

# Together for Tomorrow



## Message from the Chief Executive

2015 was a good year for Cathay Pacific. We recorded our best financial performance in the last five years, which was a tremendous achievement by the team especially under challenging circumstances. This year we made great strides revamping our brand philosophy, introduced new products and services, and advancing technological innovation. I believe these efforts will really help lay a strong foundation to better position ourselves for many years to come.

The industry in which we are operating remains challenging as a result of economic outlook, volatility in fuel prices and increasing regulation. I see sustainability as a key strategic value to help mitigate some of these risks, place us in a competitive position, and providing us with the licence to grow in the future.

“We want our business to be successful and we got to make it sustainable. I ask everyone to be innovative and to contribute to the environment and the future.”

**Ivan Chu**  
Chief Executive



2015 was a landmark year, with the Climate Change Paris Agreement making a significant statement and progress towards a solution to global climate change. We welcome the call on governments and businesses to act on our collective responsibility. To that end, we continued to invest in new fleet to make our airline as efficient as possible, which also helps minimise our carbon footprint. We also actively explore other avenues in sustainable alternative fuel in order to reduce our reliance on the use of fossil-based fuel.

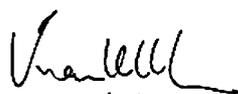
Last year, we retired less fuel efficient aircraft and worked closely with the manufacturer and a supplier to embark on an innovative solution to recycle our A340s, where 90% of the aircraft by weight could be recovered. We also introduced different ways to engage our staff using internal social media platforms like Yammer to better facilitate dialogues between staff, as well as a crowdsourcing platform that made it easier for staff to contribute ideas on sustainability.

Looking ahead, 2016 promises to be an eventful year for us and the aviation industry.

We are very excited to be receiving the first batch of our new A350s. Not only do these aircraft offer the latest advances in technology, operations, passenger comfort and navigation, they will deliver a step change in efficiency and other environmental benefits. This will really help us meet our carbon reduction objectives.

Another big occasion will be the ICAO's 39<sup>th</sup> Assembly in autumn of 2016. All eyes will be on ICAO to reach an agreement on the key construct of the Market-Based Measures to cap aviation emissions at 2020 levels. International effort to agree and design the scheme together has not been an easy process. I cannot stress enough the importance for all parties involved to work together to reach an agreement. If we fail, the uncertainty of a 'patchwork' of regulations globally will certainly make our industry less efficient and competitive.

Together, we have developed a strong capability in sustainability over the years and I look forward to the team continuing to make efforts against our strategy and carrying on innovating and making our airline as sustainable as possible for tomorrow.



**Ivan Chu**  
Chief Executive



*Want to find out more? Go to our video on the right.*



**Ivan Chu**, Chief Executive, talks about the latest Sustainable Development Report in this video.



Our video, **Working Towards a Sustainable Future**, highlights what Cathay Pacific is doing to make aviation more sustainable.

## Together for Tomorrow

### An Introduction to the Cathay Pacific Sustainable Development Report 2015

Sustainability has been a constant pursuit over the years at Cathay Pacific. We believe sustainability is most successful when teams work together to achieve our common long-term goals. Issues such as fuel efficiency can only really be tackled cross departments with operations, engineering, product and services teams working on related solutions. Our focus on staff engagement this year through IT platforms reflects this ambition. Applications like Yammer and crowd sourcing tools allow us to break down silos and enable us to work together more effectively.

Working together also extends to our partnerships and stakeholders outside of our airline. This is why we continue to participate and stay in touch with industry associations, governments, NGOs and the global community to address and solve problems our industry faces

This year has seen a continuation in our sustainability efforts as we continue to make steady steps to improve our efficiencies and reduce our impacts as well as making inroads into better integrating and communicating our efforts.

Throughout this report you will find details of new initiatives that we have been pursuing over this past year together with new videos to tell our stories.

2016 will mark a historic moment in aviation and environment with the ICAO Market-Based Measures expected to be agreed, which will really be game changing in how we deal with carbon emissions as an industry and as a company. As we continue to progress on our commitments we are already laying the foundations for tomorrow's challenges.

"Sustainability is most successful when teams work together to achieve our common long-term goals."

**John Slosar**  
Chairman



## Approach to Sustainable Development

### Our Journey to Sustainable Development

Cathay Pacific has been enabling our customers to travel well for almost seven decades. We want to be able to sustain our ability to provide such premium services for years to come. This means, amongst other things, using resources responsibly, being purposeful in reducing the waste we produce, to foster meaningful collaborations, and be single-minded in fulfilling our commitments.

In 1980, Cathay Pacific became one of the first airlines in the world to implement fuel efficiency measures – enabling us to undertake the first nonstop flight from Hong Kong to London. We then implemented these on our long-haul routes beginning with our nonstop flight from Hong Kong to Vancouver in 1982, and subsequently applied this approach throughout our fleet and worldwide routes.

As part of the Swire Group, a statement in 1989 by our honorary life president and former Chairman, Sir Adrian Swire, continues to inspire positive purpose in the company:

“As a Group we should always seek to be ahead of legislation rather than reacting to it: that even if the environmentally “clean” way of doing something is more expensive and therefore on the face of it uneconomic, we should always, regardless of mandatory legislation, have a close look at the overall feasibility of adopting such a practice, both from the point of view of general public good and enlightened self-interest.”



#### **Sir Adrian Swire**

Honorary life president and former Chairman

This approach defines what sustainable development means to us – it is about applying long term thinking in the business, doing the right thing by the environment and our stakeholders, which results in long term success and a sustained existence.

Cathay Pacific’s current programme of CSR activities began back in 1991 with the launch of Change for Good, although we already had community activities since the 1970’s, with the purpose of giving back to Hong Kong and to the communities in which we operate.

On employee remuneration, we became one of the first companies in Hong Kong to provide flexible benefit schemes to our employees and formal management training programmes for pilots, engineers and general managers.

In 1996, we became one of the first Hong Kong companies to publish a voluntary publicly available Environmental Report for our stakeholders, which eventually evolved into our first Sustainable Development Report in 2009.

In 2012, with the support of various departments, we launched our Sustainable Development Strategy 20/20 commitments.

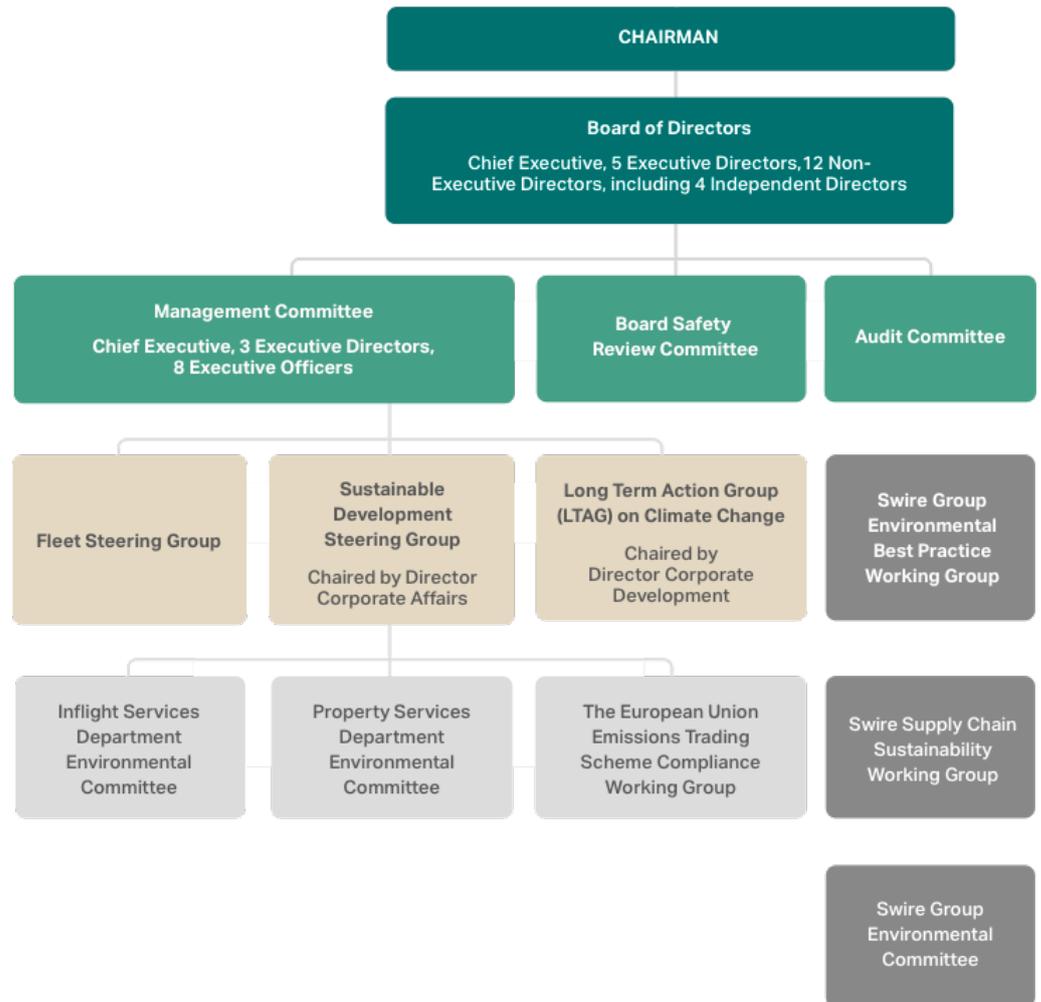
Thanks to the concerted effort of our colleagues, we were one of the few airlines and Hong Kong companies to be listed simultaneously in the FTSE4Good, Dow Jones Sustainability Index Asia-Pacific, and the Hang Seng Sustainability Index in 2013. We were also listed as a constituent of the Climate Disclosure Leadership Index Asia ex-Japan category under the Carbon Disclosure Project.

Our journey has been full of challenges. Since 1980, we have experienced our record-breaking profit years and our first profit loss; we have gone through Severe Acute Respiratory Syndrome (SARS); a number of economic downturns; to record highs in Hong Kong's economy. Throughout this time, our sustainability commitments matured – from focussing on environmental issues, to beginning to address social issues, to integrating environmental, social and economic issues into our strategy.

This year's report is testament to our continued efforts in ensuring Cathay Pacific stays on the path to fully embedding the value and practice of sustainability into how we conduct day-to-day business. We have made significant progress, but sustainability issues have become far more complex, the solutions need to be more innovative, and the actions need to be taken more urgently.

## Sustainable Development Strategy

Cathay Pacific remains committed to maintaining a high standard of corporate governance and devotes considerable effort to putting in place best practices in accordance with our [Code of Conduct on Corporate Governance](#). The structure for governing sustainable development within the Cathay Pacific Group is shown in this diagram:



The functions of these committees and working groups, as well as how we manage risks and ensure corporate compliance, are described in the [Sustainability Governance factsheet](#) of this report and the [Corporate Governance Report](#) in the Cathay Pacific Airways Annual Report 2015 p.37-48.

The Cathay Pacific Sustainable Development Strategy is designed to embed sustainability into mainstream thinking of the company and hence in everything we do.

The development of the Strategy in 2009 resulted in five “priority areas” against which different departments, business units and subsidiaries of Cathay Pacific have been implementing sustainable development initiatives. These five priority areas enable us to set specific targets and move purposefully toward our goal. They also encompass the key components of who we are and how we work. In 2012, we launched our **20/20 SD commitments**, and each commitment is highlighted under each of the five priority areas.



## Our Sustainable Development Targets

Although the 20 commitments are being implemented by different business functions, and, in turn, address different stakeholder priorities, they all promote Cathay Pacific's sustainable development targets which cut across the group's activities and aim to:

- a) Reduce our overall emissions;
- b) Offer sustainably sourced products and services to our customers; and
- c) Ensure our community programmes are relevant and effective to the beneficiaries.

This is what the above three targets mean to us:

### a) Reducing Emissions

According to the [Intergovernmental Panel on Climate Change \(IPCC\)](#) and the [International Energy Agency \(IEA\)](#), aviation currently accounts for 2% of global greenhouse gas emissions from human activity. As aviation grows to meet increasing demand, the IPCC has forecasted that, by 2050, the industry's greenhouse gas emissions could rise to 3%. While forecasts for 2050 can vary significantly, they highlight a challenge that the aviation industry will face over the next 40 years.

Projected increases in our emissions cannot be left unchecked, and that is why we are firmly committed to reducing our impacts. The industry has directed significant investment towards addressing the challenge, introducing new technology, better operating procedures and sustainable biofuels.

Within Cathay Pacific, aircraft emissions constitute 99% of our overall CO<sub>2</sub> emissions. Therefore we have committed to manage our carbon emissions and contribute to global efforts to reduce aviation's impact on the environment and climate change. In fact, we commit to improving our fuel efficiency by 2% year on year to 2020, which is in line with ICAO's target for the industry. At the same time, we are actively managing the energy and water impacts of our facilities, vehicle fleet and the equipment we use across our subsidiaries.

To learn more about our performance on this target, go to our [Climate Change factsheet](#) .

## **b) Offering Sustainably Sourced Products and Minimising Resource Use**

We continually examine options to reduce resource use throughout our supply chain and to use materials from sustainable sources (such as Forestry Stewardship Council and Marine Stewardship Council-certified products, or recycled materials). We ensure our procurement team understand the requirements of our Supply Chain Sustainability Code of Conduct, so they can, in turn, ensure our suppliers comply with our standards. We also look for opportunities to improve recycling and waste management across all facets of our operations. These include products and services provided inflight and at airport lounges, back office operations and the maintenance, repair and overhaul (MRO) process of our aircraft.

To learn more about our performance on this target, go to our [Waste Management factsheet](#), [Sustainable Sourcing factsheet](#) and [Biodiversity factsheet](#).

## **c) Ensuring the Effectiveness of Community Programmes**

We support and invest in the Hong Kong community, of which we have been a part for more than six decades. Local staff members are also active in community initiatives in the outport countries where we have a presence.

Since 2011, we began making reference to the internationally-recognised London Benchmarking Group (LBG) methodology in evaluating one of our flagship projects, English On Air. English On Air provides English-speaking opportunities for young Hong Kong residents. The LBG methodology involves assessing how our goals align with beneficiaries' needs and expectations. We aim to ensure that our community programmes truly respond to their needs and play to our strengths.

Our global community investment strategy is to leverage the resources of our company and to motivate our staff and passengers to address the needs of the communities we serve, focusing mainly on three areas: youth and education, medical care and environmental conservation.

Apart from our work in Hong Kong, we strongly encourage our outport staff to get involved in their local communities and to proactively identify appropriate NGO partners with a view to exploring cooperation opportunities that will benefit the local community.

To learn more about our performance on this target, go to our [Community Investment factsheet](#) and [Our People factsheet](#).

## Our 20/20 Sustainability Commitments

In 2010, we developed our Sustainable Development Strategy. In 2012, we launched our vision for how this Strategy will be realised through 20 commitments, to help us define what we intend to do and achieve by 2020. These commitments encompassed the key operational areas of our business, right across our flights, catering services, ground fleet, offices, suppliers and the communities we fly to. This is the result of years of engagement with our key stakeholders: our employees, passengers, investors, company management, community neighbours, subject experts and academics.

### CX Commitments

Commitments by 2020	Section of the Report to which this issue relates to
2% year-on-year improvement in fuel efficiency	
Develop a cost-effective strategy to incorporate sustainable aviation fuel into our operations	
Embed climate change adaptation into overall risk management	
Reduce electricity use by 25%	Climate Change
Ground vehicles to use alternative fuels/power source	
All Cathay Pacific Group-owned buildings, offices and lounges will consider green building standards or principles	
Offer carbon offsetting as part of all ticket-related marketing and promotional activities	
Develop and implement a sustainable cargo policy	Biodiversity
All meals served inflight and on the ground will meet sustainability criteria	
Reduce the environmental impact of maintenance, repair and overhauls (MRO) carried out in Hong Kong by 50%	Waste Management
Reduce material usage and waste by 25%	
Increase recycling by 25%	
All Cathay Pacific Group-branded materials will be produced using sustainable materials	
All paper, paper products and textiles offered to customers or as part of the service offering will be made of sustainable materials	Sustainable Sourcing
Engage with suppliers of inflight sales products on sustainability principles	
All suppliers will comply with our Supply Chain Code of Conduct	
All meals served inflight and on the ground will meet sustainability criteria	Sustainable Sourcing Biodiversity
CX Holidays to offer at least five more ecotourism packages by 2015	
All holiday packages offered by CX Holidays will be verified for their sustainability impacts	Sustainable Sourcing
Implement London Benchmarking Group (LBG) methodology to evaluate major company community projects	Sustaining a Life Well Travelled/Sustainable Development Strategy
Implement CX community investment guidelines by 2015	

\* Baseline is 2009 unless otherwise indicated.

## Evolution of Our Approach to Reporting

Since 2012, our SD report has been structured according material issues in response to stakeholder needs. This stakeholder- and issue-focussed and performance-based approach aligns with our SD strategy and reflects what is important to our business and stakeholders, and what impact our company.



A detailed assessment was conducted on the findings of past years' engagement exercises. We then draw on our regular stakeholder engagement exercises to monitor current priorities and emerging issues. Although the importance of certain issues, such as waste management, sustainable sourcing and biodiversity, has increased over the years, some of the topics such as climate change have remained high as stakeholders' priorities over the years. These top issues continue to form the framework of this year's Sustainable Development Report:

- Safety
- Climate change
- Waste management
- Sustainable sourcing
- Biodiversity
- Our People

Want to find out more?  
Go to the **Sustainability Governance Factsheet**.



↓ PDF

Want to find out more?  
Go to the **Stakeholder Engagement and Issues Materiality Factsheet**.



↓ PDF

Want to find out more?  
Go to the **Community Investment Factsheet**.



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## 2015 Progress



### Overview of 2015

The Cathay Pacific Group reported an attributable profit of HK\$6,000 million for 2015. This compares to a profit of HK\$3,150 million in 2014.

The Group's financial performance in 2015 was better than in 2014, with the business benefiting from low fuel prices. However strong competition, a significant reduction in fuel surcharges, unfavourable foreign currency movements and a higher proportion of passengers were connecting through Hong Kong put downward pressure on yield. Congestion at Hong Kong International Airport and air traffic control constraints in the Greater China region also weighed down on our operating expenses.

Throughout the year, Economy class demand was strong. Premium class demand improved on regional routes but was not as strong as expected on some long-haul routes. Air cargo demand weakened from the second quarter and remained lacklustre for the rest of the year.

We continued to invest heavily in our products and brands and in the development of our network. New or refurbished lounges were opened in Hong Kong, Manila, Bangkok, San Francisco and Taipei. Four new destinations joined our network for a total of 179 destinations in 43 countries and territories. One Cathay Pacific aircraft was repainted in our new livery.

Hong Kong has been our home for nearly 70 years and we remain deeply committed to strengthening the city as an aviation hub. Supported by our world-class team and strong financial position, we are confident of longer-term success and will continue to invest into our future to sustain a life well travelled for our passengers.

## Key Investor and Business Sustainability Recognition in 2015:



CARBON DISCLOSURE PROJECT



Hang Seng Corporate  
Sustainability Index

## Principal Subsidiaries and Associates

Please refer to [p.98-99](#) of our Annual Report for the full list.

## Financial and Operational

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**HK\$6,000 million** Attributable profit

**34.0%** Proportion of fuel cost in relation to our total operating cost

**34.1 million** Number of passengers carried by Cathay Pacific and Dragonair

Cathay Pacific is one of a handful of companies in Hong Kong to be on the **FTSE4Good and the Hang Seng Sustainability Index** at the same time.

**New Livery** Introduced for Cathay Pacific and painted on one aircraft.

**New lounges** at Manila, Bangkok, San Francisco and Taipei featuring the airline's new approach to design.

**Nine** New aircraft delivered, including three Airbus A330-300s and Boeing 777-300ERs. Four Airbus A340-300s and four Boeing 747-400s were retired.

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**New aircraft for delivery** up to 2024:

- 22 Airbus A350-900 aircraft
- 26 Airbus A350-1000 aircraft
- One Boeing 747-8F freighter aircraft
- 21 Boeing 777-9X aircraft

**New destinations** – Zurich, Boston, Dusseldorf, and Hiroshima. Increased frequency to Adelaide, Colombo, Ho Chi Minh City, Jakarta, Kolkata, Phnom Penh, and San Francisco.

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## Economic Value Added

For the year ended 31 <sup>st</sup> December 2015	2015 HK\$M	2014 HK\$M	% Change
<b>Directed economic value generated</b>			
Turnover	102,342	105,991	-3.4%
Finance income	216	302	-28.5%
Surplus on sales of investments	–	–	
Gain on deemed disposal of an associate	–	–	
Share of profits of associated companies	2,048	772	165.3%
	<b>104,606</b>	<b>107,065</b>	<b>-2.3%</b>
<b>Economic value distributed</b>			
Purchases of goods and services	68,481	76,389	-10.4%
Employee wages and benefits	18,990	18,101	4.9%
Payments to providers of capital	2,711	2,153	25.9%
Payments to government	1,157	599	93.2%
Community investments including charitable donation			
– Direct payment	12	12	0.0%
– In the form of discounts on airline travel	10	8	25.0%
	<b>91,361</b>	<b>97,262</b>	<b>-6.1%</b>
<b>Economic value retained</b>			
– Depreciation	8,387	8,016	4.6%
– Profit after dividends	4,977	2,757	80.5%
Retained for re-investment and future growth	<b>13,364</b>	<b>10,773</b>	<b>24.1%</b>

Note:

The above table summarises the distribution of the economic value generated from the Group which includes Cathay Pacific and all its subsidiary companies including Dragonair and Air Hong Kong. Share of profits of associated companies include our share of losses / profits of Air China and Air China Cargo. Please refer our 2015 Annual Report for details of our principal subsidiaries and associates.

## Cathay Pacific Group Fleet Profile as of 31 December 2015

Company	Manufacturer	Aircraft Type	No. of Operating A/c in Subfleet	Avg. Age of Operating Subfleet (Yrs)	Passenger	Frieghter
CX Fleet	Boeing	777-200	5	20.00	×	
	Boeing	777-300	12	15.00	×	
	Boeing	777-300ER	53	4.00	×	
	Boeing	747-400	3	22.00	×	
	Boeing	747-400F	4	14.00		×
	Boeing	747-400BCF	1	19.00		×
	Boeing	747-400ERF	6	6.00		×
	Boeing	747-8F	13	2.00		×
	Airbus	A330-300	42	8.00	×	
	Airbus	A340-300	7	19.00	×	
			146			
KA Fleet	Airbus	A320-200	15	11.00		
	Airbus	A321-200	8	13.00	×	
	Airbus	A330-300	19	16.00	×	
			42			
AHK Fleet	Airbus	A300-600F	10	13.00		×
	Boeing	747-400BCF	3	25.00		×
			13			
Overall			201	9.7		

## Environmental

17,455 thousand tonnes CO<sub>2</sub> emitted

### SCOPE 1

^ 17,368,305 (99.50%)

Aviation Fuel, Fuel  
Combustion and Towngas

### SCOPE 2

^ 86,289 (0.5%)

Electricity and Towngas

16.3% CO<sub>2</sub> efficiency improvement in relation to available tonne kilometre (ATK) since 1998

24.8% CO<sub>2</sub> efficiency improvement in relation to revenue tonne kilometre (RTK) since 1998

Aircraft are 75% more fuel efficient now than those in the 1960s

^ 15,600 tCO<sub>2</sub> offset in 2015 by staff and passengers

## Environmental Indicators – Aircraft Operations

Aircraft Operations	Units	2015 <sup>†</sup>	2014 <sup>†</sup>	2013 <sup>†</sup>	2012 <sup>†</sup>	2011 <sup>†</sup>	2010 <sup>†</sup>	2009 <sup>†</sup>	2008 <sup>*</sup>	2007 <sup>*</sup>	2006	2005	2004	2003	2002	2001	2000	1999	1998
ATK	million	30,048	28,440	26,259	26,250	26,384	24,461	22,249	24,410	23,077	19,684	17,751	15,794	13,355	12,820	11,827	11,630	10,867	10,857
RTK	million	22,220	20,722	18,696	18,819	19,309	19,373	16,775	17,499	16,680	14,452	12,813	11,459	9,371	9,522	8,201	8,650	7,768	7,213
RPK	million	122,330	112,257	104,571	103,837	101,535	96,588	89,440	90,975	81,801	72,939	65,110	57,283	42,774	49,041	44,792	47,153	41,502	40,679
<b>All Flights (Cathay Pacific and Dragonair)</b>																			
Fuel Consumption	thousand tonnes	5,425	5,198	4,912	4,996	5,032	4,818	4,397	4,569	4,371	3,596	3,325	3,077	2,590	2,583	2,431	2,429	2,263	2,343
Fuel Efficiency	grammes/ATK improvement since 1998 %	▲181 ▲16.3%	▲183 ▲15.3%	187 13.3%	190 11.8%	191 11.6%	197 8.7%	198 8.4%	187 13.3%	189 12.2%	183 15.3%	187 13.2%	195 9.7%	194 10.1%	201 6.6%	206 4.8%	209 3.2%	208 3.5%	216 0.0%
	grammes/RTK improvement since 1998 %	244 24.8%	251 22.8%	263 19.1%	265 18.3%	261 19.8%	249 23.4%	262 19.3%	261 19.6%	262 19.3%	249 23.4%	260 20.1%	269 17.3%	276 14.9%	271 16.5%	296 8.7%	281 13.6%	291 10.3%	325 0.0%
Global CO <sub>2</sub> emissions	thousand tonnes in CO <sub>2</sub> e	17,087	16,374	15,472	15,738	15,851	15,175	13,852	14,393	13,769	11,327	10,474	9,693	8,159	8,136	7,658	7,651	7,128	7,380
	grammes/ATK improvement since 1998 %	569 16.3%	576 15.3%	589 13.3%	600 11.8%	601 11.6%	620 8.7%	623 8.4%	590 13.3%	597 12.2%	575 15.3%	590 13.2%	614 9.7%	611 10.1%	635 6.6%	647 4.8%	658 3.2%	656 3.5%	680 0.0%
	grammes/RTK improvement since 1998 %	769 24.8%	790 22.8%	828 19.1%	836 18.3%	821 19.8%	783 23.4%	826 19.3%	823 19.6%	825 19.3%	784 23.4%	817 20.1%	846 17.3%	871 14.9%	854 16.5%	934 8.7%	885 13.6%	918 10.3%	1,023 0.0%
Global NO <sub>x</sub> emissions	tonnes	94,106	80,946	82,255	79,089	77,044	72,632	65,358	70,546	55,951	52,542	48,566	45,271	38,537	39,213	36,402	38,061	37,800	40,294
	grammes/ATK improvement since 1998 %	3 15.6%	3 23.3%	3 15.6%	3 18.8%	3 21.3%	3 20.0%	3 20.8%	3 22.1%	2 34.7%	3 28.1%	3 26.3%	3 22.8%	3 22.2%	3 17.6%	3 17.1%	3 11.8%	3 6.3%	4 0.0%
	grammes/RTK improvement since 1998 %	4 24.2%	4 30.1%	4 21.2%	4 24.8%	4 28.6%	4 32.9%	4 30.3%	4 27.8%	3 40.0%	4 34.9%	4 32.1%	4 29.3%	4 26.4%	4 26.3%	4 20.5%	4 21.2%	4 12.9%	5 0.0%
Global CO emissions	tonnes	14,059	12,186	13,620	13,304	12,972	12,204	11,422	13,436	13,077	10,959	10,190	10,056	8,873	8,268	8,062	8,751	9,827	13,982
Global HC emissions	tonnes	1,578	1,429	1,455	1,445	1,392	1,297	1,344	2,107	2,271	2,233	2,171	2,228	2,112	1,885	2,090	2,560	3,401	5,736
<b>Passenger Flights Only <sup>(1)</sup></b>																			
Fuel Consumption	thousand tonnes	4,496	4,313	4,112	4,113	3,968	3,650	3,476	3,627	3,217	2,825	2,646	2,404	1,953	2,074	2,050	2,068	1,953	2,007
	share of total fuel consumption %	82.9%	83.0%	83.7%	82.3%	78.9%	75.8%	79.0%	79.4%	73.6%	78.6%	79.6%	78.1%	75.4%	80.3%	84.3%	85.1%	86.3%	85.7%
Fuel Efficiency	grammes/RTK improvement since 1998 %	37 25.5%	38 22.1%	39 20.3%	40 19.7%	39 20.8%	38 23.4%	39 21.2%	40 19.2%	39 20.3%	39 21.5%	41 17.6%	42 14.9%	46 7.5%	42 14.3%	46 7.2%	44 11.1%	47 4.6%	49 0.0%

\* incorporates KA

† fuel consumption includes testing, and wet-lease flights

1 tonne of fuel = 3.15 tonne of CO<sub>2</sub>

(1) GWP of CO<sub>2</sub> is 1; assumes that all other GHG gases are negligible as these impacts still uncertain.

(2) Fuel consumption for our passenger flights includes the carriage of baggage and belly space cargo.

## Environmental Indicators Table

Hong Kong and 100% owned Hong Kong-based subsidiaries	Units	2015	2014
<b>Power/Fuel</b>			
Electricity Consumption	mWh	129,740	137,181
Ground based activities fuel consumption	litre		
Mobile Combustion – Diesel		4,940,625	4,730,562
Mobile Combustion – Unleaded Petrol		390,203	360,821
Stationary Combustion – Diesel		1,151,643	1,437,297
Purchased Towngas	unit	5,475,070	5,886,167
Fuel dumped due to operational reqs	tonnes	411	796
% of fuel dumped	%	0.08	0.15
<b>Water</b>			
Seawater consumption	m <sup>3</sup>	9,100,100	8,077,900
Potable water consumption	m <sup>3</sup>	845,701	849,558
Maintenance water consumption	m <sup>3</sup>	80,502	91,202
<b>Paper &amp; Cardboard</b>			
Paper consumed in offices	tonnes	2,412	2,526
Paper & cardboard recycled	tonnes	1,988	1,979
<b>Printer Cartridges</b>			
Printer cartridges purchased	no.	3,246	4,080
Printer cartridges refilled	no.	485	842
Printer cartridges recycled	no.	1,639	2,124
<b>Recycled/Reused Materials</b>			
Metal recycled	kg	39,968	35,241
Plastic recycled	kg	681,781	494,201
Glass recycled	kg	493,833	526,510
Food processing oil	litre	45,014	27,011
Hangers used	no.	1,913,988	2,120,232
% of hangers reused	%	57.2	53.5
<b>Disposed Materials</b>			
Non-hazardous waste	tonnes	13,457	12,721

## Environmental Indicators Table

Outports	Units	2015	2014
<b>Power/Fuel <sup>(1)</sup></b>			
Electricity Consumption	mWh	1,362	1,294
Ground based activities fuel consumption			
Mobile Combustion – Diesel	litre	11,016	11,399
Mobile Combustion – Unleaded Petrol	litre	57,076	54,629
Stationary Combustion – Natural Gas	therms	281	276
<b>Paper &amp; Cardboard <sup>(2)</sup></b>			
Paper consumed in offices	tonnes	6	6
<b>Printer Cartridges <sup>(2)</sup></b>			
Printer cartridges purchased	no.	276	254
Potable water consumption	m <sup>3</sup>	20	20

\* Due to the inclusion of Cathay Pacific Services Limited, data between 2014 and 2013 may not be directly comparable.

(1) Covers our offices in Auckland, Manila, San Francisco, and Taipei.

(2) Covers our offices in Frankfurt, Karachi, Kuala Lumpur, Paris, and Sydney.

Want to find out more? Go to our graphs on:

- [2015 GHG Emissions \(tCO<sub>2</sub>e\) – Cathay Pacific Group](#)
- [Global CO<sub>2</sub> Emissions – Cathay Pacific Group Fleet](#)

## Social

**Over 1,000** Number of suppliers globally for Cathay Pacific and Dragonair

**33,300** Number of group staff worldwide, of which 25,700 are employed in Hong Kong

**1,300** Volunteer hours by staff

**129** Number of student participants in the English On Air programme

**14,000** Number of visitors from schools and non-governmental organisations to Cathay City

## Social Indicators Table

	Units	2015	2014
<b>Total workforce</b>	no.	33,301	33,423
<b>by Location</b>			
Hong Kong	%	80	77
Mainland China	%	3	3
Others	%	17	20
<b>by Employment Type</b>			
Flight Crew	%	11	10
Cabin Crew	%	37	36
Ground Staff	%	29	28
Subsidiary Staff	%	23	26
<b>by Gender</b>			
Female	%	56	54
Male	%	44	46
<b>by Age Group</b>			
Under 30 years old	%	27	30
30-50 years old	%	58	56
over 50 years old	%	15	14
<b>by Contract Type</b>			
Permanent terms	%	93	91
Fixed/temporary terms	%	3	4
Supervised employees	%	4	5
<b>Permanent employees</b>			
<b>by Gender</b>			
Female	%	56	56
Male	%	44	44
<b>by Employment Type</b>			
On full-time	%	98	98
On part-time	%	2	2

## Social Indicators Table

	Units	2015	2014
<b>Fixed term &amp; temporary contract employees</b>			
<b>by Gender</b>			
Female	%	42	48
Male	%	58	52
<b>Senior Management from Local Community <sup>(1)</sup></b>	%	79	60
<b>Employee Yearly Turnover Rate <sup>(2)</sup></b>			
<b>by Location</b>			
Hong Kong	%	10	14
Mainland China	%	10	10
Others	%	8	8
<b>by Employment Type</b>			
Flight Crew	%	3	4
Cabin Crew	%	4	5
Ground Staff	%	9	8
Subsidiary Staff	%	27	36
<b>by Gender</b>			
Female	%	10	13
Male	%	9	11
<b>by Age Group</b>			
Under 30 years old	%	18	21
30-50 years old	%	6	8
over 50 years old	%	11	13
<b>Lost Time Injury Frequency Rate <sup>(3)</sup></b>			
Cathay Pacific	rate	2.8	3.7
Dragonair	rate	2.7	4.4
Subsidiary Staff	rate	2.7	3.5
<b>No. of fatalities due to CX Group operations</b>			
CX Group Staff	no.	0	0
Contractors working within Cathay Pacific/Dragonair premises	no.	0	0
Passengers	no.	0	0
<b>Average hours of training per year</b>			
Top/Senior Management	hrs	2.3	3.2
Middle/Junior management & supervisory	hrs	14.3	9.8
Customer facing staff	hrs	43.7	30.5
Non-customer facing operational/technical staff	hrs	21.9	19.2
Others	hrs	1.3	0.7

## Social Indicators Table

	Units	2015	2014
<b>New Employees</b>			
<b>by Age Group</b>			
Under 30 years old	%	39	39
30-50 years old	%	7	7
over 50 years old	%	6	6
<b>By Gender</b>			
Female	%	17	17
Male	%	16	16
<b>By Region</b>			
Hong Kong	%	17	17
Mainland China	%	15	15
Others	%	13	13
<b>Employees receiving performance reviews</b>	%	100	100
<b>Human rights screening in investment and procurement practices</b>	%	100	100
<b>Reported incidents of discrimination</b>	no.	0	0
<b>Non-compliance cases on product responsibility issues <sup>(6)</sup></b>	no.	0	0
<b>Non-compliance cases on applicable laws and regulations <sup>(7)</sup></b>	no.	0	0

(1) Includes Executive Directors only.

(2) Employee Turnover Rate computed as # of leavers/# of staff for each month and averaged on a yearly basis.

(3) LTIFR is computed as (# of injuries resulting in lost time/total workforce hours) x 200,000 (revised).

(4) Please refer to our Safety Factsheet of our Sustainable Development Report 2013.

(5) Includes cabin product, marketing and customer privacy.

(6) Includes anti-competition and corruption cases. For details on anti-competition cases, please refer to p.84-85 of our Annual Report 2013.

Want to find out more? Go to our graphs on:

- CX Annual Report
- Safety Incidents
- Lost Time Injury Frequency Rate (%)
- Cabin Crew Nationality Mix (%)

## Sustainable Development Strategy – 20/20 Commitments

In 2010, we developed our Sustainable Development Strategy. In 2012, we launched our vision for how this Strategy will be realised through 20 commitments, to help us define what we intend to do and achieve by 2020. These commitments encompassed the key operational areas of our business, right across our flights, catering services, ground fleet, offices, suppliers and the communities we fly to. This is the result of years of engagement with our key stakeholders: our employees, passengers, investors, company management, community neighbours, subject experts and academics.

### CX Commitments

Commitments by 2020

Section of the Report to which this issue relates to

	2% year on year fuel efficiency	
	Develop a cost-effective strategy to incorporate sustainable aviation fuel into our operations	
	Embed climate change adaptation into overall risk management	
	Reduce electricity use by 25%	Climate Change
	Ground vehicles to use alternative fuels/power source	
	All Cathay Pacific Group-owned buildings, offices and lounges will consider green building standards or principles	
	Offer carbon offsetting as part of all ticket-related marketing and promotional activities	
	Develop and implement a sustainable cargo policy	
	All meals served inflight and on the ground will meet sustainability criteria	Biodiversity
	Reduce the environmental impact of maintenance, repair and overhauls carried out in Hong Kong by 50%	
	Reduce material usage and waste by 25%	Waste Management
	Increase recycling by 25%	
	All Cathay Pacific Group-branded materials will be produced using sustainable materials	
	All paper, paper products and textiles offered to customers or as part of the service offering will be made of sustainable materials	Sustainable Sourcing
	Engage with suppliers of inflight sales products on sustainability principles	
	All suppliers will comply with our Supply Chain Code of Conduct	
	All meals served inflight and on the ground will meet sustainability criteria	Sustainable Sourcing Biodiversity
	CX Holidays to offer at least five more ecotourism packages by 2015	
	All holiday packages offered by CX Holidays will be verified for their sustainability impacts	Sustainable Sourcing
	Implement London Benchmarking Group (LBG) methodology to evaluate major company community projects	Sustaining a Life Well Travelled/Sustainable Development Strategy
	Implement CX community investment guidelines by 2015	

 Achieved  On Plan  Off Plan

## Selected Awards for Cathay Pacific and Dragonair 2015

### CATHAY PACIFIC

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Skytrax World Airline Awards  
**Best Transpacific Airline**

Australian Business Traveller Awards 2015

- **Best First Class Lounge (The Pier Hong Kong)**
- **Best First Class Amenity Kit**

Business Traveller Asia-Pacific Awards 2015

- **Best Frequent Flyer Programme**
- **Best Airline Lounge in Asia-Pacific**

Yahoo Emotive Brand Awards 2014-2015

**Airline Category**

26<sup>th</sup> Annual TTG Travel Awards

**Best North Asian Airline**

JACDEC Airline Safety Ranking 2015

**The world's new leading airline in terms of its safety record**

2015 Randstad Award

**Most Attractive Employer Award**

Cellars in the Sky 2014 by Business Traveller Magazine

**Best Business Class Sparkling – Gold (Champagne Cuvee William Deutz 2000)**

### DRAGONAIR

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Skytrax World Airline Awards 2015

- **World's Best Regional Airline**
- **Best Regional Airline in Asia**

2015 Business Traveller China Awards

**Best Airline Economy Class**

26<sup>th</sup> Annual TTG Travel Awards

**Best Regional Airline**

Yahoo Emotive Brand Awards 2014-2015

**Airline Category**

# Safety



## Safety Matters

At Cathay Pacific we strive to maintain the highest levels of safety and always put safety first.

At Cathay Pacific, we have a longstanding and clear focus on safety that is embedded in the organisation. Our goal is to manage the risks of the operation to As Low As Reasonably Practical (ALARP) in order to allow the company to pursue and maintain its commercial activities in a sustainable way.

Our Safety Policy, signed by the Chief Executive, clearly articulates this commitment by stating that "safety is our number-one priority" and that we are "fully committed to providing a safe operational and working environment" for all our passengers and staff. It goes on to state that "ultimate accountability rests with me as Chief Executive. However, responsibility for safety lies with each and every one of us in the airline".

We have well-developed and deeply-embedded proactive safety systems to ensure that we can deliver the results. Developments made in 2015 will ensure that we live up to these exacting standards.

"If we don't know where the risks lie, we can't mitigate them effectively."

**Richard Howell**  
General Manager Corporate Safety and Security



## Updates for 2015

### Group Safety Integration

The Corporate Safety departments of Cathay Pacific and Dragonair were merged in two stages under one General Manager. The objective of this merger was to create a single Group Safety department, enabling the better sharing of resources and expertise across both operations. The integrated approach across both airlines ensures that functions are aligned to support a common purpose and outcomes, such as safety governance structures, training and communications, risk management processes and performance monitoring. The merger also introduces opportunities to become more efficient, consolidating and focusing resources on common safety issues and avoiding duplication of effort in safety management. Furthermore, centralised administrative activities leave more time to focus on proactive safety interventions.

### IATA Enhanced International Operational Safety Audit



Following Cathay Pacific's completion of an IATA Enhanced International Operational Safety Audit in 2014, Dragonair successfully completed its first Enhanced IOSA achieving zero findings in December 2015. Cathay Pacific aims to renew its Enhanced IOSA accreditation in June 2016.



### Airbus A350 Entry into Service Preparation

As the first airline to deploy its pilots to fly both the Airbus A330 and A350 from the start of the A350 operation under a single licence, Cathay Pacific has been proactively managing the risks associated with the entry into service of the A350 since 2014. A full risk assessment, approved by the Hong Kong CAD, was completed for this activity. Extra mitigations that go beyond those recommended by Airbus have been implemented to ensure that the A350 joins the Cathay fleet in a carefully managed way.

### Mental Health of Flight Crew

Following the tragic loss of 150 people on Germanwings Flight 9525, our Corporate Medical Department initiated a review of pilot hiring and medical screening practices, as well as reviewing work conducted at an international level. It was determined that the airline's current processes and mitigations for addressing mental health issues are appropriate. Furthermore, we developed a random Alcohol and Drug testing programme which will be implemented in November 2016 for roll out not just to pilots but to all safety-sensitive staff, including cabin crew and load controllers.

## Ban on Hoverboards in Passenger Luggage and Carry on

Following reports from various sources, including one incident involving another airline of a hoverboard battery causing a fire during inspection, we conducted a thorough risk assessment of this emerging hazard. Subsequently, a risk-based decision was made to implement a total ban on the carriage of these lithium battery powered hoverboards in passenger cabin and check-in baggage for both Cathay Pacific and Dragonair.

## Cultivating a Strong Reporting Culture

In order to facilitate a strong reporting culture, which is a sign of a healthy safety culture, Cathay Pacific and Dragonair staff are encouraged to report freely to the company. This would help facilitate safety actions for the benefit of learning and improving the overall safety of operations. A flow of safety reports generally demonstrates an excellent active reporting culture.

During the past five years, the number of Ground Safety Reports received by the Group Safety Department, for both Cathay Pacific and Dragonair operations, has increased due to two main drivers:

- a) a move from primarily paper-based reporting to electronic channels; and
- b) a substantial increase in the reporting of hazards and insignificant risk occurrences.

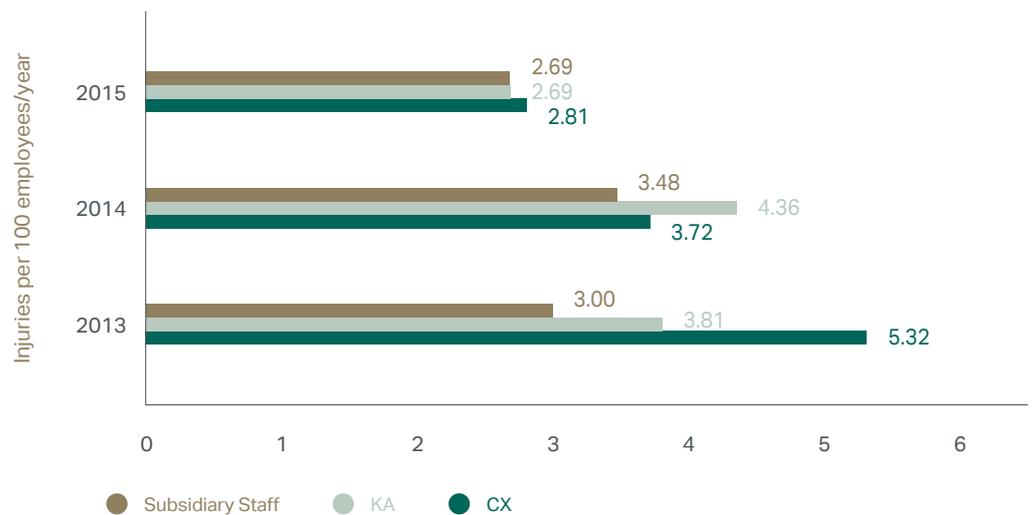
The improved intelligence provided by the reports has become a key driver in the Cathay Pacific and Dragonair safety management system development.

Cathay Pacific and Dragonair always target zero accidents. In 2015, with approximately 34 million passengers carried, there were no events classified as an accident. There were no staff fatalities and zero serious work-related injuries in 2015. The total number of lost time injuries reduced by 25.5% year-on-year.

To manage and mitigate potential injuries, a three year programme of proficiency based manual handling training with the renowned Pristine Condition, a specialist in OH&S from the UK, was commenced in 2015. This programme targets three staff groups, namely cabin crew, Hong Kong International Airport terminal staff and Hong Kong Airport Services staff who handle bags, mail and cargo on a daily basis. In addition to the lifting injuries seen in the airport terminal, the training also addresses slips and trips which are also prevalent there. A wider slips and trips and manual handling awareness campaign ran throughout 2015 for all staff based in Hong Kong.

Other initiatives and training were conducted in various departments across the company. At Cathay City, our Hong Kong headquarters, our facilities management company carried out a Fire, Health and Safety Audit along with routine air quality surveys. A Group Safety monthly newsletter continued in 2015 and included a regular section on OHS reminders to staff.

### Lost Time Injury Frequency Rate



- LTIFR is computed as (total injuries multiplied by 200,000 and then divided by the total hours worked)
- The factor 200,000 is annual hours worked by 100 employees, based on 40 hours per week for 50 weeks a year).

## What Our Stakeholders Think

Our stakeholders continue to view customer safety and staff OHS as the top issues relevant to Cathay Pacific. The consistent message we have been receiving over the years is that both staff and passengers regard Cathay Pacific as having good safety performance, records and contingency plans, with strong emphasis on passenger and staff safety. In particular, staff are proud of the safety culture, and feel that the company is able to communicate effectively on safety issues. Cathay Pacific is also one of the first airlines to implement a Fatigue Risk Management System. This work is on-going and we will continue to build on what we have achieved.

## Our Safety Commitments

- To adopt a risk driven approach in identifying and eliminating hazardous conditions.
- To provide a safe, healthy work environment for all personnel.
- To minimise all types of occurrence (injuries, incidents, serious incidents & accidents).
- To minimise damage to aircraft and injury to people resulting from the operation.
- To independently investigate selected occurrences (incidents, serious incidents and accidents) with a view to learning and to prevent future recurrence.
- To engender a 'just culture' and open reporting culture throughout the whole organisation.
- To perform hazard identification and risk analysis for significant new equipment acquisitions, facilities, operations and procedures.
- To disseminate safety related information and communicate operational risk to the appropriate personnel.

Want to find out more? Go to our **Safety Factsheet**.



↓ PDF



Want to find out more? Go to our video on the right.



Our video, **Third Party Supplier Management**.

# Climate Change



## Climate Change Matters

We are committed to tackling the issue of climate change, as our use of non-renewable fossil fuels is not only one of our major operating costs, but also our most significant environmental impact.

More than ever, we have both the economic and environmental incentives to implement more sustainable solutions to address our environmental impact such as fuel efficiency, new fleet and sustainable biofuels.

We are also active in international negotiations on developing a global market-based measure for reducing emissions from aviation from 2020.

We agree with our stakeholders that climate change is the company's highest environmental priority and challenge, and that we need to manage our long term impacts in innovative ways. We recognised this in the 1990s, when we released our first Environmental Report, and reinforced that position in 2006 when we launched our Climate Change Position , one of the first few airlines to have done so publicly.

### Key CX Climate Change Initiatives from the 1980s to Current

1980	Early 1980s 1989	Aircraft weight reduction task force Supports the Swire Group Environmental Policy
1990	1996 1997	First environmental report including CO <sub>2</sub> emissions Received ISO 14001 certification
2000	2005	Established the Climate Change Long Term Action Group Initiated engine core washing
	2006	Launched Cathay Pacific's Climate Change Position
	2007	Launched carbon offset programme – <b>FLY greener</b>
	2008	Joined Climate Change Business Forum Founded the Aviation Global Deal
	2009	Joined the Sustainable Aviation Fuel Users Group Supported IATA's climate change commitments
2011		Developed a sustainable biofuel strategy Supports climate change monitoring with IAGOS
2012		Cathay Pacific commits to a CO <sub>2</sub> target
2014		Cathay Pacific is a member of the GMTF Cathay Pacific invests in a biofuel developer

## Exceeding Industry Target

We have committed ourselves to a target of a 2% year-on-year improvement of CO<sub>2</sub> emissions per passenger and cargo we carry (known as "revenue tonne kilometre", or RTK) by 2020, based on 2009 levels. This exceeds the agreed industry target of 1.5%.

Our strategy for achieving this follows the IATA four-pillar strategy:

### 1. Technology

- ▶ Airframe, engine
- ▶ New fuels

### 2. Operations

- ▶ Maximum efficiency
- ▶ Minimise weight

### 3. Infrastructure

- ▶ Air routes, ATM
- ▶ Airport procedures

### 4. Economic instruments

- ▶ Offsets & trading
- ▶ Incentives

We also fully support the IATA's climate change commitments:

#### IATA's Climate Change Commitments



**2010** An average improvement of fuel efficiency of 1.5% per year

**2020** A cap on aviation CO<sub>2</sub> emissions from 2020 (carbon neutral growth)

**2050** Aspiration for 50% reduction in net CO<sub>2</sub> emissions over 2005 levels

## Updates for 2015

### Emissions and Fuel Efficiency

In 2015, Cathay Pacific and Dragonair were collectively responsible for emitting 17.3 million tonnes of carbon dioxide (CO<sub>2</sub>) from jet fuel burn, an increase of 4% from 2014. Over the same period, an increase of 8% and 4% were recorded for passengers and cargo carried respectively. Our fuel efficiency improved by 1.2% and 2.7% in relation to capacity (available tonne kilometre, ATK) and traffic carried (revenue tonne kilometre, RTK) respectively over 2014. This brought our total fuel efficiency improvement since 1998 to 16.3% and 24.8% per ATK and RTK respectively.

	SCOPE 1 EMISSIONS	SCOPE 2 EMISSIONS
17.3 million tonnes CO <sub>2</sub> emissions from fuel burn	▲ 17,368,305 tonnes (99.50%) Aviation Fuel, Fuel Combustion and Towngas	▲ 86,289 tonnes (0.5%) Electricity and Towngas

Fuel efficiency achievements in 2015 included:

- Fleet modernisation by taking delivery of three Airbus A330-300s and six Boeing 777-300ERs. Four Airbus A340-300s and four Boeing 747-400s were retired.
- In December 2015, operational approval was granted by the Hong Kong Civil Aviation Department (HKCAD) for the eEnabled System fitted onboard our Boeing 777-300ERs. Activation of the system on the first 11 aircraft is expected to be completed by January 2016.
- Each eEnabled aircraft will have its paper charts, manuals, and documents, which can weigh up to 51 kg, replaced with the Electronic Flight Bag and Electronic TechLog. New antennas on the aircraft also significantly reduce aircraft drag thereby reducing the fuel burn.

In addition to weight and fuel savings, the eEnabled Aircraft solution will bring many benefits including:

- Improving the speed, accuracy, deployment and presentation of information between the aircraft and ground infrastructure, enabling improvements to operational efficiency, maintenance effectiveness and service delivery.
- Enabling pilots to determine precise fuel requirements and the potential for increased payload for each flight.
- Reducing the environmental impact of producing, distributing and disposing of operations manuals and charts and decreasing the weight of carrying these on the aircraft.
- Enabling earlier preparation and faster action by ground engineers, with less time spent retrieving and analysing information from paper technical and cabin logs.

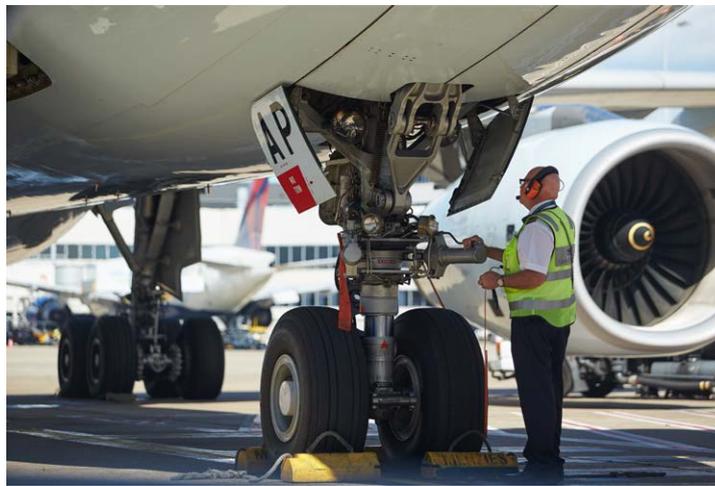
We will continue to roll out the eEnabled System across our fleet of Boeing 777, Airbus A330, and Boeing 747 freighter aircraft. The A330s and A320/A321s in the passenger fleet of Dragonair will also have the new technology installed progressively.



- The Flight Efficiency Working Group was established in 2014 to facilitate a coordinated approach to managing our fuel use better and improving fuel efficiency. The cross-departmental team focussed on projects in the following areas:
  - Aircraft operations
  - Aircraft weight
  - Aircraft performance
  - Airspace efficiency

Trials were conducted on lowering the window blinds during disembarkation to reduce the rate of temperature increase in the aircraft cabin by up to 3-4 °C per hour. If the temperature increase rate is slowed down, the pilots are able to delay the start of the auxiliary power units (which uses jet fuel) and as such conserve energy whilst maintaining a comfortable environment in the cabin for our crew and passengers.

In order to conduct more advanced analytics that will help to guide our future efficiency initiatives, we entered a five-year agreement with Rolls-Royce to collect flight data. Flight data of 188 aircraft operated by Cathay Pacific and Dragonair will be analysed to further optimise our growing operations.



### Global CO<sub>2</sub> Emissions – Cathay Pacific Group Fleet



## Sustainable Biofuels

Following our investment in U.S.-based sustainable biofuel developer Fulcrum BioEnergy Inc. in 2014, construction of the first phase of its first commercial scale plant commenced in 2015. When production begins, the plant will convert more than 163,000 tonnes of prepared municipal solid waste feedstock into approximately 12 million gallons per year of renewable synthetic crude oil that will be further refined into low carbon jet fuel.

We have negotiated a long-term supply agreement with Fulcrum for an initial 375 million US gallons of sustainable aviation fuel over 10 years and which would meet all the airline's technical requirements, specifications and sustainability criteria.

According to Fulcrum, jet fuel produced by their waste-to-fuels process will reduce lifecycle carbon emissions when used in aircraft or road transport by more than 80% when compared to traditional fuels derived from crude oil and other fossil sources. This process also reduces the amount of municipal solid waste destined for landfill and resulting methane gas emissions.

In spite of the low fuel price environment, Cathay Pacific remains committed to the biofuel agenda as part of our long term strategy to reducing our climate change impact.



## ICAO Global Market-Based Measure

In 2014, the International Civil Aviation Organisation (ICAO) began the development of a global market-based measure (MBM) to address the growth of international aviation emissions.

The Global Market-based Measure Technical Task Force (GMTF), comprising representatives and experts from ICAO member states, industry and NGOs, was convened. Cathay Pacific is a member of the GMTF and has been actively engaged in the dialogue on the implementation of a global MBM for aviation emissions under ICAO, including membership of IATA's advisory group on this issue.

We are part of a small group of IATA carriers that are members of the expert groups looking at specific technical aspects of a global MBM through the ICAO Advisory Committee on Environmental Protection (CAEP), together with NGOs, states and academia.

Significant progress was made in 2015 on defining the technical details of the MBM scheme. The momentum is set to continue with additional meetings planned leading up to the next ICAO Assembly in 2016 and we will continue to play an active role in the process.

## Global Efforts by the Aviation Industry in Reducing Emissions

2008	Cathay Pacific as a Founding member of the Aviation Global Deal Group
2009	The aviation industry committed to new and ambitious targets for emissions reductions through IATA
2010	Monitoring of CO <sub>2</sub> data began in compliance with the EUETS
2011	Cathay Pacific appointed to IATA Climate Change Task Force
2012	CCTF completed extensive work around the implementation of CNG 2020
2013	The 38 <sup>th</sup> ICAO Assembly agreed to proceed with the development of a global market-based measure for international aviation industry emissions
2014/ 2015	GMTF and working group meetings to discuss details of the global MBM

## European Union Emissions Trading Scheme

The European Union continued to 'stop the clock' on the EU Emissions Trading Scheme (ETS). The revised regulation extended the suspension of the ETS with respect to flights to and from non-European Economic Area (EEA) countries until 2016, as well as requiring Member States to report on how they used revenue from ETS allowance auctions.

Although Cathay Pacific welcomed the clarity this provided airlines for the next three years, the continual amendments to the regulation added to legislative uncertainty. Nonetheless, we remained in full compliance with the EU ETS regulation, but our commitment is towards seeking a global MBM solution that is fair, equitable and avoids market distortion as opposed to regional schemes such as the EU ETS.

The verification of our 2015 emissions data by an external auditor was completed in February 2016 and our emissions report was submitted to the UK Environment Agency in the same month.

## Contributing to Climate Change Science

Since 2013, one of our Airbus A330-300 aircraft equipped with In-service Aircraft for a Global Observing System (IAGOS) scientific instruments has operated over 1,400 flights primarily on Australian and Middle East routes from Hong Kong, complementing five other similarly equipped commercial aircraft operating on other routes around the world. Data on ozone, carbon monoxide, water vapour, and clouds is recorded during take-off, cruising, and landing and transmitted to the IAGOS central database on a daily basis for access by science and policy users, including the provision of real time data for weather prediction, air quality forecasting and climate models. The growing IAGOS database will continue to improve our understanding of cloud processes and their impact on climate.

Between 2012 and 2014, data covering 74,759 clouds sampled during 4,399 IAGOS flights yielded new insights into our understanding of small cirrus ice crystals and their implications for flight operations. The findings<sup>1</sup> revealed that the safety of an aircraft may be affected when flying through clouds with very high ice crystal concentrations, where instrument interference can cause anomalous readings from temperature and airspeed sensors.

<sup>1</sup> Beswick, Karl, Darrel Baumgardner, Martin Gallagher, Graciela B. Raga, Patrick Minnis, Douglas A. Spangenberg, Andreas Volz-Thomas, Philippe Nedelec, and Kuo-Ying Wang. "Properties of Small Cirrus Ice Crystals from Commercial Aircraft Measurements and Implications for Flight Operations." Tellus B 67.0 (2015). Web. <[www.tellusb.net](http://www.tellusb.net)>.

### **FLY greener Carbon Offset**

Passengers continued to offset the emissions from their flights via **FLY greener**, Cathay Pacific's carbon offset programme, which has been in place since 2007 when we became the first Asian airline to offer a passenger carbon offset scheme. This amounted to 3,300 tCO<sub>2</sub><sup>^</sup> in 2015. Cathay Pacific and Dragonair also offset the CO<sub>2</sub> impacts of staff travelling on business, totaling 12,300 tCO<sub>2</sub><sup>^</sup> at an approximate cost of HK\$268,000.

The programme portfolio was renewed and features two new projects in China and Taiwan. Both projects are certified to the Gold Standard.

### **Clean and Efficient Cooking and Heating Project, China**

Located in the rural areas of Shanxi Province, China, this fuel-switching project reduces greenhouse gases (GHGs) by replacing coal with renewable biomass on a household level. More than 7,000 inefficient coal burning stoves are replaced with highly efficient ones that use agricultural residue, which are currently burned in the fields as waste. The GHG reductions are approximately 82,000 tonnes per year as well as improved indoor air quality as less fumes are produced from more efficient combustion. By using agricultural waste as a source of fuel, families are also saving on fuel spending, allowing for better use of family income.



### InfraVest Changbin and Taichung Bundled Wind Farms Project, Taiwan

Two wind farms consisting of 65 wind turbines along the west coast of Taiwan generate clean electricity equivalent to 110,000 households' annual demand annually. The project reduces GHG emissions by 370,000 tonnes per year and helps to improve local air quality through reduced air pollutants such as sulphur dioxide and nitrogen oxides. This project has created a number employment opportunities in support of the operation of the wind farms. Increased public interest in the wind farms inspired guided tours of the facility.



Clean and Efficient Cooking  
and Heating Project

Shanxi, China

Taiwan Changbin and  
Taichung Wind Farm Project

Taiwan

### Hong Kong International Airport Expansion

Following the issuance of the Environmental Permit for the expansion of Hong Kong International Airport in November 2014, the HKSAR Government's Executive Council approved the project in March 2015.

## Ground Operations

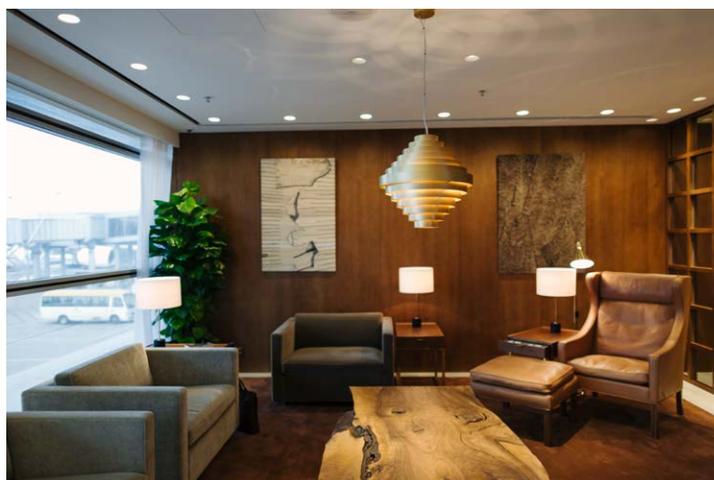
In 2015, the total electricity consumption at Cathay City and Dragonair House were 35,446,467 kWh<sup>^</sup> and 7,043,874 kWh<sup>^</sup> respectively, representing a decrease of 0.9% and increase of 0.3% respectively. We continue to invest in energy saving measures such as chilled water system optimisation and LED lighting replacement. The incremental increase in consumption at Dragonair House was mainly due to increased training and recruitment activities.

To support staff driving electric vehicles to work, we designated a parking space at Cathay City next to the electric vehicle charging point for electric vehicles only. Three further outdoor EV chargers were installed in 2015.

At the Cathay Pacific Cargo Terminal, energy saving initiatives introduced in 2015, including the introduction of solar-powered passenger steps and electric vehicles, optimisation of cargo and passenger elevators, installation of induction lamps and LED lights, and circuitry modifications with timers, reduced electricity usage per tonnage by 13.6% against 2014.



After successfully implementing a water-to-water heat pump system at The Bridge, a similar system is being applied at The Pier to reduce our energy usage. The First Class lounge reopened in June 2015 whilst the Business Class lounge is expected to reopen in the second quarter of 2016.



Our subsidiary businesses, including HAS, Vogue Laundry and Cathay Pacific Catering Services (CPCS), have been replacing existing equipment with newer, more efficient and lower emission models.

HAS, our ground handling company, continued with the second term of their three-year Ground Support Equipment (GSE) Replacement Programme, replacing 26 aged and less fuel-efficient GSE and vehicles. To support its plan to replace 25% of its diesel Lower Deck Loader fleet with electric ones before 2020, HAS also introduced 10 electric Lower Deck Loaders in 2015.



At Vogue Laundry, consumption of the dry cleaning solvent, perchloroethylene, was increased by 23.0% in 2015 owing to an increase in the number of items for dry cleaning. Vogue also switched from diesel boiler to a dual fuel boiler utilising Towngas and ultra-low sulphur diesel at a 90:10 ratio, which helped reduce CO<sub>2</sub> emissions. In addition, three Euro II trucks were disposed.

CPCS replaced air-cooled chillers with two efficient water-cooled ones, fitted two heat pumps, and continued installing LED lights around the premise, which resulted in an estimated total saving of 4,977 tonnes of carbon in 2015.

Cathay Pacific continued to be included in the FTSE4Good Index, one of the most recognised sustainability indices measuring the performance of companies demonstrating strong environmental, social and governance (ESG) practices. We also supported the HKSAR Government's Carbon Footprint Repository for the second year, which was newly developed for listed companies in Hong Kong, by disclosing our emissions data through this system. Cathay Pacific obtained an 'AA' rating under the Hang Seng Corporate Sustainability Index.



## What Our Stakeholders Think

Not surprisingly, climate change, carbon emissions and energy efficiency remain the primary environmental issues of focus for stakeholders, and with fuel as an important emerging issue, due to their perceived high impact on our business – high fuel costs, increasing regulations such as the emergence of different Emissions Trading Schemes, the development of a global market-based measure, and impact on the environment. In particular, there are expectations on role that biofuels will play in helping us achieve our emissions goal. Climate change has been a material issue for us for a long time, and stakeholders recognise that we have been addressing this as a priority, but at the same time, expect us to adopt targets that exceed the industry ones.

There is an expectation for us to further enhance transparency and communication around our climate change approach, especially with staff, and for us to engage more proactively and publicly on this issue.

## Our Climate Change Commitments

### CX Commitments

In 2012, we launched our commitments under our Sustainable Development Strategy. We committed ourselves to a number of actions that are related to *reducing our overall carbon emissions (in the air and on the ground) and adapting to the impacts of climate change*:

20/20 Commitments	Progress	Why this commitment?	What has been done	What we are going to do in the medium term (2-3 years)
Achieve 2% year-on-year improvement in fuel efficiency		To meet and exceed the industry commitment of 1.5%, reduce fuel cost and emissions	Significant investment in our fleet renewal plan. We took delivery of nine new aircraft in 2015: three Airbus A330-300s and six Boeing 777-300ERs. Four Airbus A340-300s and four Boeing 747-400s passenger aircraft were retired during the period.	Receive new aircraft and retire less efficient ones. At 31 December 2015, we have 70 new aircraft on order for delivery up to 2024. A total of 13 new aircraft are scheduled for delivery in 2016
Develop a cost-effective strategy to incorporate sustainable aviation fuel into our operations		To develop a robust alternative fuels strategy as part of our adaptation strategy	Appointed a dedicated Biofuel Manager in 2011 Invested in a U.S. based waste-to-energy biofuel development facility in 2014 Construction of the waste-to-energy biofuel facility commenced in 2015	Progress several projects, including undertaking feasibility study with a technology partner.
Embed climate change adaptation into overall risk management		To reduce Cathay Pacific's exposure to risks and capture business opportunities related to climate change	Review international and local aviation climate change adaptation research	Develop an implementation plan
Reduce electricity use by 25%		This is a key impact of our headquarter buildings in Hong Kong	Introduced green specifications into the proposal process for purchases of electric equipment Continual replacement of older equipment with more power efficient ones (e.g. LED lighting, air-cooled chillers, heat pumps etc.) Commissioned an energy baseline study to help us better understand the factors affecting our energy usage	Carry out a detailed Energy Audit with recommendations Include green specifications in equipment requirements

Our Climate Change Commitments

20/20 Commitments	Progress	Why this commitment?	What has been done	What we are going to do in the medium term (2-3 years)
Ground vehicles to use alternative fuels/power source	➤	To encourage more efficient use of our ground vehicles and service equipment, and to prepare for future legislation	Upgraded vehicle The second term of HAS' Ground Support Equipment (GSE) Replacement Programme commenced in 2014. About 60% of HAS' motor vehicles and GSE are now electrically powered or comply with the latest emission standard that is Stage IIIA for GSE and Euro V for vehicles	Continued progressive vehicle replacement and exploring performance improvement systems
All Cathay Pacific Group-owned buildings, offices and lounges will consider green building standards or principles	➤	To ensure green elements are considered at the design stage of our newly constructed or refurbished buildings	Applied green guidelines and building certification (where applicable) for offices and passenger lounges. The Cathay Pacific lounge at Charles De Gaulle Airport, Paris was LEED Silver certified in 2014	Develop bespoke guidelines suited to the construction and refurbishment of our specific facilities  New buildings for CPCS and Vogue Laundry to be designed to achieve the BEAM Plus GOLD standard
Offer carbon offsetting as part of all ticket-related marketing and promotional activities	✔	To provide a value-added service while raising customer awareness on the carbon impact of their flight, and how they can offset this impact	Offsets paid for free tickets given for marketing promotions and public relations activities  For free tickets where the passenger covers taxes and surcharges, a reminder is provided in the prize letter	Revamp the <b>FLY greener</b> programme

✔ Achieved    ➤ On Plan    ! Off Plan

Want to find out more? Go to our **Climate Change Factsheet**.



↓ PDF



Want to find out more? Go to our video on the right.



Our video, **Reduced Engine Taxiing**.

# Waste Management



## Waste Management Matters

The use of material resources such as paper and wood, plastic and food in our operations is inevitable. We recognise the impacts of using and disposing of these materials, such as the shortage of landfill space in Hong Kong. Therefore we have medium to long-term programmes in place to minimise these impacts and be responsible stewards of these resources. While we were seen by our stakeholders as having improved in this area, they expect to see continued action on this urgent issue.

In particular, our staff are concerned about what they can do in the working environment, for example, flight and cabin crew wanted to see more being done to tackle inflight waste, while our ground staff wanted to see us take more proactive steps in offices and airports. This is a positive sign, as we are seeing our staff more willing to be involved in reducing our use of resources and increasing recycling and re-using where we can. This is encouraging as many of our resource and waste management initiatives can only be achieved with the support of our staff, both inflight and on the ground.

In recent years, we have received considerable attention on our use of plastics inflight – this was consistent amongst our different stakeholders – from passengers, staff and environmental organisations. We have provided a detailed section in [our factsheet](#)  on our plastic use.

Our strategy to resource use and waste management is as follows:



## Updates for 2015

In the past few years, we have initiated a number of resource use and waste management initiatives with a full list detailed in the [factsheet](#).

We are constantly examining options whereby we can reduce resource use and waste, or use materials from more sustainable sources. Below are a number of initiatives which progressed in 2015:

- We began to retire our fleet of 11 Airbus A340s. Under Airbus' PAMELA initiative (Process for Advanced Management of End-of-Life Aircraft), the aircraft were systematically recycled where up to 90% of their components can be reused, recovered, or recycled. Four aircraft were retired and recycled in 2015. The remaining seven A340s will be retired by the end of 2017.
- Trials for donating surplus food and beverages from inbound flights became a regular occurrence. 116 tonnes of food were donated in 2015 to a food bank in Hong Kong.
- Paper saving initiatives involving process improvements and making better use of technology resulted in savings of over 220,000 sheets at Cathay Pacific.
- Maps of Hong Kong International Airport distributed with our boarding passes to passengers were switched to FSC paper.

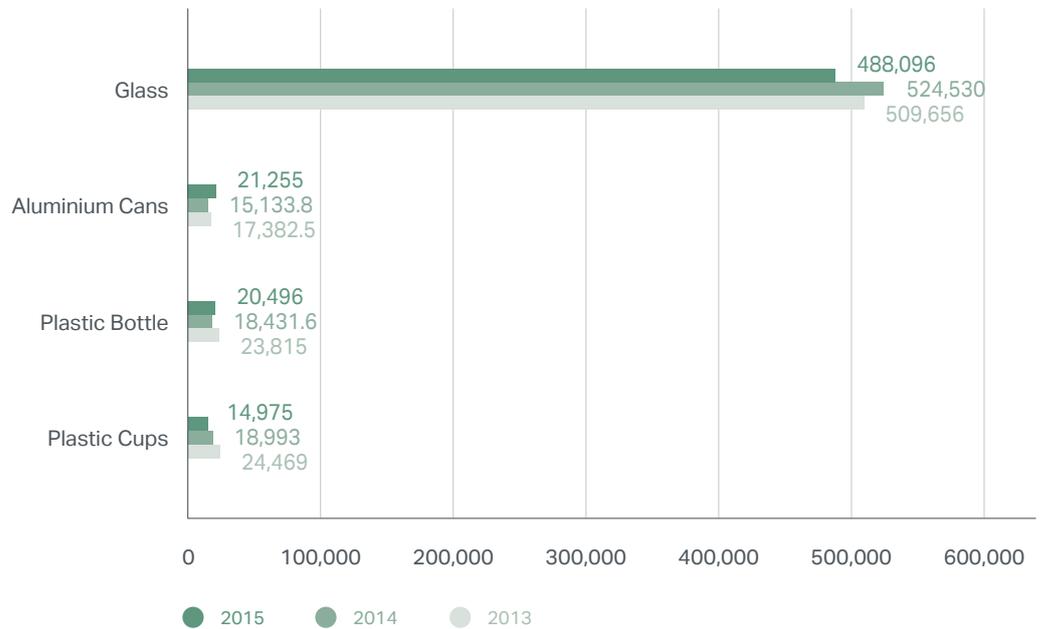
### Recycling

We continued with recycling initiatives inflight as well as in the offices, covering aluminium cans, plastic bottles, cups, and glass bottles.

Recycling from inbound Cathay Pacific flights in 2015 consisted of:

- Aluminium cans: 21,255 kg <sup>^</sup>
- Plastic bottles: 20,496 kg <sup>^</sup>
- Plastic cups: 14,975 kg <sup>^</sup>
- Glass bottles: 488,096 kg <sup>^</sup>

### Inflight Waste Recycling (Kg)



Cathay Pacific commenced inflight glass recycling on 1 September 2011.

### Aircraft

With 11 A340-300s due to be retired by 2017, we began working with a company specialising in end-of-life solutions to recycle these aircraft. Four of our A340s, each weighing 125 tonnes, were retired and transferred to a workshop in France to be actively recycled. Under Airbus' PAMELA initiative (Process for Advanced Management of End-of-Life Aircraft), the aircraft were systematically recycled where up to 90% of their components can be reused, recovered, or recycled. Four aircraft were retired and recycled in 2015. The remaining seven A340s will be retired by the end of 2017.

#### Benefits of Aircraft Recycling

- Increase recycling rate to 90%
- Reduce waste sent to landfills to <10%
- Save over 90% in energy from producing recycled aluminium relative to new aluminium

## Food Waste

The Cathay Pacific Group, through Cathay Pacific Airways, Dragonair and Cathay Pacific Catering Services (CPCS), serves around 110,155 meals per day. We recognise that food waste is unavoidably created every day through our operations. We have implemented a number of measures to reduce food waste where we can, such as reusing food offcuts, recycling used cooking oil, donating surplus meat and vegetables from Cathay City to the food rescue programme Food Angel, and better flight meal planning.

Launched in the last quarter of 2014, trials for donating unopened juices, cereals, and pre-packaged food from inbound flights became a regular occurrence. Cathay Pacific Volunteers were mobilised to support this initiative jointly organised by Cathay Pacific Catering Services Limited and Feeding Hong Kong, a local food bank. In 2015, 60 welfare centres received 116,000 kg of food and beverages.

“Inevitably we upload more food and beverages onboard than needed, to ensure our passengers get sufficient choice. It’s great for me to be able to help distribute salvaged items to the needy. When I am serving inflight, I will try to tidy up these items in a way that makes it easier for volunteers to sort them afterwards.”



### **Jessie Chow**

Flight Attendant and Cathay Pacific Volunteer

## Paper

Through simplifying current processes and making better use of technology for handling baggage claims and dispatching aircraft component repair orders, paper savings of over 220,000 sheets were achieved in 2015. This was a joint project between the Baggage Services team at Hong Kong International Airport, the Business Improvement & LEAN team at the Engineering Department, and HAECO, our aircraft engineering and maintenance service provider.

## What Our Stakeholders Think

With the shortage of landfill space in Hong Kong, waste is a locally critical issue. It is also a very tangible aspect of our operations to our customers and staff. This is a common thread that has been highlighted in our stakeholder groups. There are positive perceptions about Cathay Pacific's performance in this area overall, but we are expected to continue to reduce waste onboard, such as tackling the use of plastic packaging; paper use in our offices; and communicating on our reuse and recycling practices, especially engaging with our passengers, cabin crew and cleaning agents. Some stakeholders have also made a link between reducing inflight waste, use of materials, resources and fuel use, in terms of weight reduction.

## Our Waste Management Commitments

### CX Commitments

In 2012, we launched our commitments under our [Sustainable Development Strategy](#). We committed ourselves to a number of actions that are related to *reducing our resource use and improving waste management*:

20/20 Commitments	Progress	Why this commitment?	What has been done	What we are going to do in the medium term (2-3 years)
Reduce the environmental impact of maintenance, repair and overhauls (MRO) carried out in Hong Kong by 50%		We recognise the impacts during the maintenance of our aircraft, including from the use of chemicals, jet fuel, water and energy	Identified the key MRO impacts with our maintenance service suppliers, HAESL and HAECO	Improve efficiency of resource use by HAESL and HAECO under areas where savings can be achieved  Identify and trial alternative products to reduce chemical, water and energy impacts
Reduce material usage and waste by 25%		To reduce resource use and disposed waste both inflight and in our offices, as this is something our customers and staff care about	Collected information on what we use and dispose of  Worked with charities to reduce the need for disposal  Switched to electronic documents with eEnabled aircraft  Used lighter material for inflight equipment  Trialed alternative methods to reuse old uniforms  Donated old blankets and seat cover to charities  Carpets in our Economy Class cabin are produced from 100% waste nylon	Identify resources where there is potential for improvement, and work with our suppliers and customers on these materials
Increase recycling by 25%		To reduce the strain on resources and avoid disposing to landfill, where there is space shortage especially in Hong Kong	Introduced and increased recycling opportunities where available, e.g. glass bottles, both inflight and in our offices  Systematically recycling our retired Airbus A340 aircraft	Raise staff awareness and improve office recycling facilities

Want to find out more? Go to our [Waste Management Factsheet](#).



↓ PDF

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Want to find out more? Go to our [video on the right](#).



Our video, [Recycling Retired Aircraft](#).

# Sustainable Sourcing



## Sustainable Sourcing Matters

Our suppliers are our partners – we work with over 1,000 of them globally, dealing with purchases from aircraft and fuel to office supplies and uniforms – across the 189 destinations which we serve. We envision a sustainable supply chain within the Cathay Pacific Group, and working with our suppliers is key to delivering products and services to our customers sustainably.

We work with our suppliers on a supply chain sustainability compliance process as part of our risk management process. Many of our suppliers are companies that also report publicly on their sustainability performance and hold similar values towards corporate responsibility as ourselves.

In order to deliver products and services that are sustainably sourced, we need to work with our suppliers. Developing a sustainable supply chain is a challenge due to the large amount of items we purchase, each with varying specifications. In some cases, we may not have leverage on all our suppliers and have limited influence on the sustainability attributes of these materials. Moreover, our specifications need to meet very strict safety standards, particularly if we are taking these items onboard. We are determined to find solutions to these challenges:

- We participate in best practice sharing sessions locally and internationally: Since 2007 Cathay Pacific has been a member of the Swire Sustainable Purchasing Working Group, which looks at synergies within the Swire Group in embedding sustainable purchasing practices in the Swire Pacific companies. We were a founding member of the Hong Kong Green Purchasing Charter in 2008. In 2013, we were also one of the founding participants of the inaugural Sustainable Lifestyles Working Group launched by non-profit sustainability organisation Business for Social Responsibility and sustainability communications firm Futerra. In 2015, the oneworld Procurement Best Practises Working Group – CSR was established to understand how each member airline currently manages sustainability risk in their supply chains and share best practises.
- We trial and use alternative materials and implement these across the Cathay Pacific Group: We often assess the performance of alternative materials. Once it passes the trial phase, we implement the material across the whole Group. For example, when we decided to switch all office paper to sustainably- sourced material, we assessed different options from recycled paper to paper made from FSC sources. Since our initial purchase of sustainable office paper in 2008, currently the majority of office paper, marketing collaterals in Hong Kong, training materials, inflight magazines and team newsletters have switched to FSC or recycled paper.

## Sustainable Purchasing

Our purchasing practices are of the highest professional and ethical standards. Most of the purchasing requirements for both Cathay Pacific and Dragonair are managed by the Procurement & Aircraft Trading Department. We require the procurement of all goods to be undertaken with full compliance to the applicable laws, tax regime and regulations that govern the specific transaction with full cognisance taken of our Anti-Bribery, Anti-Trust and Data Protection policies.

We aim to encourage our suppliers to improve on their sustainability practices through capacity building and sharing knowledge on best practices as part of our approach to sustainable procurement. Our purchasing teams understand the need to consider sustainable purchasing and responsible supply chain practices in buying decisions. We require our suppliers to provide clear, accurate and appropriate reporting of their progress in achieving our Supply Chain Sustainability Code of Conduct objectives.

## Supply Chain Sustainability Code of Conduct

Since the launch of our Supply Chain Sustainability Code of Conduct in 2007, suppliers to Cathay Pacific must provide clear, accurate and appropriate reporting of their progress toward achieving our objectives contained in this Code. These include:

- Legal and regulatory compliance
- Environmental management
- No use of forced and child labour
- Appropriate compensation and working hours
- Health and safety in the workplace
- No discrimination against employees
- Upholding human rights in the workplace
- Having high ethical standards
- Extending social responsibility to their subcontractors and service providers
- Maintaining documentation and permitting our inspection

In developing and revising the Code, we took account of the International Labour Organization's core conventions and other applicable and recognised labour standards, referred and benchmarked against the United Nations Global Compact.

## Timeline for Working with Our Supply Chain

2006	Identified the need for a more coordinated approach to sustainability in our supply chain
2007	Developed and launched our Code of Conduct First questionnaires sent to Hong Kong-based suppliers
2008	Launched online tool for suppliers to complete questionnaire regarding their compliance with our Code. New suppliers are contractually committed to meeting our Code of Conduct
2009	Revised Code of Conduct to include <i>ethics</i>
2010	First publication of the Supply Chain Sustainability Newsletter distributed to local and outport suppliers Outport-based suppliers asked to complete questionnaire for the first time
2011	Development of a framework for supply chain compliance checking
2012	The Corporate Social Responsibility Code of Conduct renamed as the Supply Chain Sustainability Code of Conduct
2013	Project Horizon commenced to modernise and improve procurement processes and activities

## Sustainable Sourcing

It is our goal to ensure that we establish sustainable sourcing practices throughout our operations. We started embedding these practices by understanding the consumption of resources across different business units. To understand how we can achieve our sourcing goals, commonly procured items were identified and areas where there is potential for reduced usage were assessed. More information is provided in the *Waste Management* section of our report.

## Updates for 2015

### Inflight Cocktail Snacks

Cathay Pacific switched to a new supply of roasted peanuts using sustainably produced palm oil following the inclusion of this new requirement in our tender. Developed by the Roundtable for Sustainable Palm Oil, Certified Sustainable Palm Oil must meet a set of environmental and social criteria to help minimise any negative impacts such as deforestation whilst protecting the rights of indigenous people.

### Inflight Carpets

Our Economy Class cabin, which was first introduced in 2012, features carpets produced from regenerated nylon waste materials such as discarded fishing nets, fabric, and carpets. These have been installed across Cathay Pacific and Dragonair wide-bodied passenger aircraft such as the Airbus A330 and Boeing 777.

The use of regenerated material helps to eliminate waste and reduce the energy needed for the primary production of nylon. More importantly, the removal of marine debris such as discarded fishing nets can reduce the threat posed to marine animals.

### oneworld / Sedex Membership

As a founding member of **oneworld**, the **oneworld** Procurement Best Practises Working Group – CSR was established in 2015 to understand how each member airline currently manages sustainability risk in their supply chains and share best practises.

## What Our Stakeholders Think

The sustainability of supply chains has gained in importance in the last few years, as businesses look beyond the impacts and performance of their immediate operations. Stakeholders are increasingly looking for us to incorporate green purchasing guidelines into environmental and sustainability policies, and show a more integrated view of environmental and sustainable development management across the business value chain. We are also expected to train employees to use these sustainable procurement guidelines, and gain a deeper understanding of supplier practices.

# Our Supply Chain and Procurement Commitments

## CX Commitments

In 2012, we launched our commitments under our Sustainable Development Strategy. We committed ourselves to a number of actions that are related to *working with our supply chain*:

20/20 Commitments	Progress	Why this commitment?	What has been done	What we are going to do in the medium term (2-3 years)
<b>All Cathay Pacific Group-branded materials will be produced using sustainable materials</b>		To ensure that Cathay Pacific branded materials meet not only the highest quality, but also come from sustainable and responsible sources	<p>Adopted the paper, plastic and printing guidelines with a focus on Cathay Pacific branded products</p> <p>Amenity kits from Economy Class are produced from recycled PET bottles</p> <p>Maps of Hong Kong International Airport distributed with our boarding passes to passengers are printed on FSC paper</p>	Trial with more sustainable materials on different products
<b>All paper, paper products and textiles offered to customers or as part of the service offering will be made of sustainable materials</b>		To ensure products offered to our customers meet their sustainability expectations	<p>Adopted the paper, plastic and printing guidelines in 2013</p> <p>First class sleep suits are made from organic cotton using green manufacturing principles</p> <p>Carpets in our Economy Class cabin are produced from 100% waste</p>	Explore alternative methods to reuse old uniforms
<b>Engage with suppliers of inflight sales products on sustainability principles</b>		To expand the reach of our Supplier Code of Conduct to include inflight sales product suppliers. Be consistent in the sustainability requirements of the products and services offered to our customers	<p>Surveyed publicly available information of our inflight sales suppliers against our Code</p> <p>"Cathay Cares" and "Shop for a Good Cause" sections in the Cathay Pacific and Dragonair inflight sales magazines</p> <p>Discover The Shop and Emporium respectively, selling products that support communities and the environment</p>	Further engage with these suppliers

Our Supply Chain and Procurement Commitments

20/20 Commitments	Progress	Why this commitment?	What has been done	What we are going to do in the medium term (2-3 years)
<b>All suppliers will comply with our Supply Chain Code of Conduct</b>	✓	To ensure that we only work with suppliers that comply fully with our Code of Conduct	Developed checklists for the purchasing teams to implement the Code effectively and consistently	Develop user-friendly reference material for the purchasing teams and organise learning events to equip them  Develop a process and system to effectively engage suppliers to comply with the Code
<b>All meals served inflight and on the ground will meet sustainability criteria</b>	➤	To reduce our impacts on biodiversity	Served fish and seafood from sustainable sources on flights from Europe and North America  Inflight cocktail snacks (roasted peanuts) are produced from RSPO certified palm oil	Develop sustainable food guidelines  Identify food items that can be sourced sustainably
<b>CX Holidays to offer at least five more ecotourism packages by 2015</b>	➤	To expand our product offering to include sustainable products	Identified ecotourism destinations and operators within the packages we currently offer	Identify further ecotourism destinations and operators
<b>All holiday packages offered by CX Holidays will be verified for their sustainability impacts</b>	➤	To ensure sustainability impacts are considered in the packages we offer	Identified the existing sustainability criteria and standards for ecotourism	Identify the destinations and operators that offer these standards

✓ Achieved   
 ➤ On Plan   
 ! Off Plan

Want to find out more? Go to our **Sustainable Sourcing Factsheet**.



↓ PDF



Want to find out more? Go to our video on the right.



Our video, **Innovative Carpets**.

# Biodiversity



## Biodiversity Matters

The conservation of habitats and species diversity is important to Cathay Pacific. We recognise that we have an impact on the destinations to which we fly, and hence we continue to develop and incorporate biodiversity elements into our sustainable development strategy.

Conservation has long been a topic of concern for Cathay Pacific. For many years, we have been sponsoring habitat-protection programmes within Asia, and working with NGOs from across the region. For instance, working with Friends of the Earth, we provided funding that resulted in the planting of 10,000 tree seedlings around Hong Kong. We also raised nearly HK\$8 million from passengers to support conservation initiatives in mainland China through The Nature Conservancy. Partnering with the Kadoorie Farm and Botanic Gardens in Hong Kong, we helped reintroduce 609 endangered pig-nosed turtles to Indonesia by donating cargo space and air tickets to the organisation. Since at least 2009, Cathay Pacific has been engaging with shark conservation specialists and organisations to understand the issue and explore our role as a responsible business. We are one of the first airlines in the world to raise the awareness of the unsustainability of the global shark trade. We will continue to direct investments in biodiversity conservation as a way to give back to the community.



It is important that our inflight meals are sustainably sourced as well. On average, Cathay Pacific and Dragonair serve 110,155 inflight meals everyday to our passengers. Therefore, by adhering to international sustainability standards, we can have a substantial positive impact on the diversity of a wide variety of ecosystems. We have already adopted a Sustainable Food Policy that does not allow the serving of a number of unsustainably produced food items, including shark fin soup, both inflight and at company-paid functions. Since 2011, we have been serving fish from sustainable sources, such as those that are Marine Stewardship Council (MSC) certified, in Economy Class on all our flights departing from Europe. We follow a similar policy for fish served in Economy Class on flights from Australian and North American ports.

To learn more about what the Cathay Pacific Group has been doing to support habitat-protection programs and adopt a strategy that incorporates biodiversity considerations into our daily operations, go to our [Biodiversity factsheet](#) .

## Updates for 2015

Cathay Pacific delivered an endangered Sumatran rhino, Harapan, safely from the United States to his indigenous home in Indonesia. With fewer than 100 of these animals remaining in the wild in the world, Harapan was transported back to the Sumatran Rhino Sanctuary for breeding and conservation purposes. Harapan was accompanied by a veteran animal keeper during the 16,000-kilometre journey. In preparation, the 816-kilogram rhino underwent medical checks and was trained to walk into and voluntarily remain in his crate. In addition, we assisted the Toronto Zoo by shipping boots and filtration equipment to rhino conservation rangers in Indonesia free of charge.

In addition to adhering to the Convention on International Trade and Endangered Species (CITES) requirements on the transport of endangered animals and plants listed under Appendices 1 and 2 of the Convention, we placed an embargo on the transportation of a) hunting trophies; and b) racing greyhounds (exporting from Australia to any destination and importing to Hong Kong from any place of origins).



*Stop Fish Bombing! Finally,  
there is a way to stop it |  
Dynamite Fishing* 

In early 2015, we started supporting the work of Stop Fish Bombing!, a non-profit organisation based in Hong Kong that incorporates a Silicon Valley-based technology company and a TV production company in Malaysia. Stop Fish Bombing! is working with governments, local authorities, NGOs, and the private sector to develop underwater bomb detection technology against fish bombing and raise public aware on this issue.

In mid-2015, an acceptance procedure for shark and shark-related products was issued to all Cathay Pacific and Dragonair ports. Requests for the shipment of shark or shark products were required to be assessed by an external expert panel of two highly respected international shark conservation agencies, in accordance with the sustainability of the species, before they could be considered for carriage.

## What Our Stakeholders Think

Today, companies are increasingly expected to understand their biodiversity impact and to determine ways to protect and enhance biodiversity as part of their business operations. This means that in addition to supporting habitat protection and animal welfare initiatives undertaken by third parties, we are expected to take action to reduce the impact from our daily operations. Our efforts regarding shark and shark products have particularly been viewed as a strong positive move by stakeholders.

## Our Biodiversity Commitments

### CX Commitments

Based on the input of our stakeholders and our strong support for reducing the negative impact of our daily operations on biodiversity, we are committed to the following actions:

20/20 Commitments	Progress	Why this commitment?	What has been done	What we are going to do in the medium term (2-3 years)
<b>Develop and implement a sustainable cargo policy</b>		To have a cargo policy that is in line with the principles of sustainable development	<p>Engaged with local and international experts to identify principles and criteria for acceptance of these products</p> <p>Formed a framework with specialists from the IUCN and TRAFFIC International which would help us implement our policy for shark and shark products effectively</p>	Continue to work with the global scientific community to review and develop guidelines on implementing our responsible cargo carriage policy, in particular on shark and shark products
<b>All meals served inflight and on the ground will meet sustainability criteria</b>		To ensure our inflight meals meet best sustainability standards	Develop a list and summary of all the standards on sustainable food sources	Gradually apply the food standards list to our purchases

 Achieved  On Plan  Off Plan

Want to find out more? Go to our **Biodiversity Factsheet**.



[↓ PDF](#)



Want to find out more? Go to our video on the right.



Our video, **Collaborating for Biodiversity**.

## Our People



### Our People Matter

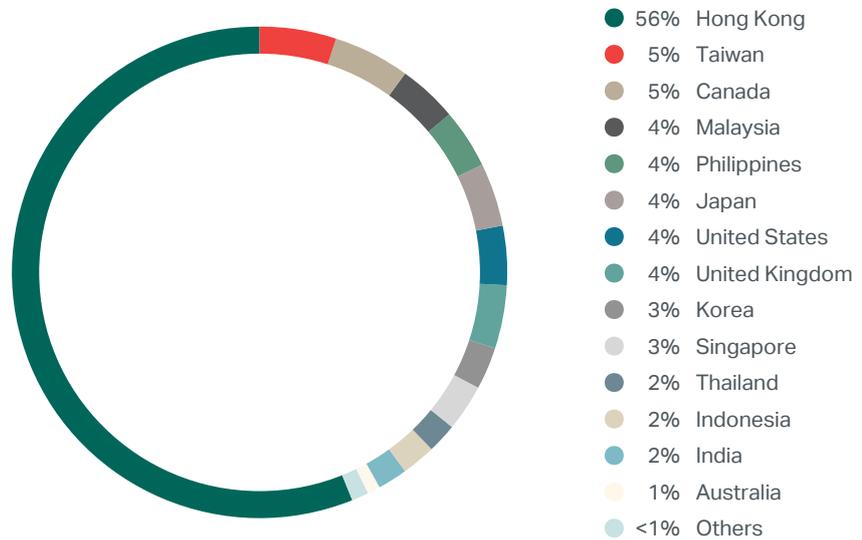
Our dynamic, professional, friendly and intuitive team is one of our greatest strengths and assets. We are proud of the high quality service of our staff, and are committed to providing the best possible working and career environment for them, in order to attract, develop and retain the best talent.

#### **Priority on People and Continual Drive to Develop a Winning Team**

We aim to ensure our staff is productive, competent and flexible, and that they operate within a healthy environment. We want to provide rewarding career opportunities by investing in our staff's professional and personal development. We do our best to show our appreciation of their highly-regarded professionalism and hardwork.

Our aim is to provide equal opportunities to individuals regardless of gender, race, national or ethnic origin, religion, cultural background, social group, disability, marital status, family status, sexual orientation, age or political opinion. We strive to manage people in a way that recognises diversity. We have also adopted formal mechanisms through which employees can make a complaint of discrimination or harassment in any form.

### Cabin Crew Nationality Mix (%)



Our team is unique in that it is widely dispersed around the world and consists of highly diverse cultures, background and languages. We work with multiple trade bodies based in different countries with specific union regulations and uphold freedom of association for our staff. Industrial relations continue to be an important issue, however we are actively working with the various groups to continue to enhance communication and consultation to ensure views are heard and acted upon appropriately.

As a major employer supporting Hong Kong, it has been our long-standing practice to support local recruitment. If the required skills are available locally, we will give priority to the local labour market before searching internationally. Vacancies are first opened internally to the company, then to the local community, and only then, overseas. Most of our overseas hiring relates to skills or experience that is not readily available in the local labour market, such as engineering and flight crew – which is why we have extensive local engineering and flight crew training to help build these skills in Hong Kong.

To find out more about different aspects of staff relations and engagement, recruitment, training and career development, go to the [Our People factsheet](#).

## Updates for 2015

### Engagement and Communication

Many different engagement programmes were run throughout the year. Below are some highlights from 2015:

#### All Staff

New online platforms for social media and crowdsourcing ideas were launched for Cathay Pacific and Dragonair staff.

Yammer, an enterprise social media platform, was launched to enable staff and teams to communicate and collaborate in a completely different way. Accessible through PCs and mobile apps, staff can join a wide variety of work and leisure groups to engage and interact with people in their departments or those who share the same interests. Overall 10,000 staff has since joined the company Yammer network. A sustainability group was set up, and staff have been actively contributing posts on waste reduction, energy efficiency improvement and environmental developments in the industry.

Spark, an online platform for crowdsourcing ideas, was launched corporate-wide in 2015 with a sustainability themed challenge. Staff were asked to submit and vote on ideas on how we might become a more sustainable airline group. Over a three-week period, 92 ideas were submitted under the three categories of customers, operations, and suppliers. The top two winning ideas involved making our amenity kits more sustainable and making our office greener. These were considered by the Innovation Council and respective departments.

### Flight Crew

Employee relations teams across Cathay and Dragonair support pilots on matters relating to their employment and wellbeing, benefits, rostering, sickness and injury; and on those that are technical and operational. Our pilots who are based in Hong Kong and across Europe, North America, Australia and New Zealand are represented by various associations, and industrial matters remain ongoing.

Dragonair continued engaging with the Dragonair Pilots Association. Communications with crew continued with twice-monthly fleet forums, and 'town hall' meetings with the management. There were also regular bulletins from the Director Operations and other managers.



### Cabin Crew

#### Cathay Pacific

In 2015, we continued to produce bi-weekly Cabin Crew Newsletter and monthly Cabin Safety Newsletter to ensure our Cabin Crew are well informed.

Discussions between Cathay Pacific management and the Flight Attendants' Union took place at end of 2015 and an agreement was reached by both parties. The dialogue on mutually important matters continues.

As part of continuous improvement effort, we will be conducting another CONNECT crew engagement survey in 2016.

### **Dragonair**

Thirteen crew forums were held in Hong Kong and Shanghai to facilitate enhanced communication and engagement. More than 250 cabin crew across different ranks and ethnic groups, including those from the Japanese and Korean communities, attended these events.

In celebration of Dragonair's 30<sup>th</sup> Anniversary and the 10<sup>th</sup> anniversary of the Shanghai cabin crew base, the management team attended the celebratory event in Shanghai involving over 70 cabin crew as helpers and performers.

DragonTV was expanded from quarterly releases to monthly episodes, which are hosted by General Manager Inflight Services. An additional four special editions covered events including Dragonair being named as Skytrax 'World's Best Regional Airline' and Dragonair's 30<sup>th</sup> Anniversary. We continued with monthly publications of the Cabin Crew Newsletter.

### **Recruitment**

A total of 2,038 flight crew, cabin crew and ground staff in both Cathay Pacific and Dragonair were recruited in 2015 to support the expansion of our business. An additional 1,355 staff joined our other subsidiaries in Hong Kong.

In the second year of our IT Graduate Trainee programme, 10 graduates were chosen from more than 530 applicants. The IT Trainees are undergoing a two-year rotation through a range of core IT disciplines, including business intelligence, digital retail, customer relationship management, supply chain management and infrastructure.

### **Training and Development**

In 2015, induction training was conducted with 781 new Cathay Pacific cabin crew recruits, and 446 cabin crew went through promotion training. Throughout the year, over 9,000 crew attended the annual refresher training class on Disability Awareness and Occupational Health and Safety for all cabin crew. We also provided a series of workshops for voluntary personal development.

To ensure our crew is well prepared for the new Airbus A350, a new door trainer was purchased and installed for safety and emergency training.

In 2015, 21 new mentors participated in the Dragonair Mentor Development Workshop with a vision of becoming an effective mentor for their cabin crew peers. In addition to mindset and skills-in-career mentoring, the workshop also provided techniques in exploring life interest, overcoming stress and communicating with different generations. More than 120 mentees benefited from the program this year.

## Stakeholder Views

Want to find out more? Go to our **Our People Factsheet**.



↓ PDF

Our staff have emphasised the need for targeted, proactive and ongoing communication with them. Sustainability messages should be integrated into this communication, utilising training platforms for different staff groups. Staff would also like a stronger connection and opportunities for a two-way exchange with management.



Want to find out more? Go to our video on the right.



Our Airport Supervisor, Shigemi Miyaki shares her experience with a passenger and explains that passengers' expectation should always be surpassed.



Tracey Kwong of Cathay Pacific explains why personal, memorable and touching experiences with Cathay passengers inspire her to help all our customers travel well.



Our First Officer, Kenneth Au talks about why Cathay Pacific has always been so memorable, and how he now plays a part in delivering the "life well travelled" experience to our passengers.



Our Managing Director of Cathay Holidays Limited, Roberto Abbondio gives his thoughts on what a genuine travel experience should feel like.



Our General Manager of Revenue Management, Patricia Hwang discusses how Cathay Pacific is always improving the "life well travelled" experience.



Our Flight Attendant, Jasmine Chan talks about her Life Well Travelled with Cathay Pacific, and the Habitat for Humanity charity organization.



Our IT Account Manager, Priya Menon describes the opportunities that have opened up to her at Cathay Pacific, and how everybody matters when it comes to ensuring a Life Well Travelled for our passengers.



Our Inflight Service Manager, Ann Wright explains why delivering a true customer experience must start from the very beginning.

# About this Report

## Overview

Welcome to our 7<sup>th</sup> Sustainable Development Report. It follows our sustainability journey in 2015 – both achievements and challenges, which is presented in different formats to suit the needs of different stakeholders:

- as summaries and updates of the key issues on the main pages of the website, for those who want a quick glance;
- as downloadable PDF Factsheets, designed for those who would like more in-depth data, information and stories; and
- as videos, where our staff tell their personal stories that demonstrate how they have made sustainability relevant in their day-to-day job.

A summary leaflet in both English and Chinese has been published together with this online report. These are downloadable from the website.

## Why Do We Report?

Our reporting has evolved since 1996, the first year we launched our Environmental Report, but our commitment to transparency and accountability remains unchanged.

We publish our Sustainable Development Report yearly to:

- Disclose our sustainability performance in a transparent, accountable and clear manner;
- Engage with our stakeholders on sustainability issues that are material to our business so we can address them effectively and appropriately; and
- Discuss the challenges and setbacks we face as a company in progressing along this sustainable journey, learn how to overcome them, and how we are approaching them in our governance, environmental and societal practices.

## Independent Assurance Statement

We have engaged PricewaterhouseCoopers Limited to perform an independent limited assurance of the report. The assurance scope and statement is provided below. Selected subject matter that has been verified are marked with a "▲".



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### Independent practitioner's limited assurance report To the board of directors of Cathay Pacific Airways Limited

We have undertaken a limited assurance engagement in respect of the selected sustainability information of Cathay Pacific Airways Limited (the "Company") listed below and identified with a ▲ in the Company's sustainability report for the year ended 31 December 2015 ("the Sustainable Development Report 2015") (the "Identified Sustainability Information").

#### Identified Sustainability Information

The Identified Sustainability Information for the year ended 31 December 2015 is summarised below:

#### 1) Greenhouse Gases ("GHG") emissions data

##### Aircraft operations Unit of measure

- Carbon Dioxide (CO<sub>2</sub>) Tonnes

##### Other operations Unit of measure

- CO<sub>2</sub> emission from electricity Tonnes
- CO<sub>2</sub> emission from ground vehicles Tonnes
- CO<sub>2</sub> emission from town gas Tonnes

#### 2) Selected quantitative data

- The mathematical accuracy of the grammes/ATK and grammes/RTK computation for 2015 (to be used by the Company to determine fuel efficiency).
- Outcome of the Fly greener programme in 2015:
  - (i) the total number of offsets for staff travelling on business, and
  - (ii) the total number of offsets bought by passengers.
- Weight of recycled material from inbound Hong Kong Cathay Pacific flights:
  - Aluminium cans (kg)
  - Plastic cups (kg)
  - Plastic bottles (kg)
  - Glass bottles (kg)
- Amount of recycled material from Cathay Pacific City and Dragonair House:
  - Paper and cardboard (kg)
  - Aluminium cans (kg)
  - Plastic (kg)
  - Printer cartridges (pieces) (Note: Cathay Pacific City and Dragonair House combined figure)
- Data regarding the English on Air ("EOA") programme during the 2014/2015 academic year: "A total of 168 students from five schools in Tung Chung participated in the English on Air programme during the 2014/2015 academic year."
- Data regarding the food donation programme during 2015: "60 welfare centres received 116,000 kg of food and beverages."

Our assurance was with respect to the year ended 31 December 2015 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the Sustainable Development Report 2015 and, therefore, do not express any conclusion thereon.



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*Criteria*

The criteria used by the Company to prepare the Identified Sustainability Information is set out under the heading "Reporting Methodology" in the section "About this Report" of the Sustainable Development Report 2015 at [www.cathaypacific.com/sdreport](http://www.cathaypacific.com/sdreport) (the "Criteria").

*The Company's Responsibility for the Identified Sustainability Information*

The Company is responsible for the preparation of the Identified Sustainability Information in accordance with the Criteria. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of Identified Sustainability Information that is free from material misstatement, whether due to fraud or error.

*Inherent limitations*

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities. In addition, GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

*Our Independence and Quality Control*

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

*Our Responsibility*

Our responsibility is to express a limited assurance conclusion on the Identified Sustainability Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with (i) International Standard on Assurance Engagements 3000 (Revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information, for selected quantitative data*, and, (ii) International Standard on Assurance Engagements 3410, *Assurance Engagements on Greenhouse Gas Statements*, for GHG emissions data, issued by the International Auditing and Assurance Standards Board. These standards require that we plan and perform this engagement to obtain limited assurance about whether the Identified Sustainability Information is free from material misstatement.

A limited assurance engagement involves assessing the suitability in the circumstances of the Company's use of the Criteria as the basis for the preparation of the Identified Sustainability Information, assessing the risks of material misstatement of the Identified Sustainability Information whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the Identified Sustainability Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the



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appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Made inquiries of relevant management of the Company;
- Understood the process for collecting and reporting the Identified Sustainability Information;
- Undertook analytical procedures over the Identified Sustainability Information;
- Performed limited substantive testing on a selective basis of the Identified Sustainability Information; and
- Considered the disclosure and presentation of the Identified Sustainability Information.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether the Company's Identified Sustainability Information has been prepared, in all material respects, in accordance with the Criteria.

*Limited Assurance Conclusion*

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Company's Identified Sustainability Information for the year ended December 31, 2015 is not prepared, in all material respects, in accordance with the Criteria.

Our report has been prepared for and only for the board of directors of the Company and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the content of this report.

**For and on behalf of PricewaterhouseCoopers Limited**

A handwritten signature in black ink, appearing to read 'John Barnes'.

John Barnes  
Director

29 July 2016

## Global Reporting Initiative

The report is prepared in accordance with the Core option of the GRI G4 Guidelines, which were released in May 2013.

### GRI G4 Content Index<sup>1</sup>

The table [here](#) sets out the locations of where the relevant information or data can be found in this Sustainable Development Report. In preparation for improving future reporting and disclosure, comparable key performance indicators (KPIs) from the following have also been included for ease of reference:

- Indicators recommended under the Hong Kong Stock Exchange Environmental Social and Governance (ESG) guidelines.

1. GRI G4 Materiality Disclosure: G4-22.

## Reporting Methodology

This report covers the 2015 calendar year.

### How We Report

The content of this report has been defined by a process of:

- internal and external stakeholder engagement led by an external, independent facilitator;
- identification of priority areas set out by aviation industry associations and the use of a materiality matrix;
- reference to the Global Reporting Initiative (GRI) G4 Guidelines 'in accordance option' Core and the AA1000 Accountability standard; and
- benchmarking against other airlines and international companies.

### Measuring Our Performance

We continue to report on progress against our 20 commitments under the Sustainable Development Strategy.

### Reporting Tools

To avoid ambiguity, definitions of each parameter are communicated across the Cathay Pacific Group to ensure the quality and consistency of reporting. The majority of data is collated via Swire's new sustainability management system, Resource Advisor, a database for our operations in Hong Kong covering Cathay Pacific, Dragonair, 100% owned and 60% owned Hong Kong-based subsidiaries. Cathay Holidays Limited and outports reported separately via questionnaires. The new system facilitates collecting, consolidating, analysing and reporting our environmental, social and governance (ESG) performance across the Group's diverse businesses located in different jurisdictions.

## GHG Emissions Accounting and Reporting Policies

The inventory of our greenhouse gas ("GHG") emissions is reported in accordance with the World Resources Institute and World Business Council on Sustainable Development's Greenhouse Gas Protocol (2004, Revised Editions).

### Organisational Boundaries

The Cathay Pacific Group reported the greenhouse gas emissions of each of its subsidiaries below in proportion to their ownership percentage. The organisational boundaries for the reporting of greenhouse gas emissions include Cathay Pacific Airways and the following 100% and 60% owned Hong Kong-based companies (the "subsidiaries"):

- Hong Kong Dragon Airlines Limited (KA)
- Cathay Holidays Limited (CHL)
- Cathay Pacific Catering Services (H.K.) Limited (CPCS)
- Cathay Pacific Services Limited (CPSL)
- Hong Kong Airport Services Limited (HAS)
- Vogue Laundry Service Limited (VLS)
- AHK Air Hong Kong Limited (AHK) (60% owned)

Other principal subsidiaries and associates, as outlined on pages 98 to 99 of the Cathay Pacific Group 2015 Annual Report that are not included within the scope of this report, will be considered for inclusion in the future.

### Operational Boundaries

The operational boundaries for the reporting of greenhouse gas emissions are as follows:

- Scope 1 – Direct GHG emission, including global CO<sub>2</sub> emissions from flights, ground vehicles and Towngas combustion
- Scope 2 – Electricity and Towngas (production) indirect GHG emissions

The reporting period of the GHG data is the twelve-month period of 1 January to 31 December 2015. The year 2009 has been used as the base year for comparing the emissions profile of our flights in line with our 20/20 commitments. However, we continue to provide information from 1998 to ensure consistency with our previous reporting. Please note there have been changes in organisation and operational boundaries over the years which may impact comparability.

### Scope 1 Emissions

Scope 1 emissions include fuel and Towngas usage from ground-based activities in Hong Kong covering Cathay Pacific and the subsidiaries. In Hong Kong, the CO<sub>2</sub> emission factors used follow the guidelines published by the Environmental Protection Department (EPD) of the Hong Kong Special Administrative Region (HK SAR) Government in February 2010<sup>1</sup>. For CO<sub>2</sub> emission factors for outport data, references have been made to the International Energy Agency (2010)<sup>2</sup>.

In respect of our GHG emissions from aircraft fuel consumption, our scope includes all flight activities, including testing, training flights, dry lease and wet lease. As fuel density varies according to a number of factors, we use the Joint Inspection Group's<sup>3</sup> recommended specific gravity of 0.80 kg/L to calculate the weight of fuel. We use the IPCC's emission factor of 3.15<sup>4</sup> to determine CO<sub>2</sub> emissions from the combustion of aircraft fuel.

### Scope 2 Emissions

Our scope includes electricity consumption and Towngas production for our operations in Hong Kong covering Cathay Pacific and the subsidiaries. Emission factors used in our scope follow the guidelines published by the EPD of the HK SAR Government in February 2010, the International Energy Agency (2010), and the relevant utilities.

For GHGs, other than CO<sub>2</sub>, others including CH<sub>4</sub>, N<sub>2</sub>O, PFCs and SFs are either not applicable or not material to the overall GHG reporting.

Towngas is also used in the Cathay Pacific canteen. As this is operated by a third party, consistent with the previous year, it is specifically excluded.

### Methodologies Used to Calculate or Measure Emissions

Refer to [Endnote References](#).

## Other Indicators

### Environmental Indicators

The scope of this year's reported resource usage includes operations in Hong Kong covering Cathay Pacific, the 100% and 60% owned subsidiaries, energy consumption and greenhouse gas data from four outports (Auckland, Taipei, Manila and San Francisco) and non-GHG data from five outports (Frankfurt, Paris, Karachi, Kuala Lumpur and Sydney) which were able to provide auditable numbers. We will continue to work on increasing the scope to cover all major outports in future reports.

### Social Indicators

Operations in Hong Kong covering Cathay Pacific and the 100% and 60% owned subsidiaries are included on the Social Indicators table.

### GRI Content Index

The GRI Content Index is prepared with reference to the GRI G4 Guidelines 'in accordance option' Core. The GRI Content Index does not reflect actual implementation of Cathay Pacific's sustainable development initiatives nor the value or quality of the report and its content.

## Other Matters

### FLY greener Offsets

FLY greener offsets are calculated as the tonnes of CO<sub>2</sub> purchased by all passengers (including staff), using either cash or Air Miles as a method of payment. One tonne of CO<sub>2</sub> had a cash price of HK\$25.51 in 2015. The average Air Miles price was 626 Air Miles per tonne of CO<sub>2</sub> during the year ended 31 December 2015. The total tonnage was computed based on the amount paid during the year. Cash received during the year related to flights taken in 2015.

### Fuel Efficiency

Fuel efficiency is calculated as fuel usage per available tonne kilometre (ATK). ATK is defined in the Cathay Pacific Airways Limited Annual Report 2015 as overall capacity, measured in tonnes available for the carriage of passengers, excess baggage, cargo and mail on each sector multiplied by the sector distance.

RTK is defined as traffic volume, measured in load tonnes from the carriage of passengers, excess baggage, cargo and mail on each sector multiplied by the sector distance.

The fuel consumption figure shown on the Environmental Indicators Table only includes Cathay Pacific and Dragonair for comparability with last year's report.

ATK of 30,048 million and RTK of 22,220 million used in this calculation are taken from the Cathay Pacific Airways Limited Annual Report 2015.

### **Recycled Materials**

In 2015, materials recycled from inbound flights to Hong Kong include plastic cups; plastic bottles; aluminium cans; and glass bottles. Materials recycled by the Cathay Pacific Airways and 100% owned subsidiaries include paper and cardboard, plastics, aluminium cans, waste lubrication oil, glass bottles and printer cartridges from Cathay Pacific City; and paper and cardboard, aluminium cans, plastic and printer cartridges from Dragonair House. The amount of recycled materials refers to those recorded in either recycling vendor invoices or internal tracking records.

### **Food Donation**

In 2015, unconsumed food items such as unopened juices, cereals, and pre-packaged food from Cathay Pacific inbound flights to Hong Kong were collected for donation to a local food bank. The amount of donated food and beverages refers to those in the tracking records of the local food bank.

### **English on Air**

English on Air is an educational programme which involves English-speaking Cathay Pacific staff volunteers from a wide variety of nationalities and backgrounds who encourage local students to speak English. Participating students are invited to Cathay Pacific City to meet and chat with volunteers during English-speaking sessions.

### **London Benchmarking Group**

The London Benchmarking Group model is used by companies to assess and report on the value and achievements of their corporate community investment. It takes the form of a matrix that helps to summarise, and quantify, the achievements of a community activity. It breaks down the elements of the activity, detailing the different inputs, then going on to establish the outputs and, eventually, the impacts that these have achieved.

We evaluated the effectiveness of our English on Air activities run during the academic year 2014/2015 with reference to the London Benchmarking Group model. We developed questionnaires covering the areas indicated below and conducted surveys with the participating students and teachers in order to develop a scorecard of these areas.

- Leverage company resources
- English opportunities
- Increase confidence
- School partnership
- Awareness of aviation and Cathay Pacific Airways

## Materiality Matrix

The materiality matrix plots our corporate social responsibilities issues in two dimensions: the importance of the issue to our stakeholders and the impact of the issue to Cathay Pacific. In order to develop this, we have been engaging with a third party consultant since 2006 to perform focus groups and interviews with selected groups of stakeholders, chosen by Cathay Pacific and the third party consultant. Previously, the selected stakeholder groups provided comments and ratings on different areas, including emerging issues facing the airline industry, perceptions on the current corporate social responsibility (CSR) performance of Cathay Pacific and Dragonair and the expected response from Cathay Pacific, our reporting priorities, the stakeholder engagement approach taken by Cathay Pacific, and their views on Cathay Pacific's Sustainable Development Strategy.

With these comments and rating, we summarised stakeholders' concerns into material issues. For each of the material issues, we evaluated the impact of the issue to Cathay Pacific and produced a materiality matrix, which helps to structure our Sustainable Development Report for the year ended 31 December 2015.

Following the end of our five-year stakeholder engagement strategy in 2012, we carried out a comprehensive survey in 2013/2014. The objectives of this exercise were to create a baseline and a set of metrics on the following:

Measure stakeholder familiarity with Cathay Pacific initiatives and performance

- Assess stakeholder perceptions
- Identify material issues for Cathay Pacific
- Determine stakeholder expectations
- Evaluate Cathay Pacific strength and weakness

The other objective is to develop actions based on these research findings.

Note:

1. Environmental Protection Department. (2010, February). Guidelines To Account For And Report On Greenhouse Gas Emissions And Removals For Buildings In Hong Kong. Retrieved from [http://www.epd.gov.hk/epd/english/climate\\_change/ca\\_guidelines.html](http://www.epd.gov.hk/epd/english/climate_change/ca_guidelines.html).
2. International Energy Agency (2010). CO<sub>2</sub> Emissions from Fuel Combustion – Highlights. Summary Table: CO<sub>2</sub> emissions per kWh from electricity and heat. IEA.
3. Formed by international oil companies, the Joint Inspection Group performs regular inspections of their airport facilities to ensure that they are operated in accordance with their procedures for handling aviation fuel at airports and upstream aviation fuel facilities.
4. IPCC. (1999). Aviation and the Global Atmosphere. Cambridge: Cambridge University Press.

## Abbreviations and Glossary

### Some Commonly Used Abbreviations in this Report

AAHK	Airport Authority Hong Kong
AAIB	Air Accidents Investigation Branch
AFRA	Aircraft Fleet Recycling Association
AFTLS	Approved Flight Time Limitations Scheme
AHK	Air Hong Kong
ALARP	As Low As Reasonably Practical
ANSP	Air Navigation Service Providers
AOA	Aircrew Officers Association
ASRC	Airline Safety Review Committee
ASR-F	Air Safety Report – Fatigue
ATDC	Airports Training and Development Centre
ATK	Available Tonne Kilometre
BAQ	Better Air Quality
BSRC	Board Safety Review Committee
CAD	Civil Aviation Department
CCBF	Climate Change Business Forum
CCC	Customer & Commercial Control
CCF	Cathay Pacific Charitable Fund
CCNL	Cabin Crew Newsletters
CCST	Cabin Crew Support Team
CCTF	Climate Change Task Force
CE	Chief Executive
CEPIC	Cathay Emergency Passengers Information Centre
CLG	The Prince of Wales's Corporate Leaders Group on Climate Change
CNG	Carbon Neutral Growth
CO2	Carbon Dioxide
COO	Chief Operating Officer
CPCS	Cathay Pacific Catering Services
CPSL	Cathay Pacific Services Limited
CSAG	Cabin Safety Action Group
CSD	Corporate Safety Department
CSR	Cabin Safety Reports
CSR	Corporate Social Responsibility
CX	Cathay Pacific
CX City	Cathay Pacific City
DCGO	Director Cargo

### Some Commonly Used Abbreviations in this Report

DFO	Director of Flight Operations
DLR	German Aerospace Centre
DPA	Dragonair Pilots Association
DSD	Director Service Delivery
EAP	Employee Assistant Programme
e-AWB	Electronic airway bill
EIA	Environmental Impact Assessment
EMS	Environmental Management System
ENG	Engineering
EPFL	Swiss Federal Institute of Technology in Lausanne
EU ETS	European Union Emissions Trading Scheme
EU	European Union
FAU	Flight Attendants' Union
FDAP	Flight Data Analysis Program
FOP	Flight Operations
FRMS	Fatigue Risk Management System
FSC	Forestry Stewardship Council
FTE	Full Time Equivalents
GHG	Greenhouse Gas
GISS	Goddard Institute of Space Studies
GMCS	General Manager Corporate Safety
GRI	Global Reporting Initiative
GSE	Ground Support Equipment
GSR	Ground Safety Reports
HAS	Hong Kong Airport Services
HIMS	Human Intervention and Motivation System
HKIA	Hong Kong International Airport
IAGOS	In-service Aircraft for a Global Observing System
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IEA	International Energy Agency
IMT	Information Management and Technology
INED	Independent Non-executive Director
INSPIRE	Indian Ocean Strategy Partnership to Reduce Emissions
IOC	Integrated Operations Centre
IPCC	Intergovernmental Panel on Climate Change
IRF	Injury Report Form
ISD	Inflight Services Department

### Some Commonly Used Abbreviations in this Report

ISM	Inflight Service Manager
KA	Dragonair
KPI	Key Performance Indicators
LBG	London Benchmarking Group
LEED	Leadership in Energy and Environmental Design
LOSA	Line Operational Safety Audit
LTIFR	Lost Time Injury Frequency Rate
MANCOM	Management Committee
MRO	Maintenance, Repair and Overhaul Process
MSC	Marine Stewardship Council
MSQD	Engineering Reports on Maintenance, Safety, Quality and Defects
NASA	National Aeronautics and Space Administration
NED	Non-executive Director
NGO	Non-governmental Organisation
NOx	Oxides of Nitrogen
OHS	Occupational Health & Safety
OIWA	Outlying Islands Women's Association
ORSAG	Operations Ramp Safety Action Group
RIS	Risk Index Score
RSB	Roundtable for Sustainable Biofuels
RTK	Revenue Tonne Kilometre
RVSM	Reduced Vertical Separation Minimum
SAFUG	Sustainable Aviation Fuel Users Group
SAG	Safety Action Groups
SD	Sustainable Development
SMS	Safety Management System
SPI	Safety Performance Indicator
UNICEF	United Nations International Children's Emergency Fund
VCS	Voluntary Carbon Standard
VLS	Vogue Laundry Services Limited
WBCSD	World Business Council on Sustainable Development
WEL	Work-Life Enhancement Leave
WWF	World Wildlife Fund for Nature

## Acknowledgements

We wish to thank Edelman Hong Kong and Sedgwick Richardson for their assistance in the development and preparation of this report.

### Our Principle Subsidiaries based in Hong Kong



### air Hongkong

60% owned by Cathay Pacific



FTSE Group confirms that Cathay Pacific Airways Limited has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to become a constituent of the FTSE4Good Index Series. Created by the global index company FTSE Group, FTSE4Good is an equity index series that is designed to facilitate investment in companies that meet globally recognised corporate responsibility standards. Companies in the FTSE4Good Index Series have met stringent social and environmental criteria, and are positioned to capitalise on the benefits of responsible business practice.



### Contact us

If you have any comments or feedback on this report or its contents, please contact our team at: [environment@cathaypacific.com](mailto:environment@cathaypacific.com)

Environmental Affairs Department  
Cathay Pacific Airways Limited  
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8 Scenic Road  
Hong Kong International Airport  
Lantau  
Hong Kong

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## Resources

### Video Gallery

#### **Together for Tomorrow**

Cathay Pacific is driving towards becoming a sustainable airline by empowering our staff to integrate sustainability into their everyday work.

#### **Together for Tomorrow**



#### **Working Toward a Sustainable Future**



## Stories from Our People

The videos below are stories told by Cathay Pacific people on how they have integrated sustainability elements into their personal day-to-day job.

### Safety – Third Party Supplier Management



### Climate Change – Reduced Engine Taxiing



### Waste Management – Recycling Retired Aircraft



### Sustainable Sourcing – Innovative Carpets



### Biodiversity - Collaborating for Biodiversity



## Our People

Meet our staff from different positions and sections of the company, and hear them talk about what it is like working at Cathay Pacific.

**Shigemi**



**Tracey**



**Kenneth**



**Roberto**



**Patricia**



**Jasmine**



**Priya**



**Ann**



## PDF Download

### Sustainable Development Report 2015

The Sustainable Development Report (Main Text only) in brochure format in [English](#).

[GRI Table](#)

### Factsheets

[Governance of Sustainability](#) 

[Stakeholder Engagement and Issues Materiality](#) 

[Community Investment](#) 

[Safety](#) 

[Climate Change](#) 

[Waste Management](#) 

[Sustainable Sourcing](#) 

[Biodiversity](#) 

[Our People](#) 

## Investor Relations Materials

This section provides quick links to the materials in the Report that are of particular interest to the investment community.

### Performance Tables and Graphs

- [2015 GHG Emissions \(tCO<sub>2</sub>e\) Scope 1 and Scope 2 Table](#)
- [2015 Global CO<sub>2</sub> Emissions](#)
- [Cathay Pacific Group Fleet](#)
- [Environmental Indicators Table](#)
- [Social Indicators Table](#)
- [Economic Value Added Table](#)
- [20/20 Commitments and Progress](#)

### Governance and the CX Group

- [Governance of Sustainability Factsheet](#) 
- [Group Fleet Profile](#)
- [CX Annual Report 2015](#) 

### GRI G4 Content Index

- [GRI G4 Content Index](#) 

## Report Archive

### Report 2014



[↓ PDF](#) | [Go to website](#)

### Report 2013



[↓ PDF](#) | [Go to website](#)

### Report 2012



[↓ PDF](#) | [Go to website](#)

### Report 2011



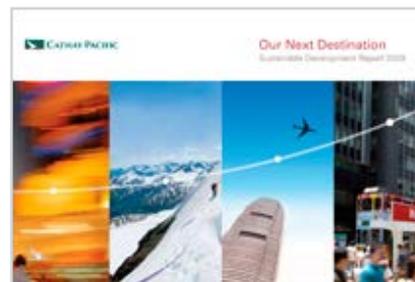
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