

Australian Government  
Carbon Neutral Program  
Public Disclosure Summary



An Australian Government Initiative

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NAME OF CERTIFIED ENTITY: QANTAS AIRLINES (PASSENGER & FREIGHT PRODUCT)

REPORTING PERIOD: 01 JULY 2018 – 30 JUNE 2019

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 17 January 2019
Name of Signatory: David Young	
Position of Signatory: Strategic Advisor, Future Planet & Sustainability	

Carbon neutral certification category	Product
Date of most recent external verification/audit	17 January 2019
Auditor	KPMG
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 and freight services to both our customers and employees.

To assess the volume of emissions attributable to a passenger and freight 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.

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 or freight travelling on a Qantas Group aircraft. An average emissions footprint per passenger kilometre and per freight 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 diverse global aviation business, comprising Qantas Freight (international and domestic), Qantas Domestic, Qantas International, the Jetstar low-cost carrier group and Qantas Loyalty.

In total, the Qantas Group operates more than 7,300 flights each week and, together with its codeshare and oneworld partners, offers flights to more than 1000 destinations around the world.

The Qantas Group's fleet includes 314 aircraft with an average age of 11.1 years including the acclaimed Qantas A380 and 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

### **Passenger**

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).

### **Freight**

The functional unit is the transport of one tonne of freight expressed in tonnes CO<sub>2</sub>-e per tonne kilometre based on freight transported on aircraft within and outside of Australia. It includes Qantas Freight and belly freight transported on Qantas and Jetstar passenger aircraft. The functional unit only includes the ground support required to load the freight onto the aircraft and excludes transport to and from the airport. Ground support is not included for freight loading/unloading at international ports. Note that the resulting emission factor is to be applied across all freight including belly freight and freight transported on Qantas dedicated air freight services to take into account the inherent variability in the method used to transport freight.

## 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.

## Allocation of Belly Freight

Qantas Freight use passenger aircraft for freight transport (belly freight). The quantity fuel used for freight transported in passenger aircraft was determined using traffic statistics for Qantas mainline which provided information on the following by aircraft type:

- PAX RTK passenger revenue tonne kilometres - which is the revenue load in tonnes of passengers multiplied by the distance flown;
- RTK which is the revenue load in tonnes multiplied by the distance flown (that is the total load – freight and passengers flown).

The freight component for each aircraft type was determined using the following formula:

$$\%RFTK = (RTK - PAX\ RTK)/RTK$$

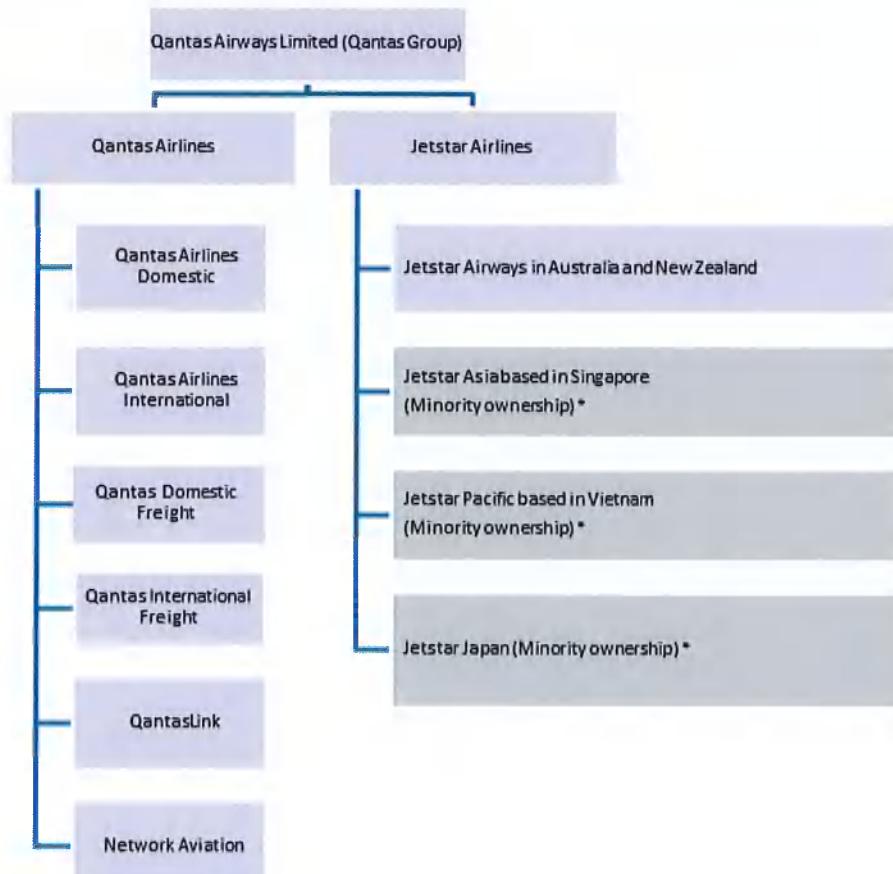
This percentage was applied to fuel use by aircraft type to apportion fuel to belly freight.

A similar approach was used for Jetstar services; however PAX RTK and RTK was not available by aircraft type and a single belly freight percentage was applied across the Jetstar fleet.

## 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

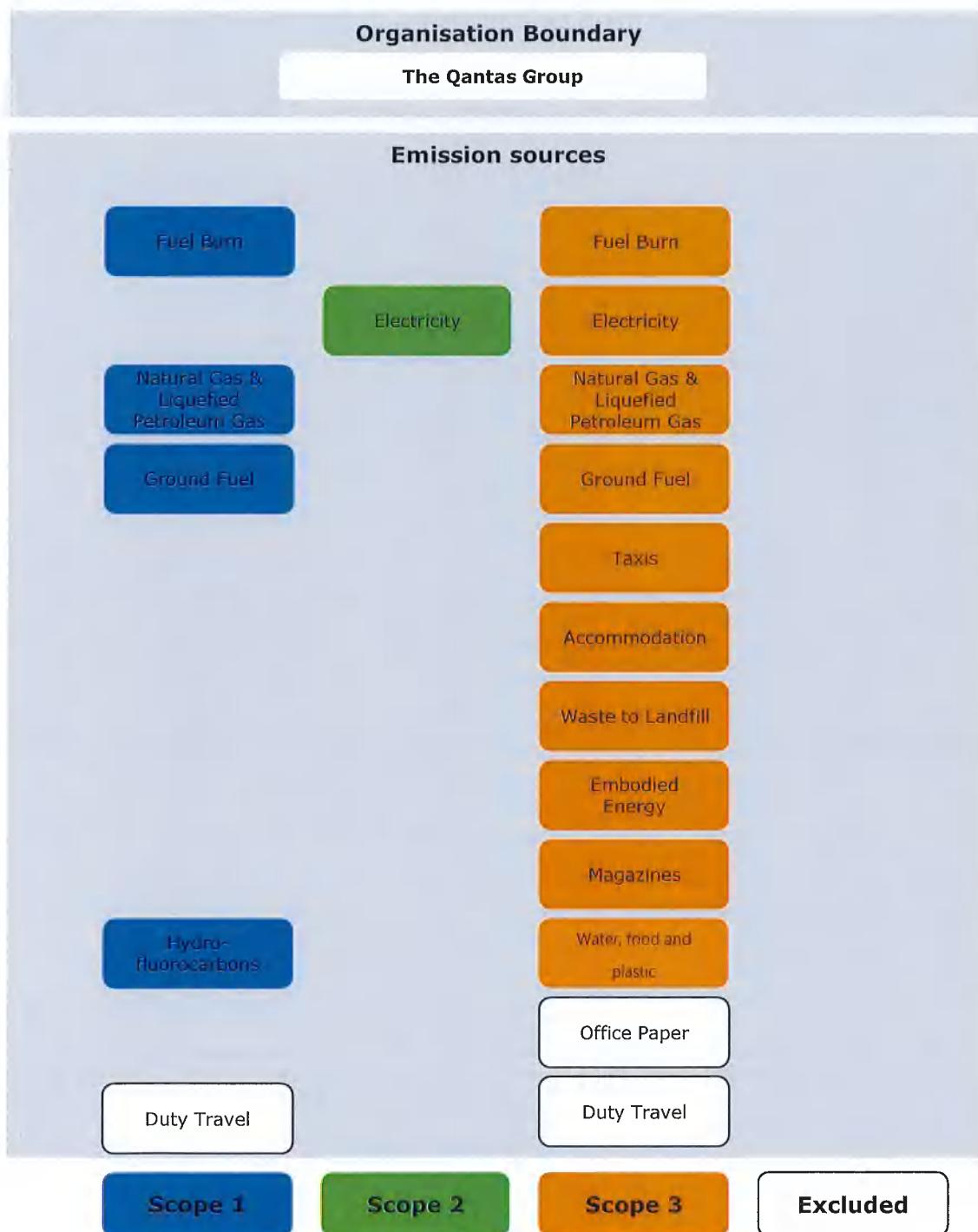
### Excluded sources

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.
Employee commuting & client commuting	3	Emissions from Employee commuting & client commuting is negligible (relative to other Scope 3 emissions) and the administrative burden involved in collating the data is considered to outweigh the benefit.
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

Per the National Carbon Offset Standard for Products & Services, Qantas calculates emissions using the National Greenhouse Account Factors. Qantas does not currently include radiative forcing in its emission calculations, this will be considered as part of future reporting.

### 1C. Diagram of the certification boundary



### 1. Emissions reduction measures

#### 2A. Emissions over time

Table 1. Emissions since base year			
	Base Year: 2012/13	2018	2019
Scope 1 (t CO <sub>2</sub> -e)	14,814,299	12,392,244	12,285,328

Scope 2 (t CO <sub>2</sub> -e)	225,515	135,242	120,881
Scope 3 (t CO <sub>2</sub> -e)	1,224,017	1,248,413	1,212,055
Total (t CO <sub>2</sub> -e)	16,263,831	13,775,899	13,618,264
Emissions/PAX (kg CO <sub>2</sub> -e/PAX km)	0.134	0.100	0.094
Emissions/Freight km (kg CO <sub>2</sub> -e/Freight km)	0.994	0.929	0.902

## 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.

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.

In 2019, Qantas committed to achieving net zero emissions by 2050. This target includes a commitment to offsetting all emissions growth (domestic and international) from 2020 and matching all customer offset contributions through Fly Carbon Neutral. In addition to these commitments, Qantas will invest \$50 million in the development of sustainable aviation fuel over the next 10 years.

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 11.1 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

**Table 3. Emissions Summary (Freight & Passenger)**

Scope	Emission source	t CO2-e
1	Natural gas distributed in a pipeline	8,533
1	Petroleum based oils (other than petroleum based oil used as fuel)	619
1	Petroleum based greases (not combusted)	27
1	Kerosene (other than for use as fuel in an aircraft)	586
1	Diesel oil (stationary)	42
1	Solvents if mineral turpentine or white spirits	1,171
1	Liquefied petroleum gas (stationary)	45
1	Gasoline (other than for use as fuel in an aircraft)	806
1	Liquefied petroleum gas (transport)	815
1	Diesel oil (transport)	14,691
1	Kerosene for use as fuel in an aircraft	12,256,591
1	Hydrofluorocarbons (HFCs) - Commercial air conditioning	155
1	Hydrofluorocarbons (HFCs) - Industrial	1,248
2	Purchased electricity from a grid NSW & ACT	13,306
2	Purchased electricity from a grid (GridX)	41,252
2	Purchased electricity from a grid VIC	40,212
2	Purchased electricity from a grid QLD	17,937
2	Purchased electricity from a grid SA	955
2	Purchased electricity from a grid WA	6,334
2	Purchased electricity from a grid TAS	219
2	Purchased electricity from a grid NT	666
3	Natural gas - Metro - NSW	714
3	Natural gas - Metro - VIC	318
3	Natural gas - Metro - ACT	108
3	Natural gas - Metro - QLD	69
3	Natural gas - Metro - WA	47
3	Petroleum based oils (other than petroleum based oil used as fuel)	160

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3	Petroleum based greases (not combusted)	28
3	Kerosene (other than for use as fuel in an aircraft)	31
3	Diesel oil - stationary	2
3	Solvents if mineral turpentine or white spirits	60
3	Liquefied petroleum gas (stationary)	3
3	Liquefied petroleum gas (Transport)	48
3	Gasoline (other than for use as fuel in an aircraft)	42
3	Diesel oil - Transport	750
3	Kerosene for use as fuel in an aircraft (avtur)	647,650
3	Purchased electricity from a grid (NSW & ACT)	1,623
3	Purchased electricity from a grid (GridX)	5,575
3	Purchased electricity from a grid (VIC)	3,758
3	Purchased electricity from a grid (QLD)	2,915
3	Purchased electricity from a grid (SA)	187
3	Purchased electricity from a grid (WA)	452
3	Purchased electricity from a grid (TAS)	35
3	Purchased electricity from a grid (NT)	94
3	Food waste	7,738
3	Commercial and industrial waste	10,964
3	Embodied energy (China and Aluminium only)	33,269
3	Food and Drink	398,029
3	Plastics: average plastics - primary productin	30,504
3	Recycled paper - Domestic	1,025
3	Accommodation	60,576
3	Taxi	4,374
3	Water	909
<b>Total Gross Emissions</b>		13,618,264
GreenPower or retired LGCs		0
<b>Total Net Emissions</b>		13,618,264

<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 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]	127,492,000,000
Total Emissions [t CO2-e]	11,937,794
Functional Unit [kg CO2-e per pax-km]	0.094

With regards to Freight, the total emissions coupled with the total freight-kilometres transported by the Qantas Group, provides the following updated functional unit (average emissions footprint per freight-kilometre):

Freight-Kilometres [pax-km]	1,862,327,552
Total Emissions [t CO2-e]	1,680,470
Functional Unit [kg CO2-e per freight-km]	0.902

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 FY19 LCA have been applied to the purchase of offsets in 2020. It should be noted that offsets are purchased in arrears.

In FY19 the total tonnes of carbon neutral passenger flight offsets purchased were 121,486 tonnes CO2-e. For Duty Travel 38,044 tonnes CO2-e offsets were purchased, with a combined total of 159,530 tonnes CO2-e. No carbon neutral freight products were purchased therefore, no Qantas Freight emissions have been offset.

### 3. Carbon offsets

#### 4A. Offsets summary

Table 3. Offsets Summary			
Offset type and registry	Retired Date	Quantity	Serial numbers
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	31/10/2019	38,044	7150-374456085-374494128-VCU-050-APX-IN-1-1163-01012016-31122016-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	30/10/2018	5,000	5712-256351488-256356487-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)	30/10/2018	1,000	5712-256360488-256361487-VCU-016-APX-PG-14-22052009-31122012-0
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project	14/04/2019	1,079	4803-197670159-197671237-VCU-008-APX-TH-4-403-01012013-31122013-0

type: Manufacturing)			
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project type: Manufacturing)	14/04/2019	4,002	4803-276693652-276697653-VCU-008-APX-TH-4-403-01012013-31122013-0
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project type: Manufacturing)	15/04/2019	1,908	6173-283261399-283263306-VCU-030-APX-TH-4-403-01012015-31122015-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	15/04/2019	12,746	6409-319829081-319841826-VCU-050-APX-IN-1-1660-01012018-31082018-0
Gold Standard Voluntary Emissions Reduction credits from National Bio Energy Tongliao Biomass Power plant	29/05/2019	6,746	GSI-1-CN-GS2502—9-2017-6569-24181-30926
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	30/10/2018	1,000	5712-256361488-256362487-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)	30/10/2018	1,000	5712-256362488-256363487-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)	30/10/2018	1,000	5712-256363488-126364487-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)	30/10/2018	1,000	5712-256364488-256365487-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)	30/10/2018	500	5712-256365488-256365987-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)	30/10/2018	500	5712-256365988-256366487-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)	30/10/2018	250	5712-256366488-256366737-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)	30/10/2018	226	5712-256366738-256366963-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project type: Manufacturing)	8/07/2019	6,794	6173-283263307-283270100-VCU-030-APX-TH-4-403-01012015-31122015-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	8/07/2019	2,254	6409-319841827-319844080-VCU-050-APX-IN-1-1660-01012018-31082018-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	8/07/2019	105	5419-236715846-236715950-VCU-034-APX-IN-1-1660-01012016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	8/07/2019	499	6349-296020302-296020800-VCU-050-APX-IN-1-1660-0112017-31122017-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	8/07/2019	761	6355-297193790-297194550-VCU-050-APX-IN-1-706-0112017-3112017-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	8/07/2019	1,417	6355-297193790-297195967-VCU-050-APX-IN-1-706-0112017-3112017-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	8/07/2019	7,354	6354-297160887--297168240-VCU-050-APX-IN-1-706-01012018-05062018-0
Gold Standard Voluntary Emissions Reduction credits from National Bio Energy Tongliao Biomass Power plant	29/05/2018	6,915	GSI-1-CN-GS2502—9-2017-6569-30927-37841
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy	9/07/2019	194	6354-297168241--297168434-VCU-050-APX-IN-1-706-01012018-05062018-0

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APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project type: Manufacturing)	9/07/2019	30	6173-283270101-283270130-VCU-030-APX-TH-4-403-01012015-31122015-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	9/07/2019	106	3229-14733562-145733667-VCU-016-MER-AU-14-587-01032012-28022013-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	12/02/2019	241	6349-296020061-296020301-VCU-050-APX-IN-1-1660-01102017-31122017-0
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency - Domestic	13/02/2019	60	GS1-1-KH-GS1020-16-2013-3699-1 to 60
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	14/02/2019	136	3229-145732626-145732761-VCU-016-MER-AU-14-587-01032012-28022013-0
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project Type: Manufacturing Industries)	10/10/2018	4,000	5471-238390157-238394156-VCU-008-APX-TH-4-403-01012013-31122013-0
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project Type: Manufacturing Industries)	10/10/2018	2,122	5666-254642128-254644249-VCU-008-APX-TH-4-403-01012013-31122013-0
APX VCS Registry Verified Carbon Units from Siam Cement Biomass Project (Project Type: Manufacturing Industries)	10/10/2018	73	5666-254644250-254644322-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)	10/10/2018	9,475	5712-256335625-256345099-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	10/10/2018	6,077	5490-239008926-239015002-VCU-034-APX-IN-1-706-01032016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	10/10/2018	4,239	6051-277169035-277173273-VCU-048-APX-IN-1-250--01012013-31122013-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	10/10/2018	982	5792-259738783-259739764-VCU-050-APX-IN-1-1520-01022016-31122016-0
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency - Domestic	10/10/2018	1,500	GS1-1-TR-GS474-12-2016-6015-501 to 2000
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency - Domestic	10/10/2018	205	GS1-1-XZ-GS2767-17-2014-4835-2 to 206
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency - Domestic	10/10/2018	117	GS1-1-ID-GS1174-4-2013-4548-207 to 323
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	30/10/2018	5,000	5712-256346488-256351487-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)	30/10/2018	1,000	5712-256356488-256357487-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)	30/10/2018	1,000	5712-256357488-256358487-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)	30/10/2018	1,000	5712-256458488-256359487-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)	30/10/2018	1,000	5712-256359488-256360487-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy)	10/01/2019	5,998	6047-276687654-276693651-VCU-008-APX-TH-4-403-01012013-31122013-0

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APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	10/01/2019	9,264	5942-268260612-268269875-VCU-050-APX-IN-1-1520-01012017-30092017-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	10/01/2019	73	5792-259740087-259740159-VCU-050-APX-IN-1-1520-01022016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	14/01/2018	1,084	6037-276427884-276428967-VCU-050-APX-IN-1-1660-01012017-30092017-00
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	14/01/2018	341	6037-276428925-276419265-VCU-050-APX-IN-1-1660-01012017-30092017-00
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	14/01/2018	176	6037-296019885-296020060-VCU-050-APX-IN-1-1660-01012017-30092017-00
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency - Domestic	14/01/2019	1,937	GS1-1-TR-GS1322-12-2014-6603-1 to 1937
Total offset units retired			159,530
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

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