


COMPANY NAME: QANTAS AIRLINES (PASSENGER PRODUCT)

REPORTING PERIOD: 1 July 2016 – 30 June 2017

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 13/08/18
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	14 September 2017
Auditor	Pangolin
Auditor assurance statement link	Attached



Australian Government

Department of the Environment and Energy

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Australian Government
Carbon Neutral Program
Public Disclosure Summary



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8/1/2015

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1. Carbon neutral information

1A. Introduction

Product Description

The Qantas Group's product offering is the provision of voluntary carbon neutral passenger services to our customers, as well as our employees' duty (work-related) travel.

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 passenger product offers carbon neutral services for emissions attributable only 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 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 numbers 309 aircraft with an average age of 9.6 years including the acclaimed Qantas Boeing 787-9 Dreamliner and Airbus A380.

Qantas is ranked the world's safest airline by AirlineRatings.com, the best airline in the Australia-Pacific by Skytrax, and holds many major awards for service, food and wine, technology and innovation.

The Qantas Group carries over 53.6 million passengers each year and employs 29,500 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 CO₂-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 CO₂-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.

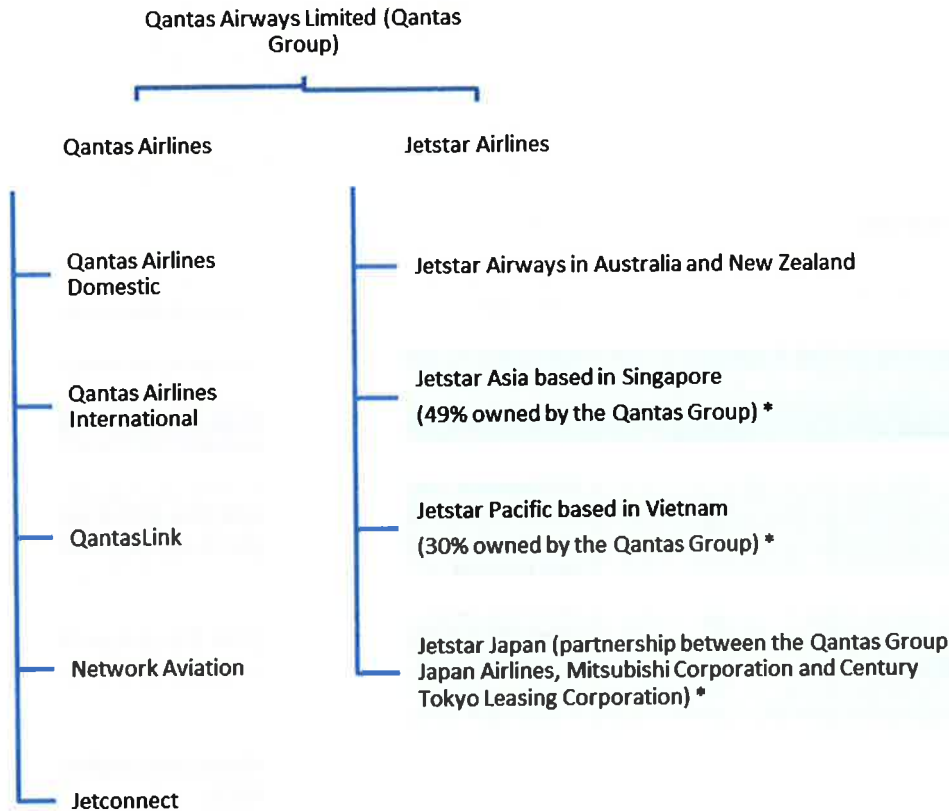
Greenhouse gases considered

Greenhouse gases considered include carbon dioxide, nitrous oxide and methane and relevant refrigerants as required by the National Carbon Offset Standard.

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.

Qantas Group 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

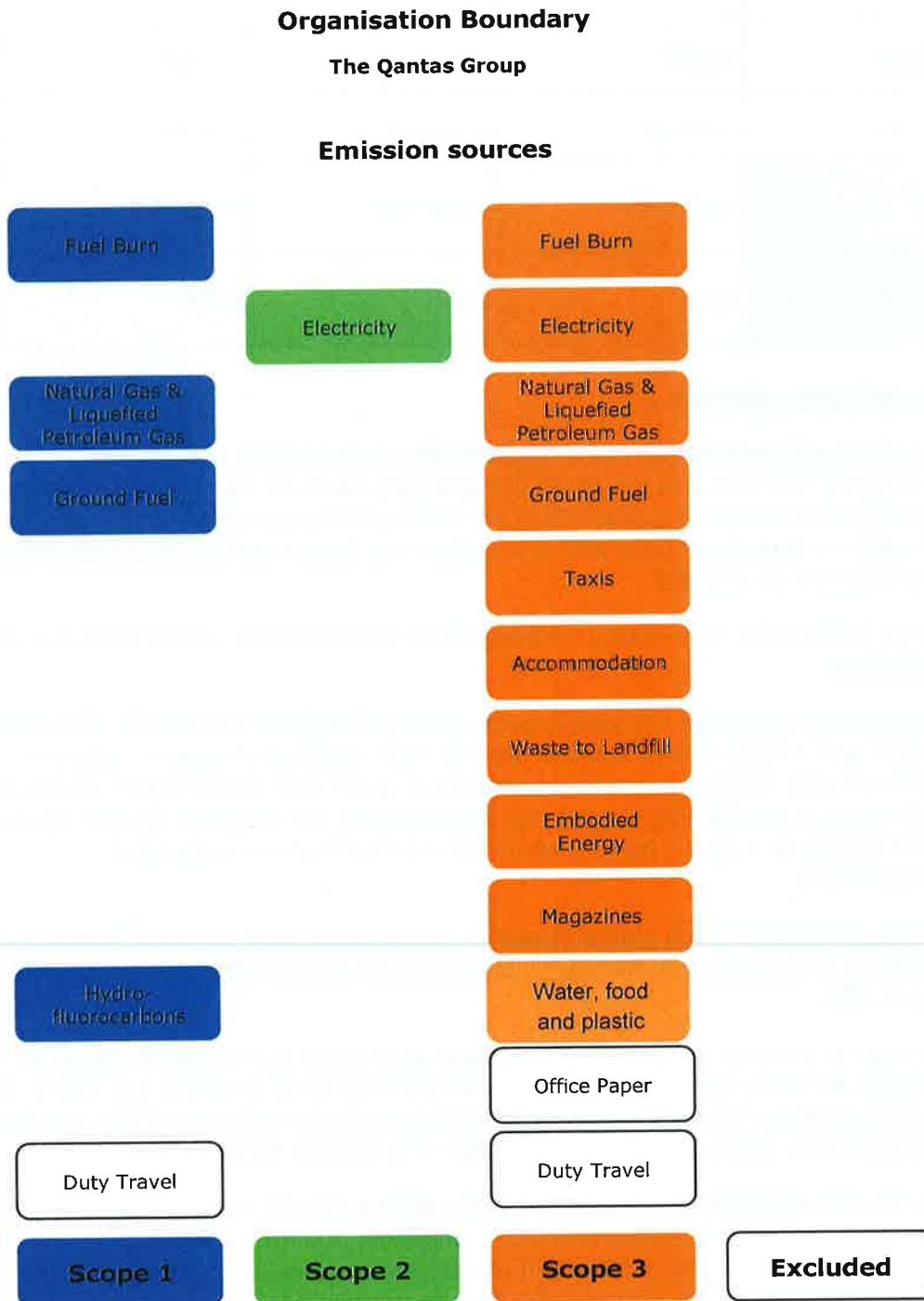
- Waste (Food and Commercial and Industrial)- Scope 3
- Embodied energy of aircraft – Scope 3
- Onboard catering including food, drink and plastic consumables across all airlines (Jetstar and Qantas Mainline) – Scope 3
- Water use – Scope 3

Non-quantified 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



2. Emissions reduction measures

2A. Emissions over time

Table 1. Emissions since base year			
	Base Year:	2016	2017

	2012/13		
Scope 1 (t CO ₂ -e)	12,410,247	10,383,851	10,607,930
Scope 2 (t CO ₂ -e)	221,026	129,961	127,530
Scope 3 (t CO ₂ -e)	1,039,742	1,138,683	1,125,057
Total (t CO ₂ -e)	13,671,015	11,652,495	11,860,518
Emissions/PAX (kg CO ₂ -e/PAX km)	0.134	0.104	0.104

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 NGERs framework. Our dedicated fuel efficiency team and continual fleet renewal are our most material emissions reduction activities. 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.

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 customer 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 an average of 1.5% per year 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 young average fleet age of 9.6 years, we anticipate this will decrease in

the next few years as we continue to welcome new, more efficient planes into our fleet, such as the Boeing 787-9 Dreamliner in 2017. As part of the Qantas Transformation program, we have accelerated and centralised our fuel efficiency program. We expect to deliver improvements in our group fuel efficiency each year as a result of this initiative.

3. Emissions summary

Refer to sections 3.3, 3.4, 3.5 and 3.6 of the NCOS.

This section provides a summary of emission sources and totals. Where carbon neutral products are used, list them separately as an emission source in the table with the total for that source as zero emissions. List GreenPower purchases below the gross emissions.

Table 2. Emissions Summary		
Scope	Emission source	t CO2-e
1	Natural gas distributed in a pipeline	11,047
1	Petroleum based oils (other than petroleum-based oil used as fuel)	648
1	Petroleum based greases (not combusted)	29
1	Kerosene (other than for use as fuel in an aircraft)	649
1	Diesel oil (stationary)	-
1	Solvents if mineral turpentine or white spirits	1,229
1	Liquefied petroleum gas	1,282
1	Gasoline (other than for use as fuel in an aircraft)	831
1	Diesel oil (transport)	9,977
1	Kerosene for use as fuel in an aircraft	10,580,858
1	Hydrofluorocarbons (HFCs) - Commercial air conditioning	1,380
2	Purchased electricity from a grid NSW & ACT	1,945
2	Purchased electricity from a grid NSW & ACT	33,233
2	Purchased electricity from a grid (GridX)	17,212
2	Purchased electricity from a grid VIC	38,867
2	Purchased electricity from a grid QLD	26,139
2	Purchased electricity from a grid SA	743
2	Purchased electricity from a grid WA	8,634
2	Purchased electricity from a grid TAS	165
2	Purchased electricity from a grid NT	594
3	Natural gas - Metro - NSW	863

3	Natural gas - Metro - VIC	377
3	Natural gas - Metro - ACT	99
3	Natural gas - Metro - QLD	182
3	Natural gas - Metro - WA	87
3	Petroleum based oils (other than petroleum-based oil used as fuel)	168
3	Petroleum based greases (not combusted)	30
3	Kerosene (other than for use as fuel in an aircraft)	35
3	Diesel oil - stationary	-
3	Solvents if mineral turpentine or white spirits	63
3	Liquefied petroleum gas - stationary	76
3	Gasoline (other than for use as fuel in an aircraft)	43
3	Diesel oil	509
3	Kerosene for use as fuel in an aircraft (avtur)	559,267
3	Purchased electricity from a grid (NSW & ACT)	281
3	Purchased electricity from a grid (NSW & ACT)	4,805
3	Purchased electricity from a grid (GridX)	3,494
3	Purchased electricity from a grid (VIC)	3,599
3	Purchased electricity from a grid (QLD)	5,294
3	Purchased electricity from a grid (SA)	167
3	Purchased electricity from a grid (WA)	863
3	Purchased electricity from a grid (TAS)	24
3	Purchased electricity from a grid (NT)	93
3	Food waste	21,950
3	Commercial and industrial waste	10,214
3	Embodied energy (China and Aluminium only)	28,444
3	Food and Drink	403,411
3	Plastics: average plastics - primary production	21,997
3	Recycled paper - Domestic	1,695
3	Accommodation	53,985

3	Taxi	2,625
	Water	1,132
3	e.g. NCOS certified carbon neutral product X- Y kgs	0
Total Gross Emissions		11,860,518
GreenPower or retired LGCs		0
Total Net Emissions		11,860,518

¹ 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]	114,550,000,000
Total Net Emissions [t CO2-e]	11,860,518
Functional Unit [kg CO2-e per pax-km]	0.104

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 (112,216 tonnes CO2-e) equate the total offsets purchased. A further 30,135 tonnes CO2-e of offsets were purchased to offset duty travel.

4. 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	16,386	3785-164925682-164942067-VCU003-APX-CN-1-728-29092012-31122012-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2017	8,986	3030-132926875-132935860-VCU-008-MER-TH-4-403-01012012-0
APX VCS Registry Verified Carbon Units from Protection of Native Forest (Project type: Agriculture, Forestry and Other Land Use)	2017	2,643	3229-145728359-145731001-VCU-016-MER-AU-14-587-01032012-28022013-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2017	78	4789-197183496-197183573-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	13,665	4902-204954541-204968205-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	1	4902-204968206-204968206-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	9,006	3785-164942808-164951813-VCU-003-APX-CN-1-718-29092012-31122012-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2017	665	3030-132937875-132938539-VCU-008-MER-TH-4-403-01012012-31122012-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2017	2,260	3031-133008719-133010978-VCU-008-MER-TH-4-403-01032011-31122011-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2017	2,014	3030-132935861-132937874-VCU-008-MER-TH-4-403-01012012-31122012-0
APX VCS Registry Verified Carbon Units from Protection of Native Forest (Project type: Agriculture, Forestry and Other Land Use)	2017	1,453	1613-67389590-67391042-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)	2017	2,220	5053-210751043-210753262-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	5,334	4902-204968207-204973540-VCU-016-APX-PG-14-1122-22052009-31122012-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	13,566	5490-238956379-238969944-VCU-034-APX-IN-1-706-01032016-31122016-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	111	3785-164953792-164953902-VCU-003-APX-CN-1-728-29092012-31122012-0

APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	8,653	5058-210791711-210800363-VCU-048-APX-IN-1-1352-01012013-31122013-0
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2017	4,271	5078-211158438-211162708-VCU-008-APX-TH-4-403-01012012-31122012-0
APX VCS Registry Verified Carbon Units from Biomass Project (Project type: Manufacturing Industries)	2017	535	3030-132938840-132939374-VCU-008-MER-TH-4-403-01012012-31122012-0
APX VCS Registry Verified Carbon Units from REDD Project (Project type: Agriculture, Forestry and Other Land Use)	2017	5,280	5053-210753263-210758542-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	2,070	5184-215113418-215115487-VCU-016-APX-PG-14-1122-22052009-31122012-0
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	93	GS1-1-IN-GS817-4-2013-4219-1 to 93
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	13	G51-1-CN-GS689-4-2014-4366-1 to 13
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	15	GS1-1-CN-GS1033-4-2015-4433-1 to 15
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	26	GS1-1-CN-GS689-4-2013-4367-1 to 26
Gold Standard Voluntary Emissions Reduction credits from Wind	2017	45	GS1-1-CN-GS2553-12-2015-4215-1 to 45
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	46	GS1-1-CN-GS1011-4-2012-4574-1 to 46
Gold Standard Voluntary Emissions Reduction credits from Wind	2017	55	GS1-1-CN-GS2553-12-2014-4216-1 to 55
Gold Standard Voluntary Emissions Reduction credits from Energy Efficiency - Industrial	2017	85	GS1-1-CN-GS750-15-2013-3612-1 to 85
Gold Standard Voluntary Emissions Reduction credits from Wind	2017	90	GS1-1-TR-GS1034-12-2015-4554-45 to 134
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	93	GS1-1-IN-GS817-4-2013-4219-1 to 93
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	98	GS1-1-IN-GS3404-4-2015-4961-1 to 98
Gold Standard Voluntary Emissions Reduction credits from Wind	2017	119	GS1-1-TW-GS612-12-2015-4594-1 to 119
Gold Standard Voluntary Emissions Reduction credits from PV	2017	126	GS1-1-CN-GS3344-1-2015-4417-1 to 126
Gold Standard Voluntary Emissions Reduction credits from Biogas – Electricity	2017	165	GS1-1-IN-GS666-5-2013-4958-1 to 165
Gold Standard Voluntary Emissions Reduction credits from Biogas – Electricity	2017	165	GS1-1-IN-GS666-5-2014-4957-1 to 165
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	205	GS1-1-IN-GS3404-4-2014-4960-1 to 205
Gold Standard Voluntary Emissions Reduction credits from Biogas – Heat	2017	66	GS1-1-IN-GS716-4-2014-5348-1 to 66

Australian Carbon Credit Units from Savanna Burning	2017	10,000	3,758,474,376-3,758,484,375
APX VCS Registry Verified Carbon Units from wind power (Project type: Energy Industries)	2018	1,034	5690-255290410-255291443-VCU-050-APX-IN-1-1519-01012016-31122016-0
Total offset units retired			111 736
Net emissions after offsetting			11,748,782
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.

Use of trade mark

Table 4. Trade mark register	
Where used	Logo type