

1C. Diagram of the certification boundary



1. Emissions reduction measures

2A. Emissions over time

**Table 1.** Emissions since base year

	Base Year: 2012/13	2017	2018
Scope 1 (t CO <sub>2</sub> -e)	12,410,247	10,607,930	10,766,467

Scope 2 (t CO <sub>2</sub> -e)	221,026	127,530	124,492
Scope 3 (t CO <sub>2</sub> -e)	1,039,742	1,125,057	1,154,191
Total (t CO <sub>2</sub> -e)	13,671,015	11,860,518	12,045,150
Emissions/PAX (kg CO <sub>2</sub> -e/PAX km)	0.134	0.104	0.100

## 2B. Emissions reduction strategy

At Qantas, we believe all businesses have a responsibility to continually reduce their environmental footprint. We take this responsibility seriously because we recognise the impact our business has on the environment. By positioning environmental sustainability at the core of our business we are able to implement programs that reduce our impact and drive greater efficiencies across all aspects of how we operate.

Our environmental philosophy: to measure, reduce, offset and influence forms, the basis of our key sustainability initiatives.

Qantas comprehensively evaluates our total impact under the NGRS framework. Our dedicated fuel efficiency team and continual fleet renewal are our most material emissions reduction activity. We also actively monitor and reduce our energy and water consumption on the ground, and the waste we send to landfill. We set, monitor and evaluate our progress against rigorous targets for our emissions on a yearly basis – which can be found on our website at [Qantas.com/environment](http://Qantas.com/environment)

Qantas is an active participant in the biofuel research and development community, and is working with key stakeholders to develop commercially viable aviation biofuels which could reduce our emissions by up to 80%.

However, in the near to medium term, there is no viable alternative to petroleum based jet fuel for the aviation industry. As such, carbon offsetting has and will continue to play a key role in Qantas' emissions reduction strategy. We offset all employee and contractor business travel, and have the largest voluntary offset program in the world – Fly Carbon Neutral.

Qantas supports the International Civil Aviation Organisation's ('ICAO') commitment to achieve carbon neutral growth at an industry level from 2020 onwards, and the aspirational goal to achieve a 50% reduction in net emissions by 2050 based on 2005 emissions. In addition, Qantas has set a goal to improve fuel efficiency by 16.5% by 2020 against a 2009 baseline.

Finally, we seek to engage our customers, investors, employees and partners to take proactive steps to assess and reduce their environmental footprint, and work with us to generate positive environmental and social outcomes.

## 2C. Emissions reduction actions

Fuel efficiency and fleet renewal offer the greatest opportunities to decrease aviation fuel use. Qantas and Jetstar have a fleet age of 10.3 years, we anticipate this will decrease in the next few years as new, efficient planes such as the Boeing 787-9 Dreamliner enter the fleet. As part of the Qantas Transformation program, we have accelerated and centralised our fuel efficiency program. We expect to continue to deliver improvements in our group fuel efficiency each year as a result of this new initiative.

## 2. Emissions summary

<b>Table 2. Emissions Summary</b>		
Scope	Emission source	t CO2-e
1	Natural gas distributed in a pipeline	10,444
1	Petroleum based oils (other than petroleum based oil used as fuel)	656
1	Petroleum based greases (not combusted)	29
1	Kerosene (other than for use as fuel in an aircraft)	563
1	Diesel oil (stationary)	-
1	Solvents if mineral turpentine or white spirits	1,238
1	Liquefied petroleum gas (stationary)	1,241
1	Gasoline (other than for use as fuel in an aircraft)	947
1	Diesel oil (transport)	11,222
1	Kerosene for use as fuel in an aircraft	10,738,928
1	Hydrofluorocarbons (HFCs) - Commercial air conditioning	1,198
2	Purchased electricity from a grid NSW & ACT	1,790
2	Purchased electricity from a grid NSW & ACT	33,199
2	Purchased electricity from a grid (GridX)	14,895
2	Purchased electricity from a grid VIC	38,065
2	Purchased electricity from a grid QLD	26,378
2	Purchased electricity from a grid SA	775
2	Purchased electricity from a grid WA	8,688
2	Purchased electricity from a grid TAS	209
2	Purchased electricity from a grid NT	494
3	Natural gas - Metro - NSW	779
3	Natural gas - Metro - VIC	354
3	Natural gas - Metro - ACT	123
3	Natural gas - Metro - QLD	194
3	Natural gas - Metro - WA	77

3	Petroleum based oils (other than petroleum based oil used as fuel)	170
3	Petroleum based greases (not combusted)	30
3	Kerosene (other than for use as fuel in an aircraft)	30
3	Diesel oil - stationary	-
3	Solvents if mineral turpentine or white spirits	64
3	Liquefied petroleum gas (stationary)	74
3	Gasoline (other than for use as fuel in an aircraft)	49
3	Diesel oil	573
3	Kerosene for use as fuel in an aircraft (avtur)	567,688
3	Purchased electricity from a grid (NSW & ACT)	218
3	Purchased electricity from a grid (NSW & ACT)	4,049
3	Purchased electricity from a grid (NSW & ACT)	2,901
3	Purchased electricity from a grid (VIC)	3,557
3	Purchased electricity from a grid (QLD)	4,286
3	Purchased electricity from a grid (SA)	152
3	Purchased electricity from a grid (WA)	621
3	Purchased electricity from a grid (TAS)	33
3	Purchased electricity from a grid (NT)	70
3	Food waste	22,216
3	Commercial and industrial waste	10,838
3	Embodied energy (China and Aluminium only)	29,409
3	Food and Drink	422,916
3	Plastics: average plastics - primary productin	27,131
3	Recycled paper - Domestic	1,676
3	Accommodation	49,133
3	Taxi	3,539
3	Water	1,241
<b>Total Gross Emissions</b>		12,045,150



GreenPower or retired LGCs	0
<b>Total Net Emissions</b>	<b>12,045,150</b>

<sup>1</sup> The total net emissions are not the carbon offset cancellations required in the context of the product offering.

As aforementioned, the goal of the LCA is to assess an emissions footprint in sufficient detail that supports the global warming potential attributable to a passenger on a Qantas Group and/or an average emissions footprint per kilometre to be applied to codeshare and other non-Qantas Group flights for carbon neutral certification under the NCOS-CN program.

Therefore, the total net emissions coupled with the total passenger-kilometres travelled by the Qantas Group, provides the following updated functional unit (average emissions footprint per passenger kilometre):

Passenger-Kilometres [pax-km]	120,133,000,000
Total Net Emissions [t CO <sub>2</sub> -e]	12,045,150
Functional Unit [kg CO <sub>2</sub> -e per pax-km]	<b>0.100</b>

A further process is undertaken to calculate sector specific emission factors (e.g Sydney to Melbourne) which are a function of the sector distance and the fleet used for that route.

The emissions for each sector are found on the 'Sector Emissions per pax' tab in the calculation spreadsheet. The values calculated for each sector based on the FY16 LCA have been applied to the purchase of offsets in 2017. It should be noted that offsets are purchased in arrears.

The total tonnes of carbon neutral flights sold (133,242 tonnes CO<sub>2</sub>-e) equate the total offsets purchased. A further 41,769 tonnes CO<sub>2</sub>-e of offsets were purchased to offset duty travel.

### 3. Carbon offsets

#### 4A. Offsets summary

Table 3. Offsets Summary			
Offset type and registry	Year retired	Quantity	Serial numbers
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	3,049	5204-215861322-215864370-VCU-034-APX-IN-1-1520-01012016-31012016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	3,265	5058-210803564-210806828-VCU-048-APX-iN-1-1352-01012013-31122013-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	3,748	5419-236708203-236711950-VCU-034-APX-IN-1-1660-01012016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	57	5200-215757597-215757653-VCU-034-APX-IN-1-1660-01012016-31122016-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2017	45	5202-215788092-215788136-VCU-034-APX-IN-1-1660-13022015-31122015-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type:	2017	4,000	5078-211236498-211240497-VCU-008-APX-TH-4-403-01012012-31122012-0

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Manufacturing Industries)			
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	1,574	5078-211166988-211168561-VCU-008-APX-TH-4-403-01012012-31122012-0
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	1,000	GS1-1-GH-GS407-16-2013-5063-101 to 1100
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	198	GS1-1-GT-GS1321-16-2015-4550-1 to 198
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	102	GS1-1-GT-GS1321-16-2014-4551-1 to 102
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	88	GS1-1-KE-GS883-16-2013-3986-279 to 366
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	41	G51-1-KE-GS769-16-2014-4523-1 to 41
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	61	GS1-1-MW-GS613-21-2012-4668—1 to 61
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Domestic	2017	70	G51-1-UG-GS2479-16-2013-4610-1 to 70
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	79	GS1-1-ID-GS1174-4-2014-4547-451 to 529
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2017	5,459	5298-223400382-223405840-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2017	3,065	5273-219232638-219235702-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	1,778	5419-236711951-236713728-VCU-034-APX-IN-1-1660-01012016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	104	5202-215788954-215789057-VCU-034-APX-IN-1-1660-13022015-31122015-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	3,910	5690-255261895-255265804-VCU-050-APX-IN-1-1519-01012016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	977	5690-255282819-255283795-VCU-050-APX-IN-1-1519-01012016-31122016-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2018	3,841	5471-238386316-238390156-VCU-008-APX-TH-4-403-01012013-31122013-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2018	2,616	5666-254633250-254635865-VCU-008-APX-TH-4-403-01012013-31122013-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2018	1,899	1613-67352761-67354659-VCU-006-MER-AU-14-641-01042010-30062011-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2018	9,875	5683-254937680-254947554-VCU-016-APX-PG-14-1122-22052009-31122012-0
Gold Standard Voluntary Emissions Reduction credits from Wind	2018	367	GS1-1-TR-GS854-12-2013-4179-277 to 643
Gold Standard Voluntary Emissions Reduction credits from Wind	2018	255	GS1-1-TR-GS601-12-2014-4120-303 to 557
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2018	259	GS1-1-IN-GS716-4-2012-3988-1 to 259

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Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2018	259	GS1-1-IN-GS716-4-2013-3987-1 to 259
Gold Standard Voluntary Emissions Reduction credits from Solar Thermal – Heat	2018	142	GS1-1-MG-GS464-3-2014-4504-1 to 142
Australian Carbon Credit Units from West Arnhem Land Fire Abatement	2018	5,547	3,769,387,837 – 3,769,393,383
Australian Carbon Credit Units from Balanggarra Fire Project	2018	2,233	3,744,314,657 – 3,744,316,889
Australian Carbon Credit Units from Balanggarra Fire Project	2018	1,397	3,755,861,412 – 3,755,862,808
Australian Carbon Credit Units from Balanggarra Fire Project	2018	3,603	3,768,873,164 – 3,768,876,766
Australian Carbon Credit Units from Wunambal Gaambera Uunguu Fire Project	2018	450	3,758,622,294 – 3,758,622,743
Australian Carbon Credit Units from Wunambal Gaambera Uunguu Fire Project	2018	9,883	3,768,554,449 – 3,768,564,331
Australian Carbon Credit Units from Wunambal Gaambera Uunguu Fire Project	2018	700	3,744,258,607 – 3,744,259,306
Australian Carbon Credit Units from Wilinggin Fire Project	2018	10,333	3,768,431,462 – 3,768,441,794
Australian Carbon Credit Units from Dambimangari Fire Project	2018	7,401	3,768,972,319 – 3,768,979,719
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	1,129	5490-239007250-239008378-VCU-034-APX-IN-1-706-01032016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	47	5202-215788907-215788953-VCU-034-APX-IN-1-1660-13022015-311220150-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2018	4,359	5471-238379157-238383515-VCU-008-APX-TH-4-403-01012013-31122013-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2018	2,522	5298-223407278-223409799-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2018	4,145	5683-254933535-254937679-VCU-016-APX-PG-14-1122-22052009-31122012-0
Gold Standard Voluntary Emissions Reduction credits from Biogas - Heat	2018	213	GS1-1-KH-GS751-4-2015-5302-1 to 213
Gold Standard Voluntary Emissions Reduction credits from Biogas – Electricity	2018	298	GS1-1-IN-GS666-5-2015-4956-1 to 298
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	39,992	5942-268196027-268236018-VCU-050-APX-IN-1-1520-01012017-30092017-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	11,420	5792-259725887-259737306-VCU-050-APX-IN-1-1520-01022016-31122016-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2018	6,262	5666-254635866-254642127-VCU-008-APX-TH-4-403-01012013-31122013-0
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2018	452	GS1-1-KH-GS751-4-2014-4538-1257 to 1708
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Transport Sector	2018	61	GS1-1-XZ-GS2767-17-2015-4834-1 to 61
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Transport Sector	2018	467	GS1-1-XZ-GS2767-17-2015-4907-1 to 467
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency – Transport Sector	2018	351	GS1-1-XZ-GS2767-17-2014-4908-1 to 351

APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2018	9,577	5712-256324548-256334124-VCU-016-APX-PG-14-1122-22052009-31122012-0
Total offset units retired			175,025
Net emissions after offsetting			0
Total offsets banked for use future years: (if any) [include serial numbers]			0

#### 4B. Offsets purchasing and retirement strategy

The Qantas Group does not and has no plans to purchase and hold carbon credits under NCOS-CN. This reporting year, a preliminary assessment of uptake for voluntary carbon offsets was communicated to the voluntary carbon offsets' supplier. The supplier then prepared a portfolio that was, once approved by Qantas, purchased and retired (assigned to Qantas).

#### 4C. Offset projects (Co-benefits)

Qantas has a comprehensive offset procurement policy that preferences offset projects with social and environmental outcomes beyond carbon reductions. Qantas purchases Australian abatement where possible and supports indigenous enterprise in our carbon reduction activities.

#### 4. Use of trade mark

<b>Table 4.</b> Trade mark register	
Where used	Logo type
N/A	N/A