

Hong Kong Aircraft Engineering Company Limited

Environmental Report 2006



MARCH 2007

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1 Business overview

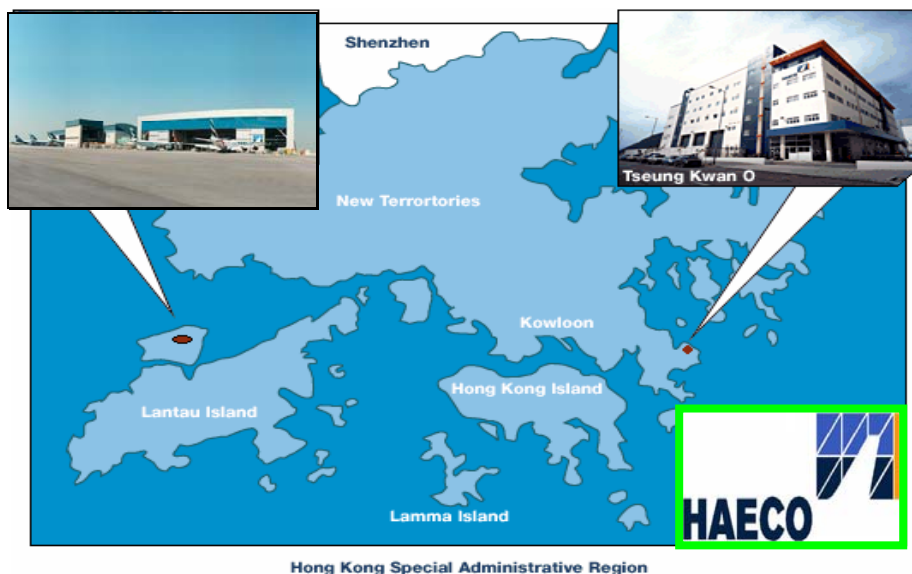
This report covers the Hong Kong Aircraft Engineering Company Ltd.'s (HAECO) operations in Hong Kong. It does not cover its subsidiary in Xiamen (TAECO) or its associate and jointly controlled companies. HAECO is a member of the Swire Group with Cathay Pacific Airways as one of its major shareholders. It was established in 1950, and is the only full-service maintenance provider at the Hong Kong International Airport. It offers comprehensive line and heavy maintenance packages, including extensive aircraft component overhaul support.

At the end of 2006 HAECO had approximately 4,360 employees in Hong Kong, with around 3,913 staff working at Chek Lap Kok, and the remaining 447 staff at Tseung Kwan O. Its three major operating divisions are:

LINE MAINTENANCE (Chek Lap Kok): located in the Passenger Terminal Building offers transit servicing, component replacement and minor structural repairs as well as comprehensive cleaning, refueling and apron services.

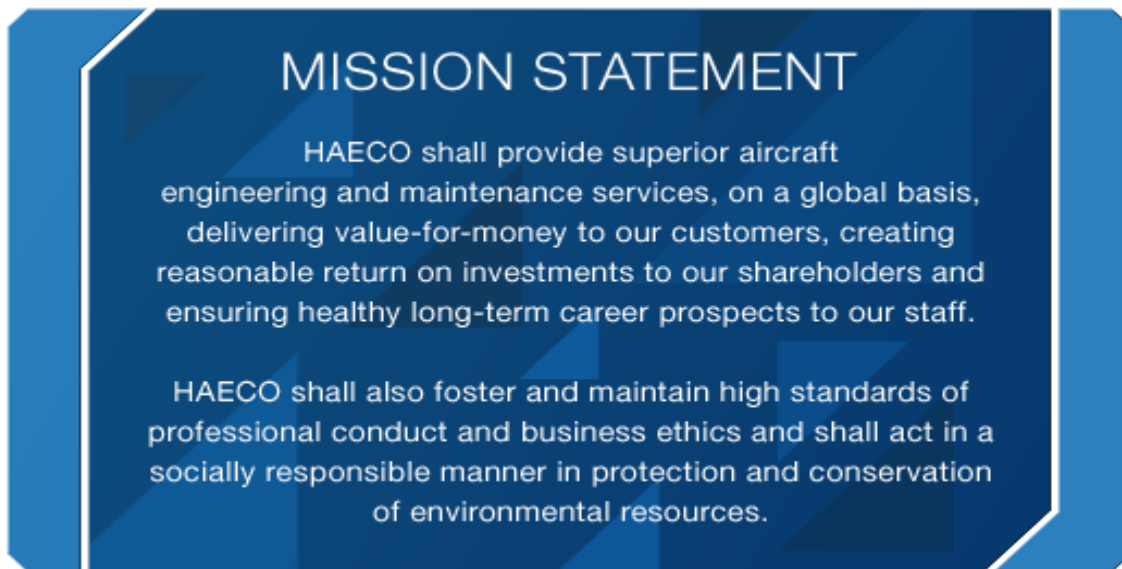
BASE MAINTENANCE (Chek Lap Kok): located in the CLK aircraft maintenance area provides airframe overhaul, refurbishment and modification for many types of aircraft, including corrosion control and aircraft modifications.

COMPONENT AND AVIONICS OVERHAUL (Tseung Kwan O): HAECO's component overhaul facilities have extensive capability on a wide range of both mechanical and avionics components fitted to different aircraft models.



2 Mission statement and environmental policy objectives

HAECO attaches high importance to minimizing the impact of its operations on the environment. Environmental considerations are part of its mission statement:



HAECO's commitment to environmental issues is embodied in its policy objectives to:

- conform to the legal requirements and endeavor to adopt higher environmental standards.
- quantify all emissions, pollutants and effluents discharged from operations and minimize the release of such.
- implement schemes to minimize waste by conserving material resources, recycle waste at source whenever practicable and dispose of all wastes in a safe and responsible manner.
- adopt high standards of operational integrity to minimize the risk of environmental incidents to staff and neighboring communities by employing safe technologies and operating procedures.
- encourage awareness of environmental issues amongst staff at all levels, emphasizing the responsibility of individuals for environmental performance through appropriate operating practices and training.
- increase the use of environmentally acceptable materials, equipment and technology in its operations.
- always take suppliers' environmental performance into consideration in formulating its purchasing strategies.
- aim to achieve environmental saving and commit to continual improvement on environmental performance.

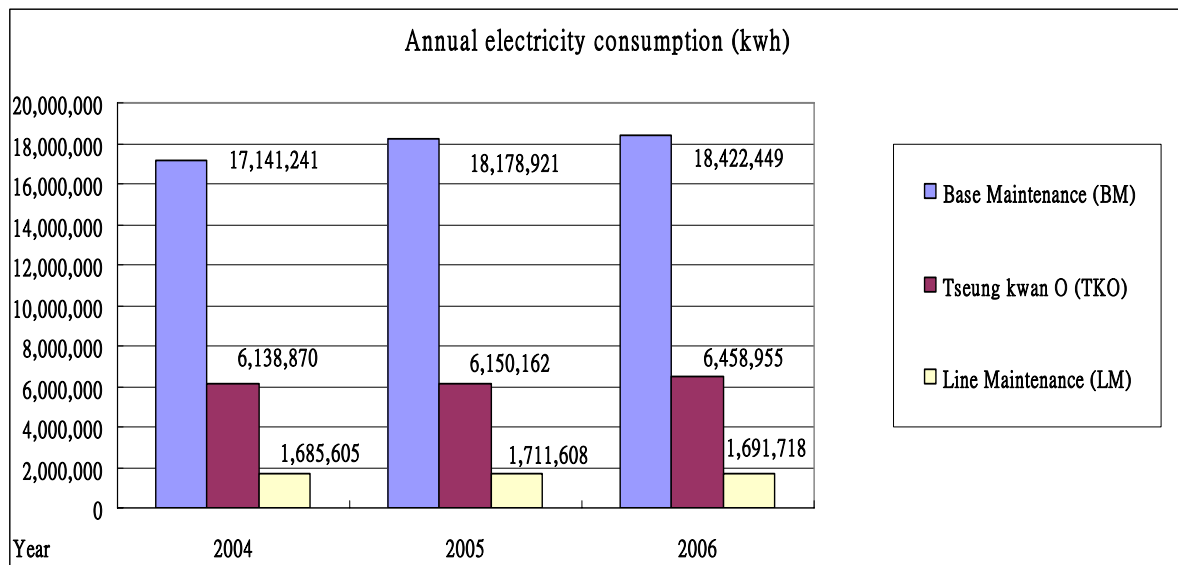
3. Energy conservation

Reducing energy consumption is an ongoing objective:

We have an continuous improvement program for energy conservation and efficiency.

3.1 Electricity

Our annual electricity consumption by business unit is:



In 2006, the total quantity of electricity consumed by our daily operations increased by about 2%. This was due to the growth of business volume during the year. Electricity consumption in base maintenance reduced by 1.15 kwh per man-hour sold. There was almost no change per unit of output for line maintenance.

Electricity consumption at our Tseung Kwan O site increased mainly due to a substantial expansion in the activity of our Technical Training centre.

We are experimenting with a green roof on our guard house to reduce energy consumption.

3.2 Town gas

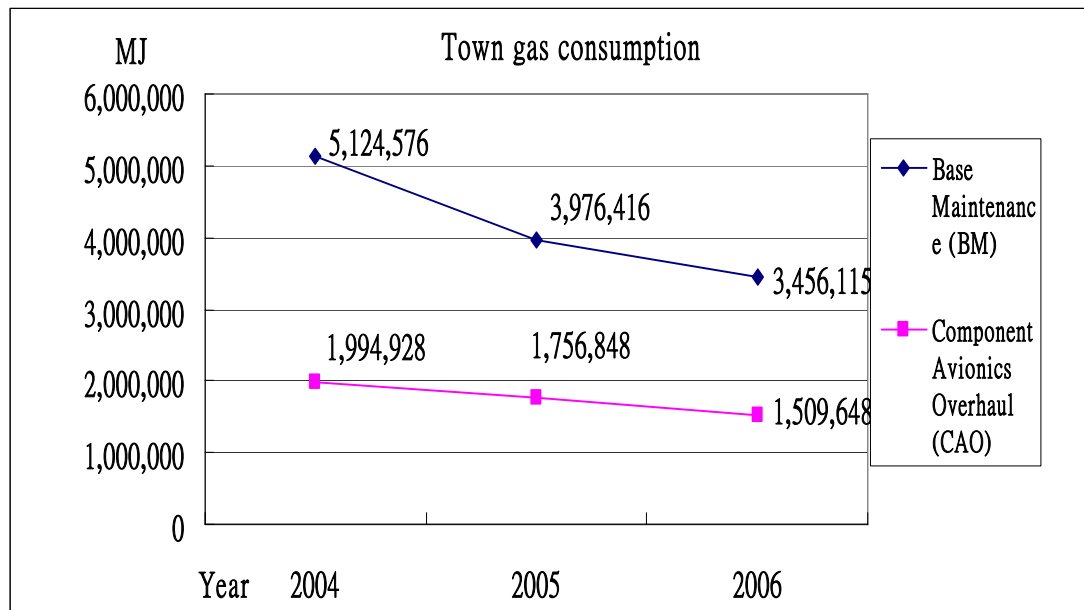
The town gas consumption per unit of production in base maintenance dropped by approximately 23% in 2006. This energy saving was partly attributed to the replacement of town gas heaters supply dish washing water by a heat pump system installed in April 2005.

The other contributing factor was from induction cooking in BM 1/F staff canteen. The full impact of this change will not be felt until 2007. The benefits of this

project include:

- Energy savings which alone give a payback period of around one year;
- reduced heat loss to surrounding air keeping indoor temperature at comfortable level;
- Reduced oil/grease and soot produced in the kitchen environment.

At the CAO building at Tseung Kwan O, the town gas consumption reduced largely due to the town gas heaters relocated from roof to the first floor. Compared with the previous location, the shorter transmission path can reduce heat loss.



Remark: There is no town gas consumption in our Line Maintenance (LM) division

3.3 Water cooled chiller project at CAO Building, TKO

We are investing about HK\$4.0 million to replace the current air-cooled chiller with a water-cooling tower. This is expected to reduce the running cost of chiller plant by at least 25% and lower carbon dioxide emissions by over 500 tons per annum. The annual cost saving is estimated to be HK\$600,000 for this chiller plant energy improvement project.

3.4 Energy saving fluorescent tubes installed in TKO premises

We installed automatic lighting controls linked to photocells and motion sensors in base maintenance in previous years. Similar lighting controls have now been installed in corridors at Tseung Kwan O in order to reduce the energy consumption.



Dimming of light under normal mode

Light turns on when activated

3.5 Light emitting diodes (LED) exit lights

In case of emergency such as fire, illuminated exit signs are very important for evacuation. The exit signs operate 24 hours a day and can consume a considerable amount of energy. However, in comparison with the traditional exit signs, the new LED exit signs consume less electricity (energy per year < 30 KWH). The annual carbon dioxide generation (about 20 kg per year) is less than the older exit signs. . The payback period for this project is approximately 3.6 years.



Traditional EXIT sign

New LED EXIT sign



Staircase in BM



Staircase in BM



Hangar Number 2

3.6 Energy audit

The chillers performance investigation was carried out at Tseung Kwan O plant on 15 August 2006. One of the four chillers was selected for detailed measurement. According to the measurement result, it was found that the chiller coefficient of performance was maintained in very good condition, the measured coefficient of performance was about 2.93 which was very close to the new air-cooled chiller. The high chiller coefficient of performance was due to regular monitoring and periodic cleansing of the chiller condenser fins.

3.7 Diesel and LPG vehicles

The total diesel consumption increased by 3.1% when compared to the figure of previous year and reached 2,977,652 liters in 2006. The increase is due to the growth of business volume. Litres per HK\$1000 of turnover reduced from 1.32 in 2004 to 1.28 in 2005 and 1.19 in 2006.

Liquefied petroleum gas (LPG) is one kind of clean fuel alternative to vehicle fuel. Compared with diesel private light bus, the major advantage of using LPG is that the fuel consumption can be reduced. This will in turn lead to fewer air pollutants being released to the atmosphere.

In 2006, we operated an LPG private light bus which gave us a cost saving of approximately HK\$0.6 per kilometre and causes less air pollution than its diesel counterpart. This trial was satisfactory. Hence, we will consider the feasibility of using more LPG private light buses in the future.

3.8 Translucent panels for natural lighting in the Main Hangar Area

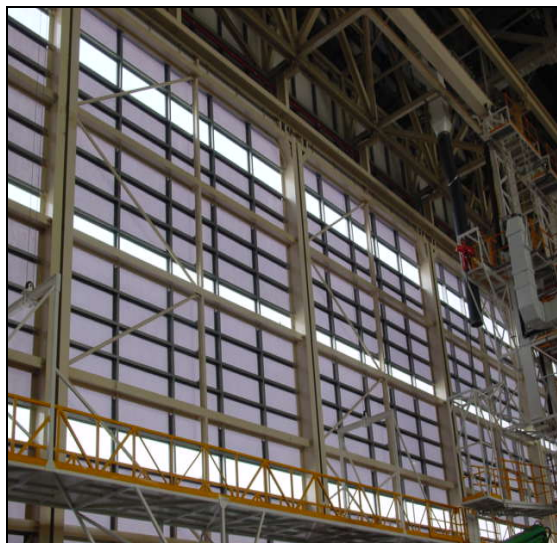
Translucent panels form part of the new hangar 2 save energy by reducing the need for artificial lighting. This is a major advantage in comparison with the existing Hangar Number 1



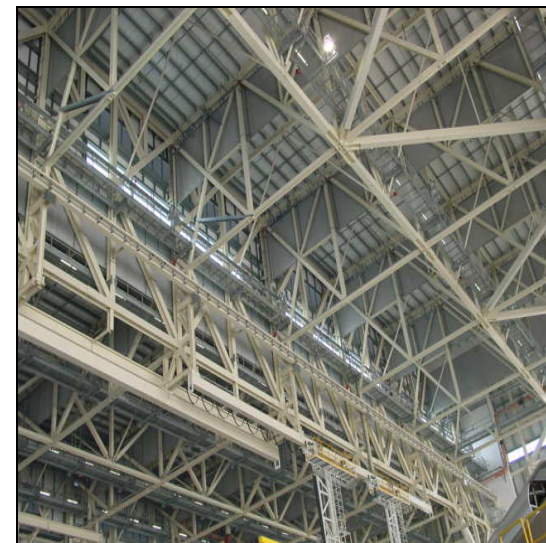
Translucent panel – hangar door



Translucent panel – hangar door



Translucent panel – hangar door



Natural lighting at high level

4. Emissions to the atmosphere

4.1 Climate change study

In 2006, HAECO's total amount of carbon dioxide emissions increased by 2.6% due to growth of business volume. HAECO measures the greenhouse gases resulting from its operations and is continuously seeking ways to reduce these emissions. Greenhouse gas data is summarized in Appendix I.

Carbon dioxide emission in base maintenance was dropped by approximately 10.1% in 2006. This was mainly due to implementing different energy savings measures to reduce energy consumption leading to less carbon dioxide released into the atmosphere.

To enhance work in this area, HAECO joined a Swire Group climate change study in 2006. The aims of this study were:

- (1) to measure HAECO's carbon footprint in reliable, publicly accepted manner
- (2) to provide a preliminary view of drivers that determine its carbon emissions
- (3) to determine the implications of carbon constraints to HAECO's business
- (4) to identify actions which HAECO can take to reduce carbon emissions.
- (5) to carry out a pilot test to reduce smoke level by using plant derived enzyme
- (6) to generate cooled air by using absorption chiller which makes use of drain aviation fuel

4.2 Response to Carbon disclosure Project questionnaire

HAECO response for 2006 to the Carbon disclosure project forms attachment II.

HAECO has a relatively small carbon footprint for its size of operations with 10.51 tonnes of CO₂ emitted per HK\$1m of turnover and energy costs at 0.9% of turnover.

4.3 Clean Air Charter

HAECO has signed the Clean Air Charter and formulated a series of actions to improve the air quality and reduce the air pollutants. The following table notes HAECO's actions for each item in the Charter.

Statement of commitment	HAECO action
1. Operate to a recognized world class standard on emissions of air pollutants, even if it is not required to do so here.	HAECO controls every emission to a world-class standard and will continue to do so. It will implement control procedures and equipment when necessary to match the introduction of new working processes.
2. Use continuous emission monitors (CEMs) at significant sources.	Will regular monitor and plot the emission inventory with reference to the impact on the environment and the workforce's health.
3. Publish information on energy and fuel use, as well as total emissions of air pollutants annually and promptly, if emissions become significant.	Information published as an appendix to this report which is posted on the company website.
4. Undertake the adoption of energy-efficient measures in their operations.	Use more energy efficient equipment such as frequency inverter and CO ₂ sensor, etc. (The HAECO website, http://www.haeco.com , shows more data.)
5. Identify and encourage business relevant measures to be taken on days when air pollution is high.	This matter is kept under review but no specific actions have been identified. Nearly 99% of staff use public transport to go to and from work.
6. Share air quality expertise with others.	HAECO's works closely the HKIA community and with its subsidiaries such as TAECO in mainland China and GAP in Fanling

5. Indoor air quality

HAECO has already introduced a wide range of measures to control air pollution.

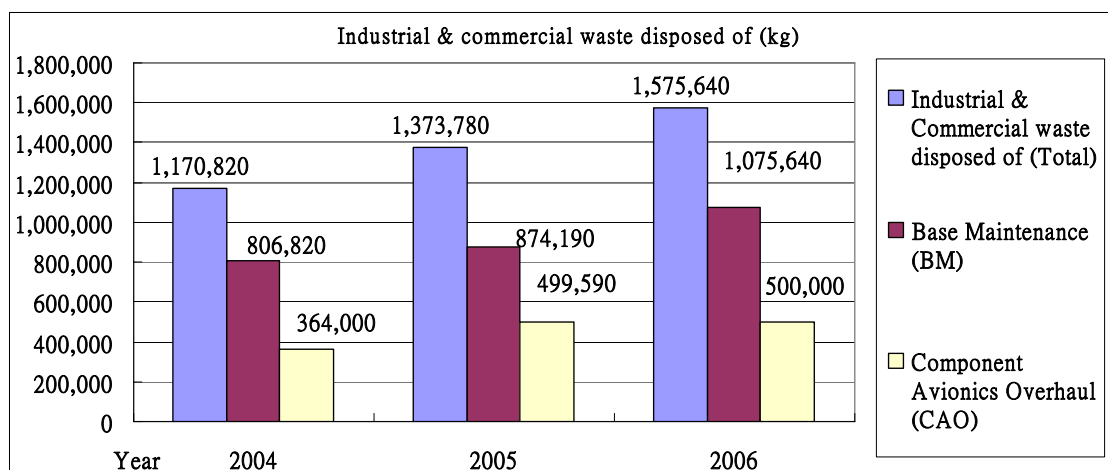
We measured emissions for the paint grinding and paint mezzanine areas on 20 July 2006. The main objectives of this study were to assess the concentration of air pollutants and to compare the test results with relevant guidelines for continuous improvement.

Samples for assessment were taken by drawing different volumes of air through a membrane filter, using a battery operated pump. Air samplers were used to monitor the concentrations of emitted pollutants during normal operations for the surveys. The final results indicated that the particulate matters were well below the occupational exposure limits. We concluded our measures for providing good air quality in the working environment. are practical and effective

6. Waste management

We try to minimize the production of wastes material, however, the growth of our business led to an increase of waste over previous year. The following paragraphs explain this further:

For Base Maintenance the industrial and commercial waste increased by 14.7% from 874,190kg in 2005 to 1,078,640kg in 2006. Increased waste came mostly from construction work on our hangar number 2 project which was completed at the end of year 2006.



The total food waste disposed per average headcount increased by 8.4% from 88.61 kg in 2005 to 96.71 kg in 2006. This was partly due to higher overtime levels in base maintenance.

Grease trap waste disposed in Tseung Kwan O decreased by 26% from 148,000kg in 2005 to 110,000kg in 2006. This was due to an increased number of trainees using the training school at Tseung Kwan O (NB: Grease trap waste originated from the kitchen sinks were collected by the canteen service provider rather than by our company waste contractor.)

6.1 Food waste study

Hong Kong Baptist University conducted a food waste study on the staff canteen at CAO building at Tseung Kwan O starting from July 2006. Its aims were to evaluating the total food waste generated from our canteen in order and determine the opportunities for reducing the sent to the landfills. The following three types of food waste were collected for the study:

- (1) cardboard generated and recycled
- (2) waste from food preparation and disposed
- (3) waste from the food serving areas (generated as unconsumed food by canteen customers)

The preliminary conclusion is that the waste volume from the source of unconsumed food is higher than from the food preparation area. In addition, the waste generated from breakfast and tea service is less than that from the lunch sitting. The target completion date for this project is April 2007.

6.2 Rechargeable battery recycling

Bins for collecting used rechargeable batteries were introduced at each of our locations in June 2006.



Base maintenance 1/F staff canteen



Tseung Kwan O G/F lobby



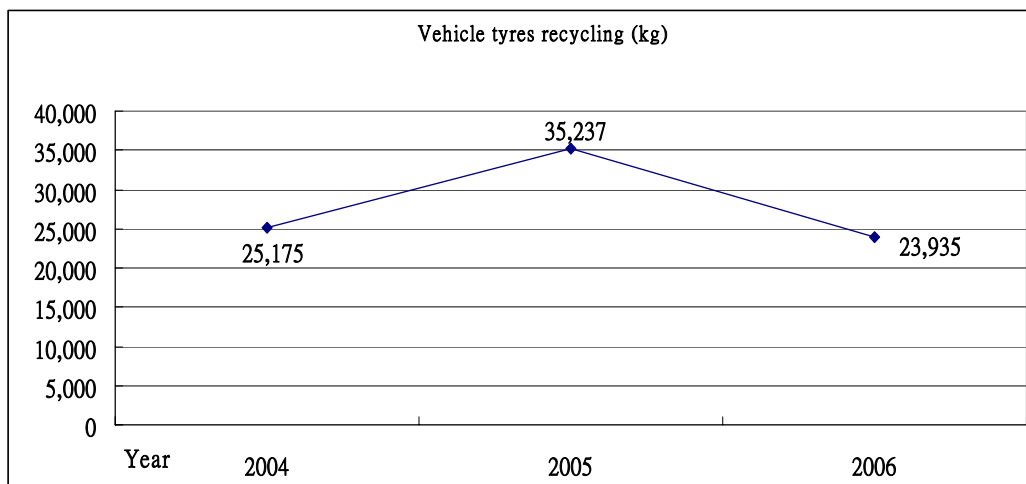
Bulletin Board

A total of 335 pieces of recyclable batteries were collected from both locations in the first trial run between June and December in 2006.

6.3 Tyre recycling

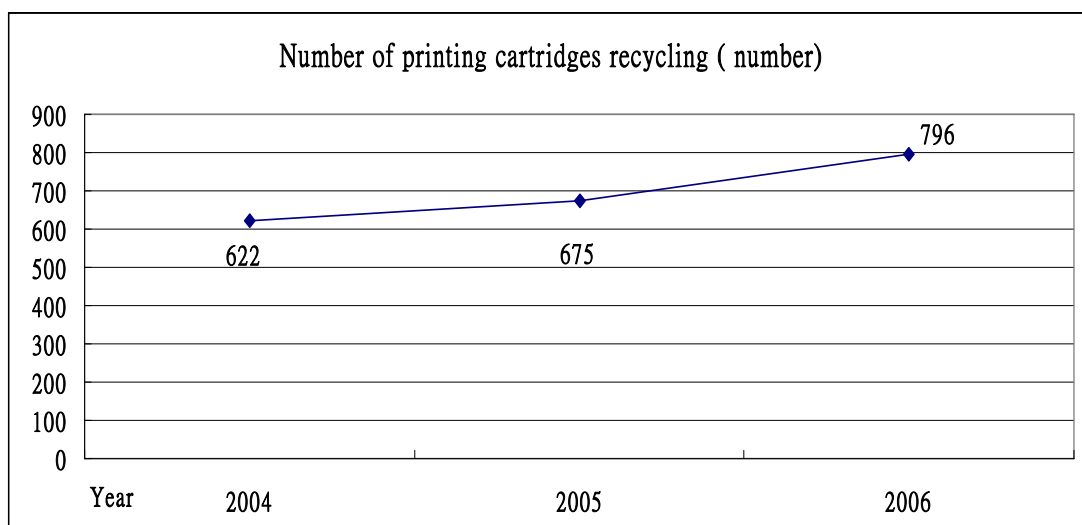
There was no significant change in vehicle tyre consumption between 2005 and 2006. However, aircraft tyre consumption decreased from 390,876 kg to 288,084 kg in 2006. The reduction was due to more aircraft tyres being sent overseas for retreading.

The amount of vehicle tyres recycled in 2006 was 16,355 kg, a 38% reduction compared with the figures for 2005. This reduction was due to sending vehicle tyres to landfills between January 2005 and May 2006 (7,580kg) while we were sourcing a new recycler. The recycling service has been restored since June 2006.



6.4 Printing cartridges recycling

The number of used printer cartridges recycled increased by 18% from 675 in 2005 to 796 in 2006. Staff are encouraged to minimize the waste produced.



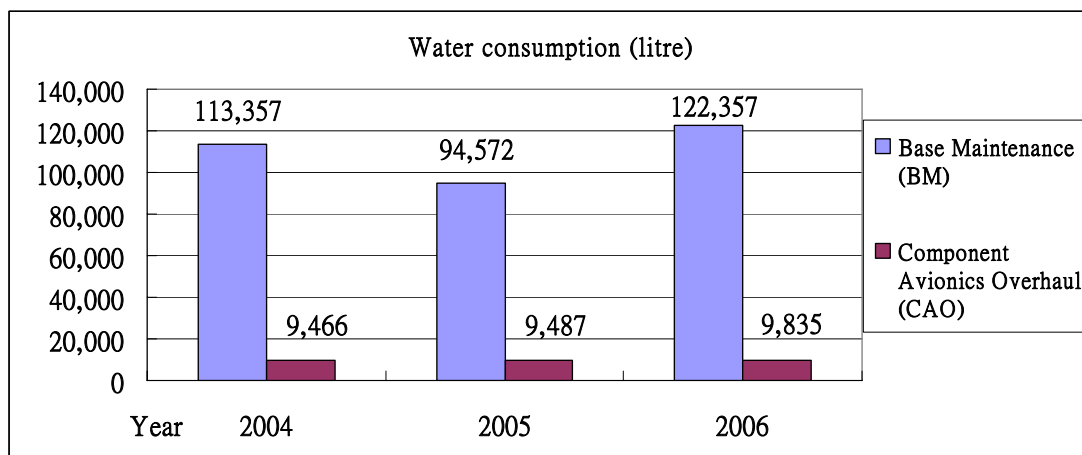
6.5 Paper recycling

Paper recycling in base maintenance dropped by approximately 54% from 12,422kg in 2005 to about 5,600kg in 2006. Measures to increase the amount recycled have now been introduced.

Moreover, paper recycling in component avionics overhaul and the training centre increased by about 32% from 12,401kg in 2005 to about 16,460 kg in 2006.

7 Water quality

One of our objectives is to minimize water consumption, however our consumption in Base Maintenance increased by 29% from 0.058 cubic meters per manhour in 2005 to about 0.66 in 2006 due to increased aircraft painting work and cleaning work.



We will take following actions to save water:

Item	Location	Actions being taken
1	Scrubbers for air conditioning	Install frequency inverter on the cooling towers in hangar number 2 to alter the amount of water used according to the cooling load
2	Canteen	Reducing water used to thraw food

7.1 Automatic faucets

Following a successful pilot study in 2005, more automatic faucets will be installed in 2007. The payback period is estimated to be 0.6 year. These automatic faucets installed in toilet will provide water only when needed, resulting in reduced water consumption. The whole process is automatic as infrared sensors are used to scan continuously the detection area.



BM administration building 4/F male toilet



BM administration building 3/F male toilet

7.2 Trade effluent surcharge

The trade effluent surcharge aims at recovering the additional cost of treating trade effluent when pollution exceeds the domestic level. The pollution level of our trade effluent was reassessed by an approved laboratory during 2006. The test result permitted a reduction in our liability to pay the TES giving an annual cost saving of approximately HK\$35,000.

8 Corporate Environmental and Social Responsibility

Activities under our corporate social responsibility program are listed as follows:

8.1 The Hong Kong Polytechnic University venture track programme

Under the venture track program organized by The Hong Kong Polytechnic University, HAECO provided two work placement opportunities for The Hong Kong Polytechnic University students from 12 June to 31 July. The two students followed up some environmental projects, including air quality measurement and prepared some environmental education materials.

8.2 The Hong Kong Polytechnic University site visit

We provided a half-day guided environmental tour for The Hong Kong Polytechnic University on 19 October 2006. The purpose of this tour is to raise the environmental awareness among the students and to share our experience.

The visit was divided into two parts: the first part focused on the general explanation of our environmental management in different environmental facilities. The second part was a guided tour to let them know more the environmental practices such as the disposal of chemical waste and operation of our wastewater treatment plant.

9. Environmental education

To enhance staff environmental awareness and encourage active involvement in different environmental protection activities, our staff joined one of the outreach programs organized by the Environmental Protection Department and attended internal training.

9.1 The Mobile Environmental Resource Centre of the EPD

The Mobile Environmental Resource Centre (MERC) of the Environmental Protection Department (EPD) visited HAECO on 22 August 2006. The objective of this visit was to deliver the latest information on environmental matters to HAECO staff, raise their awareness on environmental protection and encourage their active involvement.



The MERC visited HAECO



Staff listening to the presentation of EPD staff on environmental protection updates

9.2 Internal training

In 2006 we conducted training programs for over 600 staff. These included induction courses for all new employees covering HAECO environment procedures and facilities and courses to refresh the environmental knowledge of supervisor staff.

9.3 TAECO environmental experience sharing

We share experience with TAECO and HAESL to improve the environmental management of both companies.

10 Waste management task force

We attend the Swire Group waste management task force meetings to share experience. We actively participate in activities organized by this waste task force. These include the Launching Ceremony of ECO-Pages 2006 and a seminar on Waste Management and a waste management delegation visit to Shanghai in November. This trip aimed at understanding Shanghai municipality's policy on waste management, its implementation and development plan; understand the recycling and

production of environmental friendly products; and share valuable experiences. The four-day programme comprised meetings with shanghai municipal authorities including Shanghai Waste Administration Division and Shanghai Research Institute of Building Science, and visits to private enterprises.



SCIP Swire SITA waste Services company Limited

11 Awards

11.1 2005/2006 Airport Environmental Best Practice Competition – Green restaurant





On 28 March 2006, the Airport Authority Hong Kong honoured HAECO with the award of “Green Restaurant - Best Resources Management and Continual Improvement” in the 2005/06 Airport Environmental Best Practice Competition.

11.2 Hong Kong Energy Efficiency Awards competition

HAECO’s effective energy conservation initiatives adopted in the Administration Building won us two awards in the Hong Kong Energy Efficiency Awards Competition – the “Bronze Award” in commercial buildings sub-category and the “Innovation Award” in the special awards category. In addition to the Administration Building, we also strive to implement and promote energy saving measures in different areas of the Company’s premises.

11.3 2006/2007 Airport Environmental Best Practice Competition – Air Quality Management

HAECO has been granted the following awards which were presented by the Airport Authority Hong Kong on 22nd March 2007:

-  Non-Passenger Terminal Building Category – Champion
-  Vehicle Fleet Category – Champion
-  Passenger Terminal Building Category – 1st Runner-up
-  Restaurant Category – 1st Runner-up

List of Awards from March 2006 to March 2007			
Month	Photo	Name of award	Presented by
March 2006		Green Restaurant - Best Resources Management and Continual Improvement	Airport Authority Hong Kong
May 2006		Bronze Award	Electrical and Mechanical Services Department
May 2006		Innovation Award	Electrical and Mechanical Services Department
March 2007		Non – Passenger Terminal Building Category: <i>Champion</i>	Airport Authority Hong Kong
March 2007		Vehicle Fleet Category: <i>Champion</i>	Airport Authority Hong Kong
March 2007		Passenger Terminal Building Category: <i>1st Runner –Up</i>	Airport Authority Hong Kong
March 2007		Restaurant Category:: <i>1st Runner-Up</i>	Airport Authority Hong Kong

12. Global reporting initiatives

Comparing HAECO's environmental report with global reporting initiatives recommended by the following website <http://www.grig3.org>:

Global reporting initiatives (GRI)			
REF	Environmental performance indicators	Adoption to GRI	Relevant page(s)
Aspect: Materials			
EN1	Material use other than water	Partial	Appendix
EN2	Percentage of materials used that are recycled		Not included
Aspect: Energy			
EN3	Direct energy use segmented by primary source	Partial	Appendix
EN4	Indirect energy used		Not included
Aspect: Water			
EN5	Total water use	Partial	Appendix
Aspect: Biodiversity			
EN6	Location and size of land owned, leased and managed of high biodiversity	N/A	N/A
EN7	Description of significant impacts of activities in terrestrial and marine areas		Not included
Aspect: Emissions, Effluents, and Waste			
EN8	Greenhouse gas emissions	Partial	p.8, Appendix
EN9	Use and emission of ozone depleting substances	Partial	Appendix
EN10	NO _x , SO _x and other significant air emissions by type	N/A	N/A
EN11	Total amount of waste by type and destination	Partial	Appendix
EN12	Significant discharges to water	Partial	Appendix
EN13	Total number and volume of significant spills of chemicals, oils and fuels		Not included
Aspect: Products and Services			
EN14	Significant environmental impacts of products and services	Included	Appendix
EN15	Percentage of products sold that is reclaimed at the end of the products' useful life by product category	N/A	N/A
Aspect: Compliance			
EN16	Incidences and fines for environmental regulatory non-compliance	Included	Appendix

REMARK: 1. N/A: Not applicable to HAECO's service business
 2. Partial: Partly applicable to HAECO's service business
 3. Included: Fully applicable to HAECO's business

Appendix I Summary of statistics 2006

Appendix II Response to Carbon Disclosure Project questionnaire

Environmental statistic	Reference	Unit	Quantity for the year			Quantity per unit of production				Change		
			2006	2005	2004	Unit	2006	2005	2004	Total	per unit	
Business Volume Indicators												
Revenue		HK\$m	2,506	2,260	1,973							
Base Maintenance (BM) manhours sold		Hour	1,850,990	1,637,906	1,415,553					13%		
Line Maintenance (LM) aircraft handled		No.	91,167	92,202	81,465					-1%		
Component Avionics Overhaul (CAO) manhours booked		Hour	241,210	243,212	247,611					-1%		
Average headcount		No.	4,101	3,702	3,504					11%		
Energy and Fuel Use												
Electricity consumed												
Base Maintenance (BM)	page 3	kwh	18,422,449	18,178,921	17,141,241	KWh/manhour	9.95	11.10	12.11	1.3%	-10.3%	
Line Maintenance (LM)			1,691,718	1,711,608	1,685,605	KWh/movement	18.56	18.56	20.69	-1.2%	0.0%	
Component Avionics Overhaul (CAO) (exclude HASEL)			6,429,213	6,150,162	6,138,870	KWh/manhour	26.65	25.29	24.79	4.5%	5.4%	
Total			26,543,380	26,040,691	24,965,716					1.9%		
Town gas consumed												
Base Maintenance (BM)	page 3-4	MJ	3,456,115	3,976,416	5,124,576	MJ/manhour	1.87	2.43	3.62	-13.1%	-23.1%	
Component Avionics Overhaul (CAO) & Training Center			1,509,648	1,756,848	1,994,928	MJ/manhour	6.26	7.22	8.06	-14.1%	-13.4%	
Total			4,965,763	5,733,264	7,119,504					-13.4%		
Vehicle fuel												
Industrial diesel consumed by vehicles	page 6	L	2,977,652	2,886,941	2,605,942	L/HK\$1000 of turnover	1.19	1.28	1.32	3.1%	-7.0%	
Petrol consumed by vehicles			80,162	67,601	62,026					18.6%		
Total			3,057,814	2,954,542	2,667,968					3.5%		
Greenhouse Gas (GHG)												
CO2 equivalent emissions by type												
GHG direct CO2 emission (Scope 1)												
Industrial diesel consumed by vehicles		kg	8,188,543	7,939,088	7,166,341	kg/HK\$1000 of turnover	3.27	3.51	3.63	3.1%	-7.0%	
Petrol consumed by vehicles			187,836	158,403	145,339						18.6%	
Potable CO2 fire extinguishers			5,476	5,476	5,560						0.0%	
HFCs/HCFCs emission from refrigerants and fire services system			1,400,519	2,019,652	1,341,052						-30.7%	
Town gas consumed			288,064	332,587	413,002			0.11	0.15	0.21	-13.4%	-21.9%
Total			10,070,438	10,455,205	9,071,294			3.27	3.51	3.63	-3.7%	-7.0%
GHG indirect CO2 emission (Scope 2)												
Electricity			17,831,843	17,494,136	16,771,968		7.12	7.74	8.50	1.9%	-8.1%	
Overall CO2 emission (Scope 1 + Scope 2)			27,902,280	27,949,341	25,843,262							
CO2 equivalent emissions by business unit												
Base Maintenance (BM)	page 8	kg	20,769,458	20,386,584	18,983,412	kg/ manhour	11.22	12.45	13.41	1.9%	-9.9%	
Line Maintenance (LM)			1,136,939	1,150,301	1,132,832	kg/line movement	12.47	12.48	13.91	-1.2%	0.0%	
General (including petrol consumed by vehicles, HFCs/HCFCs emission, CAO town gas consumed and CAO electricity consumption)			5,995,883	6,412,456	5,727,018	kg/HK\$1000 of turnover	2.39	2.84	2.90	-6.5%	-15.7%	
Total			27,902,280	27,949,341	25,843,262	kg/HK\$1000 of turnover	11.13	12.37	13.10	-0.2%	-10.0%	

Environmental statistic	Reference	Unit	Quantity for the year			Quantity per unit of production				Change	
			2006	2005	2004	Unit	2006	2005	2004	Total	per unit
Chemicals Used											
Chemicals used for aircraft maintenance		L	380,604	362,490	297,625	L/manhour	0.21	0.22	0.21	5.0%	-7.1%
Chemicals used for other than aircraft maintenance (e.g. waste water treatment)		L	1,541,230	1,713,438	1,665,297					-10.1%	
Chemical Waste Produced											
Solid chemical waste disposed of (incl. spent rags, empty chemical drums & cans)		kg	164,630	138,250	129,185					19.1%	
Liquid chemical waste disposed of (incl. paint, lube oil, battery acid, etc.)		L	64,671	66,440	61,240					-2.7%	
Spent kerosene (aircraft fuel) disposed of		L	81,000	82,000	81,000					-1.2%	
Chemical Waste Recycling											
Spent lube oil recycled		L	81,000	72,000	71,200					12.5%	
Spent kerosene (aircraft fuel) recycled		L	54,000	34,600	36,800					56.1%	
Halon 1301 recycled		kg	1,842	2,283	1,842					-19.3%	
Other Materials Used											
Paper and paper products consumed		kg	82,291	75,771	66,783					8.6%	
Plastics consumed		kg	145,527	139,186	127,388					4.6%	
Metals consumed		kg	2,939	3,714	2,382					-20.9%	
Paints consumed for aircraft maintenance		L	14,610	6,312	17,337					131.5%	
Aircraft tyres consumed	page 12	kg	288,084	390,876	422,244					-26.3%	
Vehicle tyres consumed		kg	30,760	30,925	31,538					-0.5%	
Solid Waste Produced											
Industrial & Commercial waste disposed of											
Base Maintenance (BM)	page 10	kg	1,078,640	874,190	806,820	kg/manhour	0.58	0.53	0.57	23.4%	9.2%
Component Avionics Overhaul (CAO)			500,000	499,590	364,000	kg/manhour	2.07	2.05	1.47	0.1%	0.9%
Total			1,575,640	1,373,780	1,170,820					14.7%	
Food waste disposed of	page 10-11	kg	396,600	328,050	318,450	kg/average headcount	96.71	88.61	90.88	20.9%	8.4%
Grease trap waste disposed of (Total)											
Base Maintenance (BM)	page 11	kg	178,000	179,000	169,000	kg/manhour	0.10	0.11	0.12	-0.6%	-12.0%
Component Avionics Overhaul (CAO)			110,000	148,000	113,000	kg/manhour	0.46	0.61	0.46	-25.7%	-33.4%
Material Recycling											
Paper recycled											
Base Maintenance (BM)	page 13	kg	5,600	12,422	29,740	kg/manhour	0.00	0.01	0.02	-54.9%	-60.1%
Component Avionics Overhaul (CAO)			16,460	12,401	9,961	kg/manhour	0.07	0.05	0.04	32.7%	33.8%
Total			22,060	24,823	39,701					-11.1%	
Aluminum sheet recycled		kg	8,180	6,135	10,225					33.3%	
Metal turning recycled		kg	601	693	2,140					-13.3%	
Cardboard recycled		kg	59,007	59,863	24,080					-1.4%	
Number of printing cartridges recycled (Total)											
Base Maintenance (BM)	page 12	No.	577	506	460					14.0%	
Component Avionics Overhaul (CAO)			219	169	162					29.6%	
Total			796	675	622					17.9%	
Vehicle tyres recycled	page 12	kg	23,935	35,237	25,175					-32.1%	

Environmental statistic	Reference	Unit	Quantity for the year			Quantity per unit of production				Change	
			2006	2005	2004	Unit	2006	2005	2004	Total	per unit
Water											
Potable water consumed											
Base Maintenance (BM)			122,357	94,572	113,357	m3/manhour	0.066	0.058	0.080	29.4%	14.5%
Component Avionics Overhaul (CAO)			9,835	9,487	9,466	m3/manhour	0.041	0.039	0.038	3.7%	4.5%
Total			132,192	104,059	122,823					27.0%	
Waste Water Produced											
Process wastewater disposed of (Total)											
Base Maintenance (BM)			112,968	85,267	102,428	m3/manhour	0.061	0.052	0.072	32.5%	14.7%
Component Avionics Overhaul (CAO)			7,068	6,953	6,922	m3/manhour	0.029	0.029	0.028	1.7%	2.5%
Total			120,036	92,220	109,350					30.2%	
Compliance with Legal Requirements for Air Pollution Control, Water Pollution Control and Waste Disposal											
No. of new warning letters received from relevant authorities		No.	0	0	0						
Number of new prosecution actions		No.	0	0	0						
Remark:											
1. Paper and paper products consumed in 2005 was rectified from 55,390kg to 75,771kg											

Response to Carbon Disclosure Project questionnaire 5.

Section A questions (continued):	HAECO response (NB: Does not include TAECO. TAECO does its own response.)																								
<p>2 Greenhouse Gas Emissions Accounting¹</p> <p>a Methodology: Please provide the following information on your company's emissions measurements:</p> <ul style="list-style-type: none"> i The accounting year used to report GHG emissions.² ii The methodology by which emissions are calculated. iii Whether the information provided has been externally verified or audited. iv An explanation for any significant variations in emissions from year to year, e.g. due to major acquisitions, divestments, introduction of new technologies, etc. 	<ul style="list-style-type: none"> i. Each calendar year ii. GHG protocol iii. The data has not been externally verified. iv. No significant change. 																								
<p>b Scope 1 and 2 of GHG Protocol: Director and Indirect GHG emissions and electricity consumption.³ Please complete the table below for tonnes CO₂e emitted and electricity consumption:</p> <table border="1" data-bbox="100 732 905 862"> <tr> <td>Scope 1 activity tonnes CO₂e emitted</td> <td></td> <td></td> </tr> <tr> <td>Scope 2 activity tonnes CO₂e emitted</td> <td></td> <td></td> </tr> <tr> <td>MWh of purchased electricity</td> <td></td> <td></td> </tr> <tr> <td>Percentage of purchased MWh from renewable</td> <td></td> <td></td> </tr> </table>	Scope 1 activity tonnes CO ₂ e emitted			Scope 2 activity tonnes CO ₂ e emitted			MWh of purchased electricity			Percentage of purchased MWh from renewable			<table border="1" data-bbox="905 667 1356 886"> <thead> <tr> <th>Globally</th> <th>Kyoto Annex B Countries: (note 4)</th> </tr> </thead> <tbody> <tr> <td>10,070.0</td> <td>None</td> </tr> <tr> <td>17,832.0</td> <td>None</td> </tr> <tr> <td>26.5</td> <td>None</td> </tr> <tr> <td>None</td> <td>None</td> </tr> </tbody> </table>			Globally	Kyoto Annex B Countries: (note 4)	10,070.0	None	17,832.0	None	26.5	None	None	None
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<p>c Scope 3 of GHG Protocol: Other Indirect GHG emissions. Where feasible please provide estimates for the following categories of emissions:</p> <ul style="list-style-type: none"> i Use/disposal of company's products and services. ii Your supply chain. iii External distribution/logistics. iv Employee business travel. 	<p>Not applicable: the use of our maintenance services doesn't generate GHG emissions. We have insufficient volume of any particular item to merit monitoring We have insufficient volume of any particular item to merit monitoring <i>Not available</i></p>																								
<p>¹The six main Greenhouse Gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆).</p> <p>²If you are responding to CDP for the first time, please provide details where available, of emissions for the last three measurement cycles.</p> <p>³For the purposes of responding to this section, please follow the World Resources Institute (WRI), World business Council for Sustainable Development's (WBCSD's) Greenhouse Gas Protocol (corporate)</p> <p>⁴ Kyoto Annex B Countries: Australia; Canada; European Community; Iceland; Japan; New Zealand; Norway; Russian Federation; Switzerland; Ukraine; USA</p>																									

Response to Carbon Disclosure Project questionnaire 5.

Section B questions:	HAECO response (NB: Does not include TAECO. TAECO does its own response.)																													
<p>3 Additional Greenhouse Gas Emissions Accounting Using the Methodology as set out in 2(a), please state your Scope 1 and 2 emissions as follows:</p> <p>a Countries: For each country in which you have operations, where available.</p> <p>b Facilities: For facilities covered by the EU Emissions Trading Scheme (EU ETS). Please also include the number of allowances you were issued under the applicable National Allocation Plans.</p> <p>c EU ETS impact: What has been the impact on your profitability of the EU Emissions Trading Scheme?</p>	<p>a. All operations are in Hong Kong</p> <p>b. None</p> <p>c. None</p>																													
<p>4 Greenhouse Gas Emissions Management</p> <p>a Reduction programmes: What emission reduction programs does your company have in place? Please include any reduction programs related to your operations, energy consumption, supply chain and product use/disposal.</p> <p>i What is the baseline year for the emissions reduction program?</p> <p>ii What are the emissions reduction targets and over what period do those targets extend?</p> <p>iii What investment has been/will be required to achieve the targets and over what time period?</p> <p>iv What emissions reductions and associated costs or savings have been achieved to date as a result of the program?</p> <p>v What renewable energy and energy efficiency activities are you undertaking to manage your emissions?</p>	<p>HAECO's aspiration is that its carbon emissions per unit of output should be 'best in class' for the global aircraft maintenance and repair industry. It monitors all aspects of its business for opportunities to achieve this and takes action whenever practical.</p> <p>i. Year 2006</p> <p>ii. We do not have specific reduction targets. Rather we continually exam in what reductions can be made on each activity.</p> <p>iii. HK\$7.4 million budgeted in 2007 for energy saving modification to its facilities.</p> <p>iv. The 2006 project costs are about HK\$726K. The cost saving is estimated to HK\$675K. CO2 emission reduction is approximately 581 tones.</p> <p>v. There are currently no significant renewable energy opportunities in Hong Kong. For energy efficiency we are (a) exploring the use of electric ground equipment (b) have changed some vehicles from pre-euro to euro IV type to lower GHG emissions and fuel cost; (c) are changing from an air-cooled tower to more energy efficient water-cooled tower. (d) Around 99% (4450 nos.) of staff take public transport for works. (e) We are using small solar panels to generate the electricity and hot water. For further information refer to the HAECO Environmental Report</p>																													
<p>b Emissions trading: What is your company's strategy for trading in the EU Emissions Trading Scheme, CDM/JI projects and other trading systems (e.g. CCX, RGGI, etc), where relevant?</p>	b. N/A																													
<p>c Emissions intensity: Please state which measurement you believe best describes your company's emissions intensity performance? What are your historical and current emissions intensity measurements? What are your targets?</p>	<p>c.</p> <table border="1" data-bbox="905 1268 1992 1446"> <tr> <td>Electricity:</td> <td></td> <td>2005</td> <td>2006</td> <td rowspan="5">Future emissions over the next three years are planned but this information is not disclosed outside HAECO.</td> </tr> <tr> <td>Base</td> <td>Kg/</td> <td>12.45</td> <td>11.22</td> </tr> <tr> <td>maintenance</td> <td>manhour</td> <td></td> <td></td> </tr> <tr> <td>Line</td> <td>Kg/</td> <td>12.48</td> <td>12.47</td> </tr> <tr> <td>maintenance</td> <td>movement</td> <td></td> <td></td> </tr> <tr> <td>total kg/HK\$'000 of turnover</td> <td></td> <td>12.37</td> <td>11.13</td> <td></td> </tr> </table>				Electricity:		2005	2006	Future emissions over the next three years are planned but this information is not disclosed outside HAECO.	Base	Kg/	12.45	11.22	maintenance	manhour			Line	Kg/	12.48	12.47	maintenance	movement			total kg/HK\$'000 of turnover		12.37	11.13	
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<p>4 Greenhouse Gas Emissions Management</p> <p>d Energy Costs: What are the total costs of your energy consumption e.g. from fossil fuels and electric power? What percentage of your total operating costs does this represent?</p>	d. HK\$22.8 million of energy was purchased in 2006. This equates to 0.9 % of turnover.																																											
<p>e Planning: Do you estimate your company's future emissions? If so please provide details of these estimates and summarize the methodology for this. How do you factor the cost of future emissions into capital expenditure planning? Have these considerations made an impact on your investment decisions?</p>	<p>e. Yes. One additional hangar is going to built and scheduled to operate in 2009</p> <table border="1" data-bbox="907 500 1533 896"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Year</th> </tr> <tr> <th>Type of energy</th> <th>Unit</th> <th>2005 Actual</th> <th>2006 Actual</th> </tr> </thead> <tbody> <tr> <td>Town Gas</td> <td>000 MJ</td> <td>5,733</td> <td>4,966</td> </tr> <tr> <td>Diesel</td> <td>000 lt</td> <td>2,887</td> <td>2,978</td> </tr> <tr> <td>Electricity</td> <td>000 KwHr</td> <td>26,041</td> <td>26,543</td> </tr> <tr> <td colspan="2">CO2 emissions</td> <td></td> <td></td> </tr> <tr> <td>Scope 1</td> <td>000kg</td> <td>10,455</td> <td>10,070</td> </tr> <tr> <td>Scope 2</td> <td>000kg</td> <td>17,494</td> <td>17,832</td> </tr> <tr> <td colspan="2"></td> <td><u>27,949</u></td> <td><u>27,902</u></td> </tr> <tr> <td colspan="2">Total energy cost HK\$m</td> <td>22.5</td> <td>22.8</td> </tr> </tbody> </table> <div data-bbox="1554 532 1942 824" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Future emissions over the next three years are planned but this information is not disclosed outside HAECO.</p> </div>						Year		Type of energy	Unit	2005 Actual	2006 Actual	Town Gas	000 MJ	5,733	4,966	Diesel	000 lt	2,887	2,978	Electricity	000 KwHr	26,041	26,543	CO2 emissions				Scope 1	000kg	10,455	10,070	Scope 2	000kg	17,494	17,832			<u>27,949</u>	<u>27,902</u>	Total energy cost HK\$m		22.5	22.8
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<p>5 Climate Change Governance</p> <p>a Responsibility:</p> <p>i Which Board Committee or other executive body has overall responsibility for climate change?</p> <p>ii What is the mechanism by which the Board or other executive body reviews the company's progress and status regarding climate change?</p>	<p>i. Director Finance of HAECO covers these issue. HAECO's Environmental Protection and Industrial Safety Department reports to her.</p> <p>ii. HAECO's work to reduce its impact on the environment is published in an Environment Report on its website and referred to in its Financial Annual Report.</p>																																											
<p>b Individual performance: Do you provide incentive mechanisms for managers with reference to activities relating to climate change strategy, including attainment of GHG targets? If so, please provide details.</p>	b. No																																											