

# 2006

## ENVIRONMENTAL PERFORMANCE REPORT

Toronto Pearson International Airport



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# MESSAGE FROM THE PRESIDENT

The year 2006 proved to be one of outstanding accomplishments for the GTAA as Toronto Pearson's passenger volume reached the 31 million mark.

By the end of the year, the Airport Development Project (ADP) was approaching completion, with the preview of Pier F in early December.

Toronto Pearson is ahead of the demand curve for the first time in 20 years and we are now able to focus on the operation and management of facilities rather than their construction. Toronto Pearson is virtually a new airport built to the most advanced standards of safety, security and environmental sustainability.

Toronto Pearson is a convenient and efficient airport for all users, and 2006 saw the completion of numerous projects that shall provide significant environmental benefits. The addition of the LINK Train, which began public operations in July 2006, now offers new efficiencies and time savings for passengers, linking Terminal 1, Terminal 3 and the Reduced Rate and employee parking lots. The LINK Train brings with it numerous environmental attributes, including air quality from fewer buses and lowered fuel consumption. Also, because of the unique design methods and materials used, it is virtually noise-free.

The GTAA Glycol Processing Facility was commissioned in January 2006, processing approximately one million litres of spent deicing fluid during the spring of 2006. The concentrated product generated from this processing is sold into a secondary market. The airport is now environmentally self-sufficient in processing high concentrate spent glycol rather than relying on an outside source to destroy it.

The Fire Emergency Services Training Institute (FESTI) was completed in Fall 2006. The 2,804 m<sup>2</sup> environmentally-friendly building conforms to Silver standards outlined in the Leadership in Energy and Environmental Design (LEED) building program. LEED evaluates a building over its life cycle based on environmental standards. The FESTI includes many environmental features, including: a solar wall that will absorb heat throughout the day, aiding in heating the building; concrete walls, floors and ceilings that retain heat better and at a lower cost; classrooms that are located partially underground for better temperature control in the summer and winter; and a grass-covered roof.

With major construction complete, the new Central Utilities Plan (CUP) shall reduce energy and water consumption. The building was designed with the environment in mind, and includes features such as natural lighting, improved climate and air quality control, and noise control.

Out on the apron, environmental improvements include the installation of electrical charging stations, which gives the GTAA and airline ground handlers the opportunity to use electric ramp vehicles. In addition, preconditioned air and 400hz power is now available at all aircraft gates; consequently, pilots have the environmentally friendly option of a full shut-down of their aircraft between flights.

The list of achievements is a long one, and it is very satisfying to have received international recognition with Toronto Pearson being named by the Institute of Transport Management as Best Global Airport for 2006.

The GTAA is proud to be making improvements that shall minimize our environmental footprint and present the people in the Greater Toronto Area with the airport they deserve.



Lloyd McCoomb  
GTAA President and CEO



## GTAA Environmental Objective:

**Provide industry leadership in practices to advance the highest standards of safety, security and environmental sustainability.**

# ENVIRONMENTAL SUSTAINABILITY

**T**he concept of environmental sustainability in airport operations remains a challenge, and this challenge extends to all areas of the transportation industry. The GTAA's aim is to minimize its environmental impact locally and globally.

Under the direction of the Vice President Operations and Chief Engineer, the GTAA ensures that the airport's impact on the environment and neighbouring communities is as small as possible. The GTAA focuses on continual improvement in

every aspect of its business and operation, including the environment.

Over the past ten years of managing Toronto Pearson, the GTAA is justifiably proud of its environmental accomplishments in reducing the airport's environmental footprint while increasing its efficiency, measured in terms of passenger volume.

For additional information on our operations, please explore [www.gtaa.com](http://www.gtaa.com).

## Environmental Policy

The Greater Toronto Airports Authority (GTAA) is committed to developing and operating airports in an environmentally responsible manner, in compliance with relevant environmental legislation, and within an overall framework which is environmentally, economically and socially sustainable. Our commitment is reflected in GTAA's day-to-day operations to minimize impacts on the natural environment and local community.

The GTAA is committed to continual improvement and the prevention of pollution. It is our policy to set environmental objectives and targets and implement action plans for significant environmental aspects identified at the airport. It is also our policy to monitor progress, utilize best management practices and apply cost-effective technology to strive to improve environmental performance.

To successfully implement this policy, the GTAA utilizes an Environmental Management System (EMS) which meets the specifications of the ISO 14000 international standards series and which includes:

- Utilizing environmental audits to ensure compliance with applicable laws, regulations, as well as policies, objectives and targets.
- Conducting regular environmental monitoring of environmental aspects such as water quality, air quality, noise, air-side.
- Development, hazardous substances and spill incidents.
- Continually developing and promoting environmental standards applicable to day-to-day airport operations which impact the environment.
- Integrating environmental assessment and management practices into the decision-making process used to plan, design, construct and operate the airport.
- Communicating environmental policy, roles, responsibilities, objectives and targets to GTAA staff.
- Producing an annual environmental performance report to ensure regular reporting to the CEO and Board of Directors, GTAA employees, and the interested public.

# ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM

Since 1999, the GTAA's environmental management system has been certified to the ISO 14001 standard to ensure its compliance with international standards.

Through this management system, the GTAA sets objectives and targets and strives for continual improvement, pollution prevention and regulatory compliance. The environmental management system has achieved significant environmental improvements over the years, and ensures that the GTAA continues to examine its progress, update its system and determine how it can minimize the airport's footprint.

Many of the needed physical environmental improvements have been constructed and now more emphasis is being placed on further educating employees and tenants and encouraging their involvement in the day-to-day activities in a way that will minimize our overall impact.

In April 2006, the GTAA successfully achieved re-certification to ISO 14001 by external auditor SGS Canada Inc.

## Targets

In 2006, seven of the eight short term targets were achieved. The target to 'Improve average fuel economy rating for the GTAA fleet' was not achieved. All long term targets were on track for target completion at the end of 2006. Please see Table 1 and Table 2 ([click here](#)) for a complete list of targets and their status.





## COMPLIANCE

The GTAA is in compliance with all applicable environmental statutes and regulations. To ensure compliance, the GTAA conducts internal and external environmental management system audits and environmental compliance audits with respect to its facilities and its tenants' facilities and activities.

In 2006, the GTAA Fire Prevention Office inspected the Hazardous Materials storage practices of 479 tenants. Two large environmental compliance audits were conducted in 2006; one tenant and one GTAA facility. The environmental management system was subjected to an internal audit in addition to the external registration audit by SGS Canada Inc.

## ENERGY USE

An uninterrupted energy supply is crucial to maintaining operations, safety and security at the airport. Recognizing that the airport is a large consumer of electricity, the GTAA has taken steps to examine and implement measures to help reduce consumption. These measures have not compromised energy supply.

Due to the efforts of our Energy Management Committee,

45,638.94 MW hours were saved in 2006. This is equal to approximately 2.25 hours of consumption for the entire province of Ontario.

Initiatives undertaken in 2006 to accomplish these savings include:

- Increased use of daylight within terminal buildings.
- Programmed schedule for nighttime lighting reductions in the buildings.
- Installation of programmable photo-cells.
- Installation of energy saving controllers on escalators and moving walks.

### Energy Consumption Data

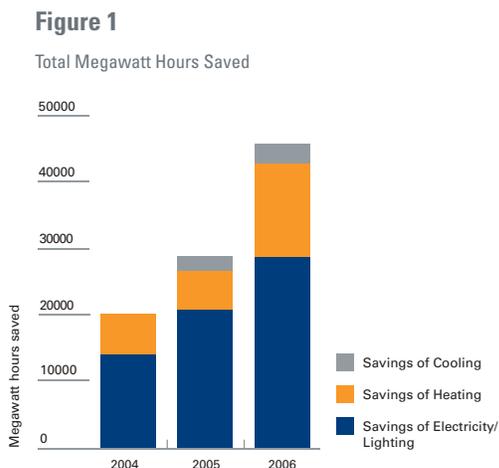
The Energy Consumption graph that follows compares the electricity consumption at the airport for 2005 and 2006. On a per passenger basis, there has been a decrease in energy consumption. However, there was a 2.4 per cent overall increase in energy consumption in 2006. There were two major contributors to the overall increase.

The first contributor was the necessity to operate two buildings in tandem: Terminal 2 was processing international and transborder passengers, and the new portion of Terminal 1 (Pier F) was in use by construction workers and airport

**Through various initiatives, the GTAA conserved 45,638.94MW hours of electricity – equal to approximately 2.25 hours of consumption for the entire province of Ontario.**

employees. In 2007, the opening of the international and transborder sections of Terminal 1 shall make it possible to close Terminal 2, and should result in a more efficient use of energy.

The second contributor is the new operation of the automated people mover (LINK Train) which is an inter-terminal electric-driven train system.



Looking forward, many new initiatives are on the horizon. The GTAA will continue to implement systems to assist in managing energy usage and reducing overall consumption.

### Cogeneration Facility

Opened in December 2005, the GTAA Cogeneration Plant is a 117 MW combined cycle plant capable of fully supplying current and forecast airport power demand using clean burning natural gas while at the same time offering excess power to the provincial grid.

The facility works by first generating electricity through two gas turbines, a process which produces a significant amount of exhaust heat. In a simple cycle plant with only gas turbines, this heat would be lost to the atmosphere. But because the cogeneration plant couples the gas turbines with a steam turbine, the waste heat created by generating electricity from the gas turbines can be recovered through two steam boilers to create additional electricity through the steam turbine.

The overall result is more efficient energy production. Steam that is not used to power the steam turbine is redirected towards the Central Utilities Plant (CUP), the facility which supports the airport's heating and cooling needs. In 2006, the GTAA saved over 10,800 MWh of electrical energy by using "free" steam from the Cogeneration Facility instead of creating steam from the boilers in the CUP.

## WATER USE

Numerous initiatives have been undertaken to reduce the amount of potable water used at the airport. In 2006, these initiatives included the collection of baseline data, completing installation of individual meters of all food and beverage tenants, and the installation of low-flow washroom fixtures.

Despite water saving initiatives, total water consumption for 2006 was up 43 per cent from 2005. Previously we have seen reductions in water consumption; however, in 2006, our new Cogeneration Facility was fully operational and using a significant amount of domestic water. Consequently, water consumption will continue to fluctuate as electrical demand at the airport fluctuates. Significant efforts will be made in 2007 to reduce consumption.

## BIODIVERSITY

Maintaining a natural and biologically diverse landscape while operating a safe airport can often lead to diverging management objectives, with safety always being of paramount importance. However, a number of initiatives are underway to support the natural environment at the airport.

### Wildlife

The year 2006 saw another substantial bird increase in the bird population to 500,000 from 317,000 in 2005 and 333,000 in 2004. Correspondingly, the number of bird strikes increased to 80 from 45. When taking into account the increase in aircraft movements, the strike ratio in comparison to the number of birds/movements was down from 1.28 to 0.83.

Increasingly, the GTAA Wildlife Management Program has concentrated on reducing the force of bird strike, targeting large flocking birds. In 2006, the vast majority of strikes were from small birds, which are not as hazardous to aircraft.

Several activities used to achieve strike and weight reductions include:

- Holding a permit from the Canadian Wildlife Service to control birds up to 8km from the airport.
- Use of a trained bald eagle as part of the GTAA falconry program.
- Annual Gyrfalcon hack (rear and release) program (large

**In April 2006, the GTAA successfully achieved re-certification to ISO 14001 by external auditor SGS Canada.**

falcons deter geese more readily than smaller falcons).

- Habitat manipulation, special fencing for mammals, spike devices on all potential roosting surfaces, raptors, pyrotechnics and trapping.

### **Creek Rehabilitation**

The GTAA has established a multi-year project to complete aquatic and riparian habitat improvements along Etobicoke and Spring Creeks within the airport boundary. During 2006, approximately 150 m of bank with excessive erosion along Etobicoke Creek was successfully stabilized using bioengineering methods.

Some examples of the bioengineering methods used include: vegetative riprap, biodegradable wattles (straw socks), live staking (willow trees providing stabilization until more permanent vegetation grows) and terra seeding (4 inch coating of mulch, seed and binding material).

In addition, an ongoing monitoring program is used to evaluate the success of the previously completed works. Evaluation methods include photographic monitoring, fish population and benthic invertebrate monitoring and vegetation assessment. The results of the monitoring program will be used when determining future repair methods utilized in the airport and to coordinate three small spot repairs completed in 2006 along Spring Creek.

### **The Living City Project**

In addition to the work on airport property, the GTAA has been working extensively with the Toronto Region Conservation Authority (TRCA) for the last decade to improve both the riparian and aquatic habitats of Etobicoke and Spring Creek (Spring Creek is a tributary to Etobicoke Creek and both Etobicoke and Spring Creek flow through airport property).

In partnership with the GTAA, the TRCA completed an in-depth study in 2006 of various aspects of the Etobicoke Creek Watershed referred to as "The Living City Project". Terrestrial natural heritage was assessed around the airport, a fish management plan was developed for the Etobicoke Creek, and a review of the stormwater system (including identifying retrofits, erosion-prone reaches and areas prone to spills) for the entire Etobicoke Creek watershed, including Spring Creek.

These reports not only provide a characterization of the natural heritage system in the Etobicoke Creek, but also offer management and restoration recommendations to guide improvements in the watershed's ecosystem. Commencing in 2007,

the TRCA, the GTAA and its municipal partners will implement these recommendations.

### **Pedestrian Cycle Trail**

In a joint effort with the City of Mississauga, the GTAA has been developing a pedestrian cycle trail in the Etobicoke Creek Valley. The trail will traverse approximately 3.7 kilometres of airport property and allow access to the Lake Ontario Waterfront Trail. The trail will utilize existing construction access roads left in place by the Region of Peel sewer twinning project. The preliminary design report on the GTAA section of the trail was completed in 2006.

### **Salt Management Program**

The GTAA has prepared a Salt Management Plan for the airport in accordance with the Code of Practice for the Environmental Management of Road Salts.

From January 1 to December 31, 2006, there was an extremely low amount of snow accumulation (16.8 cm), and only ten snow events. Therefore, there were very few opportunities for the GTAA to monitor and analyze the operational practices and strategies set out in the new Salt Management Plan. However, the GTAA did concentrate on implementing and monitoring material application rates and increasing the use of environmentally friendly products such as Geomelt 55.

### **Contaminated Sites**

As the Terminal Development Program proceeds, the GTAA continues to clean up low levels of fuel- and glycol-contaminated soils found under the aprons of old Terminal 2. All contaminated soils are bio-remediated on-site and reworked back into site development projects. In 2006, 1881 tonnes of contaminated soil was encountered and 100 per cent of it was remediated and reused on site.

The only other known contaminated soils on the airport are lead shot from a skeet club adjacent to the airport, and a small fuel spill at the site of the Air France Crash. The Air France site cleanup is pending.

In 2006, the GTAA took possession of the initial parcel of the Boeing property. This site has limited groundwater contamination which is being cleaned up through a monitored natural attenuation program.

**Approximately 150m of Etobicoke Creek banks with excessive erosion was successfully stabilized using bioengineering methods.**



### **Glycol Recycling**

The building of the Glycol Processing Facility, run by Inland Technologies, was completed in November 2005. The first two of its five concentrators were commissioned in January 2006. These two concentrators processed approximately one million litres of spent deicing fluid over the summer of 2006. The concentrated product generated from this processing was sold into a secondary market and is reprocessed for goods such as engine coolant. The remaining concentrators arrived in the late summer of 2006 and have subsequently also been commissioned. No processing took place at the facility for the rest of the year, due to the very mild weather and lack of deicing.

### **Leadership in Energy and Environmental Design (LEED)**

Leadership in Energy and Environmental Design (LEED) promotes a sustainable building approach by providing a standard that companies can follow in order to build green buildings. The system looks at performance in six areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection indoor environmental quality, and innovation and design process. Projects have to be registered with the system, first meeting all prerequisites, and then achieving a minimum number of points in order to achieve a certified level of LEED. Having a LEED certified building ensures a reduction in operation costs (through energy and water savings), ensures healthier and more productive occupants, and conserves natural resources.

In 2006, the GTAA substantially completed its first LEED facility: the Fire and Emergency Services Training Institute (FESTI). This building will be used to provide fire and emergency training for GTAA fire services and fire services from around the world.

This exciting new building features a green roof (spring 2007), solar wall (preheats cold external air that is brought in as fresh air), Kalwall (insulated translucent panels that diffuse light and facilitate the use of natural light), sensed lighting, toilets and sinks, waterless urinals, reduced finishes and tankless water heaters.

Once the FESTI building is complete at the beginning of 2007, the GTAA will apply for LEED Silver certification of the facility.

## **EMISSIONS, EFFLUENTS AND WASTE**

### **Air Emissions**

With the number of smog days in the Greater Toronto Area on the rise and the recognition that improvements to our air quality need to be made, it is clear that individuals and companies need to make a commitment to reduce emissions.

In 2006, the GTAA initiated several objectives under the Emission Reduction Program:

- Provide pre-conditioned air at all gates, where feasible. Also, provide 400 Hz power at all gates for aircraft use and continue to encourage its use. To accomplish this, the GTAA began regular meetings with the airlines to maximize the use of pre-conditioned air and 400 Hz power.

**In 2006 1881 tonnes of contaminated soil was encountered during construction and 100 per cent was remediated and reused on site.**



- Use cleaner, more fuel-efficient engines or best available retrofit technology during operations. All new diesel equipment now meets the US EPA emissions regulations for off-road diesel equipment.
- Use low-sulfur diesel fuel for diesel equipment; all diesel fuel dispensed airside is low-sulfur.
- Encourage green building design with energy-efficient features, solar energy, and use of low-VOC-emitting paints and solvents during construction. In 2006, the GTAA followed the LEED system to design and build the Fire and Emergency Services Training Institute.
- Promote staff awareness of energy use. Displays regarding energy usage were set up for GTAA employees during environment week.

#### **Automated People Mover (LINK Train)**

The automated people mover (LINK Train) is a cable liner shuttle system that whisks passengers between Terminal 1, Terminal 3 and the reduced rate parking lot near Airport Road. A stationary electrically-driven mechanical drive system accelerates and decelerates the shuttle.

The LINK Train, which began public operations in July of 2006, has nearly eliminated the need for traditional inter-terminal bussing on the groundside of the airport which in turn has numerous positive environmental impacts on and air emissions. As well, because of the unique design methods and materials used, it is virtually noise-free.

#### **Vehicle Emissions & Fuel Consumption**

Unleaded gasoline consumption by GTAA fueled vehicles increased by 14.5 per cent in 2006 based on usage in 2002. In 2006, while GTAA operations showed a 2.5 per cent decrease, fuel supplied to our wildlife contractor and Peel Police increased 64 per cent and 62 per cent, respectively. The GTAA's decrease in fuel consumption can be partially attributed to our hybrid fleet. The GTAA currently has 21 hybrids in their fleet: Honda Civic, Toyota Prius and Highlander, Ford Escape and Chevy Silverado.

Diesel fuel provided by the GTAA increased by almost 62 per cent in 2006 based on comparable usage in 2002. Diesel use is directly related to snow removal operations and bussing operations. As those operations fluctuate based on weather and the need to bus passengers airside, the diesel usage also fluctuates.

#### **National Pollutant Release Inventory (NPRI)**

The National Pollutant Release Inventory (NPRI) is an electronic database established and maintained by Environment Canada, which provides Canadians with access to information on the releases and transfers of key pollutants in their communities. The NPRI, established in 1992, is legislated under the Canadian Environmental Protection Act, 1999 (CEPA 1999). The GTAA facilities meet the established reporting criteria and are therefore required to report information regarding the release and transfer of pollutants to the Government of Canada on an annual basis.

**In 2006 the GTAA substantially completed its first LEED facility and will be applying for LEED silver certification.**

For the 2006 reporting year, the GTAA will report the following parameters to the NPRI: Oxides of Nitrogen (NO<sub>2</sub>), Carbon Monoxide, particulate matter less than or equal to 10 microns (PM<sub>10</sub>), and particulate matter less than or equal to 2.5 microns (PM<sub>2.5</sub>).

Substance	2005 Release (tonnes)	2006 Release (tonnes)
Oxides of Nitrogen (NO <sub>2</sub> )	45.309	*
Carbon Monoxide	33.332	*
PM <sub>10</sub>	15.157	*
PM <sub>2.5</sub>	1.736	*

\*Final NPRI numbers are not available at time of print; however, selected numbers are available in Appendix A ([click here](#)).

For more information, refer to Environment Canada's website at [http://www.ec.gc.ca/pdb/npri/npri\\_home\\_e.cfm](http://www.ec.gc.ca/pdb/npri/npri_home_e.cfm).

## Noise

The GTAA maintains a Noise Management Department to monitor airport operations in relation to the Noise Management Program. The primary responsibility of the Noise Management Department is to respond to noise complaints from the general public within a 10 nautical mile radius of the airport. To assist in investigations, the Noise Management Department utilizes an airport Noise Monitoring and Flight Tracking System that combines radar flight track data from Nav Canada with spatial data from a Geographic Information System. Flight track data is then correlated with real-time noise collected at Noise Monitoring Terminals. The system currently has 21 Noise Monitoring Terminals in place. In 2006, the Noise Management Department received 1876 complaints from the surrounding communities related to over 412,525 aircraft movements.

The GTAA also staffs a Noise Enforcement Office to investigate any aircraft deviations from the Noise Management Program. In 2006, the Noise Enforcement Office was involved in 418 investigations, most of which were related to nighttime curfew violations.

For more information on Noise Management at the GTAA, please refer to the Annual Noise Report found on the GTAA website, [www.gtaa.com](http://www.gtaa.com), under Community Relations.

## Effluents

### Stormwater

Since assuming operations of Toronto Pearson in 1996, the GTAA has spent in excess of \$100 million for the construction of stormwater management facilities. These facilities are required to ensure that potential impacts associated with the operations and development of Toronto Pearson is mitigated. Impacts can include the quality of water entering creeks due to airport activities, and the quantity of water entering downstream which may cause flooding. As all facilities are now built, the GTAA continues a preventative maintenance and upgrades program.

A rigorous stormwater sampling program is in place which monitors the quality of stormwater leaving airport property. Over the winter months, extra measures are taken to monitor the impact that airport deicing activities have on stormwater quality. The results of deicing monitoring are reported separately to Transport Canada on an annual basis as required under the terms of the Ground Lease. The quality of the stormwater leaving the airport continues to improve. A summary of the data can be found in Appendix A ([click here](#)).

## Waste

As landfills reach capacity and the cost of disposal rises, waste management becomes an increasingly important issue. Many different waste streams make up the overall waste produced at the airport and managed by the GTAA. In addition to common solid waste—including organics found in the terminals and other buildings—the GTAA also manages waste from construction and demolition, hazardous materials, and electronic equipment waste.

The Province of Ontario has a waste diversion goal of 60 per cent by the end of 2008. The GTAA plans to meet this goal. The GTAA's 2006 diversion rate was 52 per cent, up by 5 per cent from 2005.

Recognizing that the airport has the potential to become a large producer of waste, the GTAA has put forth many programs to maximize use of the three Rs: Reduce, Reuse, and Recycle.

Reduce. The less you use, the less waste you have.

Since 1998, the GTAA has focused its efforts on reducing the amount of paper it consumes. Despite an increase in the number of employees, the GTAA has continued to reduce the amount of paper it consumes.

**The GTAA fleet currently has 21 hybrid vehicles in operation.**

Reuse. The more we reuse the less that needs to be made.

Reusing products not only reduces what is sent to landfill, but also reduces the need for replacement products. To facilitate reuse, the GTAA operates a Logistics Centre where all shipments destined for tenants are processed. The Logistics Program ensures the collection and reuse of kegs, beer bottles, milk crates, bread trays and pallets, where many of these items were previously disposed of as solid waste.

As shown in the table, reuse and recycling numbers continue to grow as the logistics program matures and as new sections of the terminals become operational.

Aside from increased reuse, other environmental improvements have been achieved from the logistics program, such as a decrease in truck traffic in and around the terminal buildings, which reduces both fuel consumption and emissions.

### Diversion Numbers from the Logistics Program (recycling and reuse)

Year	2003	2004	2005	2006
tonnes	n/a	379.78	847.18	1262.81

\*Please note: total number of items collected for reuse (kegs, beer bottles, milk crates, bread trays and pallets) were converted into tonnes.

\*\*Recycling items include shrink wrap and cardboard.

Recycle. The more we recycle, the less goes to landfill.

Recycling has always been a prime focus of the GTAA in all its airport buildings. Items collected in the recycling program include office paper, newspaper, organics, container cans and assorted plastics, container glass, wood, and metal.

The Logistics Centre collects shrink wrap and cardboard from goods delivered to the terminals for recycling.

The GTAA has implemented several specialized recycling programs. All fluorescent lamps are recycled to ensure that hazardous materials are recovered. Electronic equipment, such as surplus computers, is sold to commercial entities for reuse, donated to charity or recycled, minimizing the impact on landfills. In 2006, 41,186 lbs. of computer equipment were diverted from landfill. Approximately 448 tires, 331 lead batteries, and 248 lbs. of assorted batteries (alkaline, nickel hydride and lithium) were recycled.

The GTAA has an extensive construction and demolition recycling plan that was instituted as part of the airport Development Program. An 85 per cent recycling commitment was written into the various construction/demolition contracts to ensure that the GTAA did everything it could to recycle material. For 2006 approximately 98 per cent of demolition waste was recycled.



**The GTAA's 2006 waste diversion rate was 52 per cent and includes diverting waste such as organics, paper, glass, plastic, wood, metal, shrink wrap, metal and cardboard.**

**Table 1: Short Term Targets – due December 2006**

<b>Aspect</b>	<b>Target</b>	<b>Target Achieved</b>
<i>Airport Development</i>	Construction and Demolition—reuse/recycle 85 percent of waste (i.e. concrete, metals, wood, etc).	Yes
<i>Noise</i>	Enhance public awareness of the GTAA's Noise Management Program, community issues, noise and complaint data, and future noise management initiatives by producing a public report addressing these items on an annual basis.	Yes
<i>Resource Use</i>	To implement energy management initiatives that will collectively reduce electrical power consumption by 2% of the previous years total.	Yes
	Improve the average fuel economy rating (measured in liters/100 kilometers) for the GTAA light fleet (gasoline) by 5% using 2004 as the fleet baseline.	No
<i>Spills</i>	Maintain the last 2 years average data as a benchmark within a 10% variance.	Yes
<i>Waste</i>	Maintain a 50% diversion from solid waste for all GTAA Facilities.	Yes
	Increase the amount of cardboard collected from Terminal 1 and shrink wrap collected for recycling associated with the Logistics Centre by 10% over the 2005 baseline.	Yes
	Increase diversion of reusable waste from landfill associated with the Logistics Centre by 10% over 2005 baseline.	Yes
<i>Wildlife Control</i>	Reduction in the annual number of wildlife strikes and bird weight per 1000 flights by 10% by the end of 2006 based average data from the last three years.	Yes

**Table 2: Long Term Targets – due over the next 5 years**

<b>Aspect</b>	<b>Target</b>
<i>Air Quality</i>	Implement emission reduction measures – Utilization of preconditioned air and 400 hz power 70% of the time at T1 & T3; update diesel vehicle purchasing emission specifications; and evaluate alternative fuel vehicle use for groundside.
<i>Ecology</i>	Reduce sodium chloride amounts by 15% from the 2005 baseline.
	Complete aquatic and riparian habitat improvements on Etobicoke and Spring creeks, as per the GTAA master plan.
	Implement the Plan (including designing, building and opening) for a Pedestrian/Cycle trail along Etobicoke Creek from the 401 to Derry Road.
<i>Noise</i>	Mitigate the noise impacts on communities by developing Visual Flight Rules departure routes over areas of least residential use.
<i>Property Management</i>	Audit 40 tenants annually and enforce the proper storage of Hazardous Materials by GTAA tenants.
<i>Resource Use</i>	Maintain the 2005 water consumption baseline usage at the airport.
	Reduce overall gasoline fuel consumption over a two year period by 10% based on 2005 annual consumption figures.
	Reduce overall diesel fuel consumption over a two year period by 2% based on 2005 annual consumption figures.
<i>Water Quality</i>	Achieve 0 exceedences of federal guidelines for storm water quality.
	To recycle 100% of the high concentrate (3% and greater) spent deicing fluids from the Central Deicing Facility for reuse in other markets.
	Reduce overall airport glycol usage by implementing and expanding upon deicing plans, programs and strategies.

**Approximately 98 per cent of demolition waste was recycled in 2006.**

# APPENDIX A – Environmental Performance Indicators

ENVIRONMENTAL PERFORMANCE INDICATORS							
GRI Index	Environmental Indicators	Unit	2003	2004	2005	2006	Page #
<b>Materials</b>							
EN1	Pesticides - Selective and non-selective	litres	0	20	0	0	
	Larvicide - West Nile	kgs	4.94	10.2	12.66	41.26	
	Total Glycol Used	cubic metres	4,078*	7,240*	4,975*	**	
	Total Road Salt Used	tonnes	5,500	4,500	5,157	2,200	
	Total Paper Purchased	sheets	7,005,000	7,515,000	6,038,000	6,547,500	
		sheets per employee	7,844	8,012	6,277	5,456	
EN2	Percentage of materials used that are recycled.	<i>Does not apply</i>					
<b>Energy</b>							
EN3	Direct energy consumption broken down by primary energy source.						
	Electrical Consumption	kWh	274,046,030	288,394,609	283,650,093	290,457,935	
	Natural Gas Consumption	cubic metres	10,900,895	14,702,814	13,687,659	56,350,779	
	Total Unleaded Fuel Consumption	litres	759,412	724,627	801,744	782,022	
	Total Diesel Fuel Consumption	litres	1,463,411	1,707,391	1,591,460	446,561	
EN4	Indirect energy consumption broken down by primary source.	<i>No data available</i>					
EN5	Percentage of total energy consumption met by renewable resources.	<i>No data available</i>					
EN6	Total energy saved due to conservation efficiency improvements.	MWh	-	20,104.0	28,458.4	45,638.9	
EN7	Initiatives to provide energy-efficient products and services.	The majority of the energy saving initiatives has taken place in the Terminals where motion sensors, lighting programs and photo cell controls have been used to help ensure the most efficient use of energy.					
EN8	Initiatives to reduce indirect energy consumption.	<i>No data available.</i>					
<b>Water</b>							
EN9	Total Water Consumption	cubic meters	128,209	94,697	75,132	107,933	
EN10	Water sources and related habitats significantly affected by withdrawal of water.	<i>Does not apply</i>					
EN11	Percentage of total volume of water recycled and reused.	<i>Does not apply</i>					

**In 2006, 11,614 fluorescent lamps were recycled, producing a total of 2,938 kg of glass, 37kg of metals, 42kg of phosphor powder and 0.5kg of mercury.**

ENVIRONMENTAL PERFORMANCE INDICATORS								
GRI Index	Environmental Indicators	Unit	2003	2004	2005	2006	Page #	
EN12	Location and size of land owned, leased, or managed in, or adjacent to protected areas.	Toronto Pearson International Airport						
		International Symbol: YYZ						
		Longitude: 79 degrees, 38 minutes west						
		Latitude: 43 degrees, 41 minutes north						
		Elevation: 173.4 metres above sea level						
		Area: 1,792 hectares						
EN13	Description of significant impacts of activities on protected areas.	The significant activities that impact protected areas around the airport are summarized within the GTAA's ISO Significant Aspects; air quality, airport development, ecology, environmental emergency planning, noise, property management, resource use, spills, waste, water quality, wildlife, and control.						
EN14	Area of habitats protected or restored.	The west side of the Pearson Airport property drains to the Etobicoke Creek and Spring Creek valleys. The GTAA has been working extensively with the Toronto Region Conservation Authority for the last decade. This ongoing partnership has culminated in the master plan for creek Rehabilitation for both Etobicoke and Spring Creek.						
EN15	Programs for managing impacts on biodiversity.	Creek Rehabilitation						
		Pedestrian/Cycle Train						
		Salt Management Program						
		Contaminated Soil Remediation						
EN16	Number of IUCN Red List species with habitats in areas affected by operations broken down by level of extinction risk.	<i>Does not apply</i>						
Other	Wildlife Strikes	number	35	61	44	80		
<b>Emissions, Effluents, and Waste</b>								
All the calculations for GRI Index EN17-EN19 are based on formulas from Environment Canada for NPRI reporting. Further information on NPRI reporting can be found at <a href="http://www.ec.gc.ca/pdb/npri/">http://www.ec.gc.ca/pdb/npri/</a> .								
EN17	Total direct CO <sub>2</sub> emissions from fossil fuel combustion	tonnes	dnc	35,983	46,670	**		
EN18	Total ODS used on site	tonnes	4.843	4.973	4.935	**		
	(CFC-11 equivalent)							
	Total ODS Released	tonnes	0.002	0.008	0.048	**		
	(CFC-11 equivalent)							
EN19	VOC Emissions	tonnes	1.19	6.53	2.98	**		
	NO <sub>x</sub> Emissions	tonnes	20.41	16.36	45.31	**		
	SO <sub>2</sub> Emissions	tonnes	3.71	1.74	1.22	**		
	CO Emissions	tonnes	14.28	18.18	33.33	**		
	Total Particulate Matter	tonnes	0.72	2.13	17.96	**		
	PM10	tonnes	0.6	2.07	15.16	**		
	PM2.5	tonnes	0.51	0.59	1.74	**		
EN20	Total of Non-Hazardous Waste (includes recyclables)	tonnes	3,214.40	4,705.46	5,115.47	3,190.38		
	Amount of Waste sent to Landfill	tonnes	2,121.83	2,677.17	2,381.4	1,533.93		
	Total of Recyclable Waste	tonnes	1,092.57	2,011.45	2,394.77	1,656.45		
		%	34%	43%	47%	52%		

ENVIRONMENTAL PERFORMANCE INDICATORS								
GRI Index	Environmental Indicators	Unit	2003	2004	2005	2006	Page #	
	- Wood	tonnes	41.13	54.88	16.93	5.74		
	- Metal	tonnes	67.82	75.58	59.57	55.09		
	- Office Paper/Newspaper	tonnes	327.74	536.71	455.86	289.49		
	- Cardboard	tonnes	361.98	580.6	523.12	372.18		
	- Organics	tonnes	n/a	16.84	339.3	338.02		
	- Sand	tonnes	dnc	dnc	25.75	dnc		
	Logistics Program recyclables	tonnes	n/a	379.78	847.18	1262.81		
	Computers/batteries recycled	tonnes	dnc	dnc	2.4	18.79		
	Total Amount of Hazardous Waste	litres	73,500	178,442	169,245	163,319		
		kg			69,358	5,714		
	Total Amount of Demolition Waste	tonnes	42,203	408,588	77,288	53,578		
	Amount of Demolition Waste Recycled	tonnes	30,211	399,920	69,721	52,692		
		% recycled	71.60%	97.80%	90.21%	98.35%		
	Total Contaminated Soil Encountered	tonnes	540	247	14,620	1,881		
	Total Cont'd Soil Remediated	tonnes	540	247	14,510	1,881		
		% remediated	100%	100%	99.2%	100%		
EN21	Total water discharge and quality.	<i>No data available</i>						
EN22	Total Spills	number	1197	957	829	906		
	Total Fuel Spills	number	375	313	284	387		
	- Aircraft Fueling Spills by fueller	number	27	37	40	29		
	Hazardous Cargo	number	5	5	1	1		
	Glycol	number	2	2	3	5		
	Hydraulic Spills	number	226	182	122	133		
	Lavatory spills from aircraft (may be contaminated)	number	135	99	81	88		
	Oil	number	319	248	219	199		
	Asbestos	number	1	1	0	0		
	Other - diesel, unknown, transmission fluid, antifreeze sediment, etc.	number	134	107	119	93		
	Total Stormwater Guideline Exceedences	number	215	165	217	100		
	- Ammonia	number	9	0	1	2		
	- BOD	number	43	41	63	21		
	- Nitrite	number	48	28	43	27		
	- Oil and Grease	number	0	0	0	0		
	- Phenol	number	67	54	64	36		
	- Phosphorous	number	1	2	0	0		
	- TSS	number	44	39	39	13		
	- Glycol	number	3	1	7	1		
EN23	Other relevant indirect greenhouse gas emissions.	All relevant Greenhouse gas emissions are reported above.						

ENVIRONMENTAL PERFORMANCE INDICATORS							
GRI Index	Environmental Indicators	Unit	2003	2004	2005	2006	Page #
EN24	Weight of transported, imported, or exported waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII.			<i>None</i>			
EN25	Water sources and related habitats significantly affected by discharges of water and runoff.		The airport property is surrounded by Spring Creek, Etobicoke Creek and Mimico Creek. All these water sources eventually drain into Lake Ontario.				
<b>Products and Services</b>							
EN26	Initiatives to manage the environmental impacts of products and services and extent of impact reduction.		Since 1999, in an endeavour to ensure the comprehensiveness of environmental management at the airport the GTAA's environmental management system has been certified to the ISO 14001 Standard.				
EN27	Percentage of products sold that is reclaimed at the end of the products' useful life by product category.			<i>Does not apply</i>			
EN28	Incidents of, and fines or non-monetary sanctions for, non-compliance with applicable environmental regulations.			<i>Does not apply</i>			
EN29	Significant environmental impacts of transportation used for logistical purposes.			<i>Does not apply</i>			
EN30	Total environmental expenditures by type.			<i>Not calculated</i>			

n/a - not applicable (product was not used)

dnc - data not collected

\* - water monitoring season 2003 (April 03 - March 04), 2004 (April 04 - March 05), 2005 (April 05 - March 06), 2006 (April 06 - March 07)

\*\* - data not received at time of printing



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