

**PROJECT CLEAN AIR**  
**Certification Scheme for Clean Air Charter**  
**Final Report**  
**For**  
**Cathay Pacific Airways Limited (CX)**



**Prepared by**

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**February 2009**

## 1. INTRODUCTION

Cathay Pacific Airways Limited (CX) is an international airline registered and based in Hong Kong, offering scheduled cargo and passenger services to over 105 destinations around the world, with the total of 18,350 employees worldwide. Cathay Pacific started its operation in Hong Kong since 24 September, 1946 and currently ranks as the world's 7<sup>th</sup> most profitable airline (net profit) and the 18<sup>th</sup> largest airline in the world by operating revenue<sup>1</sup>, with operating 120 aircrafts.

This report outlines the findings of the Business Environment Council (BEC) from a walk through audit and interview with Ms Carol Cheung, Environmental Officer of Cathay Pacific.

From the pre-audit questionnaire completed by Cathay Pacific, it was determined that Cathay Pacific fits into Group C category of the certification scheme, showing that the organization has comprehensive management systems and means in place to identify and verify the implementation of energy efficiency / emission reduction programmes that are in compliance with the Clean Air Charter.

The site visit was conducted at the Cathay Pacific City in Hong Kong International Airport and led by Ms Dorothy Lam and Ms Brenda Fung on 19<sup>th</sup> November 2008. The purpose of this audit was to verify Cathay Pacific's commitments to the Clean Air Charter.

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<sup>1</sup> All based on data for 2007. Source: Air Transport World's World Airline Report, July 2008

## 2. OBSERVATIONS AND COMPLIANCE

Based on the site meeting, Cathay Pacific's programmes and practices on reducing air emission were reviewed. In general, a systematic approach on addressing the Clean Air Charter's commitments has been implemented as follows:

- Cathay Pacific has attained certification of ISO 14001 Environmental Management System since 2004.
- CSR Steering Committee, chaired by the Director Corporate Development who reports directly to the Board, has been established to review performance and establish strategy and goals relating to environmental challenges.
- Energy Saving Committee has been established in 2004 and composed of representatives from property management company, departmental heads and environmental affairs department, to identify energy conserving opportunity and monitor the implementation progress.
- "FLY greener" carbon offset scheme, launched in December 2007 by Cathay Pacific, is a voluntary option offered to passengers to pay for offsetting the carbon emission generated from their air travel.
- Ground Vehicle Emission Team and Long Term Action Group are established in 2007 to closely investigate the ways to reduce the environmental impacts of company's vehicles owned by CX and various companies within Swire group.
- CX's Flight Operations Department is responsible for monitoring and recording the aircraft fuel consumption and emission and calculating the CO<sub>2</sub> equivalent.
- For ground emission, CX's Property Services Department is responsible for monitoring and recording the energy consumption, i.e. electricity, towngas and also calculating the CO<sub>2</sub> equivalent.

Regarding the six commitments of the Clean Air Charter, the table below summarizes the achievements of Cathay Pacific:

Commitment	Action done
1) Operate to a recognized world class standard, or the standards established by the Hong Kong / Guangdong governments on emissions of air pollutants, even if it is not a requirement to do so here. (Relevant to industrial operations, power plants and business with direct emissions)	<ul style="list-style-type: none"> <li>◆ Cathay Pacific has attained certification of ISO 14001 Environmental Management System since 2004.</li> <li>◆ The major air pollutant generated are CO<sub>2</sub>, NO<sub>x</sub>, CO and hydrocarbon.</li> <li>◆ CX constantly monitors emissions across the aviation industry to ensure the company's performance on fuel efficiency and air emission are improving.</li> </ul>
2) Use continuous emissions monitors (CEMs) at significant	<ul style="list-style-type: none"> <li>◆ CX's major emission sources are generated from aircrafts' combustion of aviation fuel (Kerosene).</li> </ul>

Commitment	Action done															
sources, e.g. large and medium plants. (Relevant to large / medium industrial operations and power plants)	<ul style="list-style-type: none"> <li>◆ Significant emissions are identified mainly as CO<sub>2</sub>, NO<sub>x</sub>, CO and hydrocarbon.</li> <li>◆ As CX is not considered as an industrial operation which possesses stationary emitting facilities that are regulated by Air Pollution Control Ordinance, therefore continuous emissions monitors are not applicable to the scope of CX operation with regards to the Charter commitments.</li> </ul>															
3) Publish information on energy and fuel use, as well as total emissions of air pollutants annually and timely, if emissions are significant.	<ul style="list-style-type: none"> <li>◆ CX publishes annual energy and fuel consumption in Cathay Pacific CSR report.</li> <li>◆ CX has achieved significant improvement in fuel efficiency over the past 10 years. Data comparison between 2006 and 2007 is shown below.</li> </ul> <table border="1" data-bbox="742 835 1422 1243"> <thead> <tr> <th></th> <th>2006</th> <th>2007</th> </tr> </thead> <tbody> <tr> <td>Fuel efficiency per ATK (grammes of kerosene / ATK)</td> <td>198</td> <td>186</td> </tr> <tr> <td>Improvement since 1998</td> <td>11.0%</td> <td>16.1%</td> </tr> <tr> <td>Fuel efficiency per RTK (grammes of kerosene / RTK)</td> <td>269</td> <td>255</td> </tr> <tr> <td>Improvement since 1998</td> <td>19.9%</td> <td>24.1%</td> </tr> </tbody> </table> <p><i>ATK – Available tonne kilometers</i> <i>RTK – Revenue tonne kilometers</i></p>		2006	2007	Fuel efficiency per ATK (grammes of kerosene / ATK)	198	186	Improvement since 1998	11.0%	16.1%	Fuel efficiency per RTK (grammes of kerosene / RTK)	269	255	Improvement since 1998	19.9%	24.1%
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4) Undertake to adopt energy-efficient measures in their operations.	<ul style="list-style-type: none"> <li>◆ For flight operations, CX has implemented a number of initiatives to reduce emissions including purchase of new and fuel efficient aircrafts and phase-out of oldest freighters starting in 2008. In addition, stringent weight management and the implementation of operational efficiency drives are in place to maximize fuel efficiency.</li> <li>◆ For ground emission, a number of energy saving measures are implemented in CX City including: <ul style="list-style-type: none"> <li>➢ Doubled-glazed windows and sensor-controlled window shades are installed to reduce solar gain/glare inside the building and thus less electricity needed for the purpose of air conditioning.</li> </ul> </li> </ul>															

Commitment	Action done
	<div data-bbox="794 331 1246 667" data-label="Image"> </div> <ul style="list-style-type: none"> <li data-bbox="751 730 1430 860">➤ After signing the Clean Air Charter, a solar panel installed outside of the kitchen area is used for heating up the water for the dish washing machine.</li> </ul> <div data-bbox="794 875 1383 1386" data-label="Image"> </div> <ul style="list-style-type: none"> <li data-bbox="751 1444 1430 1574">➤ In 2007, an experimental wind turbine with 1kW generating capacity is installed on the roof top to provide electricity for some parts of the office premise.</li> </ul>

Commitment	Action done
	 <ul style="list-style-type: none"> <li>➤ The installation of variable frequency drives, variable air volume control and chilled water cooling pumps have reduced energy consumption by 30%.</li> <li>➤ In 2007, a heat recovery system was installed in the Flight Training Centre to further reduce the electricity usage, with estimated electricity saving of 71,831 kWh annually.</li> </ul> 
<p>5) Identify and encourage business-relevant measures to be taken on days when air</p>	<ul style="list-style-type: none"> <li>◆ CX will commit to a continuous information awareness campaign for staff to use less energy during high API days. During high API days, a notice will be posted on the ENV board and intranet to encourage staff to take</li> </ul>

Commitment	Action done
pollution is high.	public transport and to use less electricity at home and at work.
6) Share air quality expertise in business with others.	<ul style="list-style-type: none"> <li>◆ CX is actively engaged in promoting emission reduction / energy efficiency through participating in various external emission-related initiatives, including Hong Kong Climate Change Business Forum, Carbon Reduction Charter organized by EPD and Hong Kong Carbon Reduction Campaign organized by The Climate Group.</li> <li>◆ CX publishes CSR report to provide a full account of the company's environmental performance and achievements.</li> <li>◆ CX participated in the Hong Kong Awards for Environmental Excellence 2008.</li> <li>◆ In 2007, CX launched a new Code of Conduct for suppliers to address CX direction on environmental issues as to encourage environmentally responsible behavior among suppliers.</li> </ul>

### 3. CONCLUSION

Cathay Pacific Airways Limited has demonstrated their commitments towards the Clean Air Charter's commitments and is recommended to be certified under the Clean Air Charter.