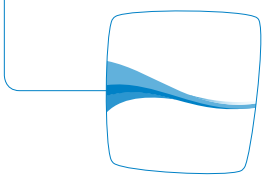
OUR PATHWAY

To conserve natural environments and manage, mitigate and offset negative impacts



We are reducing our environmental impacts by:

- designing for less through smart site selection, venue design and procurement
- operating "eco-efficiently" by minimizing consumption of energy, water and materials and minimizing waste and emissions
- rehabilitating or offsetting negative impacts we cannot avoid

VANOC has applied the precautionary principle in the siting, design and construction of our sport facilities as well as development of our Environmental Management Plans (EMPs) for construction and operations. See Appendix C for an updated view of sustainability highlights of venues, villages and facilities.

Environmental Stewardship and Impact Reduction

This chapter reviews VANOC's 2008-09 performance in the following areas:

A Biodiversity and Habitat

B Energy and Climate Change

C Air Quality

D Water Quality and Conservation

E Waste Management

Engaging Partners and Stakeholders

WHAT

Minimize the environmental impact of our venue construction program and operations

Improve our operational performance on climate change and waste reduction

Deliver long-term environmental legacies

Use the Games spotlight to raise public awareness of sustainable living choices

WHO

BC-based and Canadian environmental non-governmental organizations

HOW

Discussions, meetings and workshops on environmental programs and environmental performance

SUSTAINABILITY CONNECTION

Responsible environmental stewardship creates many benefits, such as better air to breathe, cleaner drinking water and healthier communities. Being smart about our environmental footprint can also achieve economic benefits. For instance, more efficient energy consumption translates into reduced operating costs and greater overall energy security. In British Columbia, sustainable use of natural resources such as forests, minerals, water and fisheries provides the mainstay of our economy and helps support our social, health and educational services.

BACKGROUND

Environmental Sustainability: What's in Scope?

We measure and report on the environmental "footprint" of Games venues, sites, temporary structures and operations. Where VANOC is not the venue developer (as is the case at the Richmond Olympic Oval) but will be operating the venue at Games time, we report on our collaborations with those venue partners to achieve our shared vision of sustainability attributes. We also work with Games-time contractors, partners and sponsors to communicate best practices in sustainable operations (including waste management, energy conservation and environmental protection).

We do not measure or report on the environmental footprint of regional government infrastructure improvements undertaken in advance of the Games. These projects are not under VANOC's mandate and are being built to meet local requirements extending beyond the Games. However, Games participants also benefit from these infrastructure improvements.

A Biodiversity and Habitat

As our focus shifts from venue construction to operations, we remain committed to minimizing our footprint and maintaining the living ecosystems of British Columbia's rich coastal environment. To achieve this, we apply six steps in the planning, development and operation of our Games venues:

1 Smart site selection
2 Environmental Assessment (EA) reviews
3 Venue design and green buildings
4 Environmental Management Plans (EMPs)
5 Ongoing monitoring and compliance
6 Restoration

Bear Management and other Legacy Initiatives at Whistler

As part of our Bear Management Strategy, VANOC provided funding:

- to the Resort Municipality of Whistler (RMOW) in 2008, and to the RMOW and the District of Squamish in 2009, for a Bear Aware program delivery specialist to support Bear Smart education initiatives
- to support grizzly bear research to enhance grizzly bear recovery in the Sea to Sky corridor
- to the RMOW and the District of Squamish in 2009 for wildlife-proof community infrastructure improvements, which included the installation of wildlife-proof waste and recycling bins
- to a research team to implement wildlife management strategies at the Olympic and Paralympic Village Whistler site, including a bear aversion program to prevent bear-human conflict and to contribute to field research

BACKGROUND

Guiding Environmentally Responsible Behaviour

Through information and training, VANOC can ensure its workforce helps reduce negative environmental impacts, support preferred work practices and respond to workplace incidents.

VANOC's Sustainability and Environmental Management teams have implemented an integrated series of Games-wide standard operating procedures and guidelines, as well as customized Environmental Management Plans for every venue, facility and core service (such as transportation). These teams also conduct site inspections and provide training for workforce members and contractors. These activities collectively support consistent and responsible environmental behaviour.

For example, at Games time, there will be signage — for workforce members, spectators and contractors — informing them abut how they can help meet our Zero Waste Challenge through efforts such as proper waste separation, following anti-idling practices when driving VANOC fleet vehicles and taking care in environmentally sensitive areas.

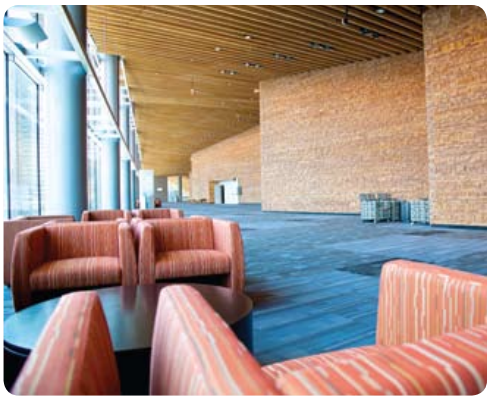
BACKGROUND

Identifying Species of Concern

The Global Reporting Initiative recommends using the International Union for the Conservation of Nature's (IUCN) Red List as the reference for identifying global species of concern. While this list has useful applications, VANOC found that its broad geographical orientation makes site-specific identification of at-risk species problematic. Given the biodiversity and range of habitats in the Games region, VANOC's environmental consultants (through the Environmental Assessment process) evaluated venue sites for at-risk species using British Columbia Conservation Data Centre (CDC) data. The CDC identifies species at risk using a more locally relevant lens according to bio-districts and biogeoclimatic zones.

Where at-risk species were identified to have potential to exist, VANOC conducted more in-depth studies to fully understand a venue's possible impacts. Where red-listed species had potential to exist, VANOC's environmental consultants conducted bio-inventories to determine actual presence. Where required, avoidance strategies were incorporated into venue design, and management and mitigation plans were developed and deployed in the field so as to prevent impact on key species.

Build Green with Wood



Vancouver 2010 venues and villages were designed and constructed to showcase the use and application of wood products made from the forests of British Columbia and the Pacific Northwest. Cut and planed dimension lumber (including mountain pine beetle-affected lodgepole pine) and high-quality appearance-grade wood products from the dry interior of the province and the temperate rainforests along the Pacific Coast are profiled.

British Columbia is unique among the world's leading forest producers not just in the diversity and richness of its forests, but because 95 per cent of its land base is publicly-owned. The province has become a world leader in voluntary, third-party sustainable forest management certification, which demonstrates to customers that they are buying quality forest products that represent a sound choice for the environment. BC has more certified land than any other forest jurisdiction in the world. As of mid-2009, 53.8 million hectares (more than 132.8 million acres) of forest land in BC had been certified to at least one of three third-party certification programs — the Sustainable Forest Management standard by the Canadian Standards Association (CSA), the Sustainable Forestry Initiative (SFI) or the Forest Stewardship Council (FSC). Vancouver 2010 venues and villages feature wood certified under CSA, SFI or FSC standards for sustainable forest management.

To mitigate climate change, it is necessary to reduce greenhouse gas emissions and store more carbon. A healthy, sustainable forest can do both. Wood products continue to store the carbon absorbed by the trees, and the new forest once again begins absorbing carbon dioxide. A 2009 study by the Canadian Wood Council and FPInnovations-Forintek estimates that the total greenhouse gas benefit of this wood usage in 2010 Winter Olympic venues and villages is a reduction of 26,000 tonnes in CO_2 emissions.

B Energy and Climate Change

Managing the Carbon Footprint of the Games

Winter sports depend on snow and ice. They are particularly vulnerable to the effects of climate change, such as rising snow levels, receding glaciers and more variable weather conditions. At the same time, large sporting events like Olympic and Paralympic Winter Games use energy to heat buildings, make snow, freeze ice sheets and sliding tracks, run power equipment and transport a large number of people and goods — all of which generate greenhouse gas (GHG) or carbon emissions.

Since winning the right (in July 2003) to host the 2010 Olympic and Paralympic Winter Games, VANOC has focused on minimizing the carbon impact of these Games and using them to inspire broader awareness and action on climate change solutions.

CHALLENGE

Carbon Footprint — What is Included?

We divided our carbon footprint into two parts:

1 direct emissions from Games-related activities that are within VANOC's control, such as venue construction, operations, transportation and waste management

2 indirect emissions that are outside of VANOC's control, associated largely with air travel and accommodation at Games time by 2010 spectators, sponsors and partners and the media

Spotlight on the Vancouver 2010 Olympic Torch Relay

The footprint for the torch relay is estimated at 3,000 tonnes of carbon emissions. This includes emissions from all associated vehicle, marine, rail and air travel, plus celebrations, accommodations and, last but not least, the fuel required to keep the torch aflame. Carbon emissions created by the torch relay represent 1.1 per cent of the carbon footprint of the Games and will be offset as part of the direct footprint of the Games.

Through integrated transportation planning, VANOC, Coca-Cola, RBC and the Vancouver 2010 Integrated Security Unit have collaborated to improve the energy efficiency of their torch operations; accordingly, it is estimated that vehicle sharing on the relay will reduce these emissions by two-thirds.

DID YOU KNOW?

VANOC is offsetting direct carbon emissions from the Games and is providing interested Games partners, sponsors and spectators with an opportunity to voluntarily offset indirect emissions from their air travel and accommodation at Games time.

Emissions from Games-time air travel by Olympic and Paralympic athletes and officials are included in the direct footprint of the Games and are being offset by VANOC and Offsetters.

Sustainability in Action

KNOW, REDUCE, OFFSET, INSPIRE — BUILDING CARBON-NEUTRAL GAMES

"Climate change is an enormous threat, but it's also an opportunity," said Niclas Svenningsen, head of sustainable United Nations at the United Nations Environment Programme (UNEP). "The Olympic Games are one of the most high-profile events in the world. If it's possible to demonstrate a carbon-neutral Games, it's an opportunity to highlight to hundreds of millions of people what really can be done."

The Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (VANOC) has embraced the opportunity — and the responsibility — to take action on climate change by aspiring to be a carbon-neutral Games. Through aggressive emissions reduction efforts and offsetting emissions that cannot be reduced or eliminated, VANOC will achieve a carbon-neutral direct footprint. In addition, VANOC invites partners, sponsors and spectators to help reduce the indirect footprint of the Games by offsetting a portion of their own Games-time travel.

"The first step is to have a basic understanding of what it's all about and why it matters because people think, 'Oh it's such a big problem my little travel doesn't matter at all'," said Svenningsen. "And of course it is small parts all together that make up the solution."

There are four steps to VANOC's Carbon Management Program:

1 Know

In its seven-year lifespan, VANOC has had to know and measure its carbon footprint at the same time it has worked to reduce emissions as much as possible. While past Winter Games addressed Games-time emissions only, VANOC included emissions from its inception in September 2003 to the end of the Games in March 2010. In addition, VANOC has needed to identify those emissions under its direct control and those indirect emissions that are outside of its control but are still linked to the Games, such as spectators' travel.

In 2007, the David Suzuki Foundation prepared, and PricewaterhouseCoopers reviewed, a preliminary carbon-emissions estimate working with the best information at the time. In November 2009, VANOC released an updated estimate developed by UBC's Sauder School of Business based on operational plans at the end of July 2009. The 2009 Carbon Forecast predicts that since winning the bid in 2003, the Games will generate a total of approximately 268,000 tonnes of carbon emissions (CO_{2e}) — 118,000 tonnes of direct emissions and 150,000 tonnes of indirect emissions. This updated forecast reflects VANOC's operational efficiencies and more accurate data on participants and spectators.

2 Reduce

Emissions reduction is the most important step of any carbon-management plan. VANOC focused on reducing emissions through transportation planning, efficient office operations, green venue design and construction, fleet vehicle management and power planning. VANOC estimates that green initiatives have reduced the carbon footprint of the 2010 Winter Games by 15 per cent, or 57,000 tonnes of carbon emissions over business as usual.

3 Offset

To reach its carbon-neutral goal, VANOC needed to offset those emissions it could not reduce. In June 2009, VANOC named Offsetters, a leading BC-based carbon asset management company, as a Games partner and supplier of high-quality carbon offsets. This partnership is an Olympic first. It means that Offsetters will offset direct emissions from the Games by investing in new clean-technology projects that remove or avoid an equivalent amount of emissions from the atmosphere.

"Not only do these offsets contribute to the impressive and inspirational goal of hosting a carbon-neutral Games," said Dr. James Tansey, CEO of Offsetters. "They kick-start and showcase clean-technology projects that wouldn't otherwise happen. By investing in offsets, VANOC is helping to grow the clean technology sector in BC and contribute to the shift from fossil fuels to cleaner energy sources."

4 Enable and Inspire

In the fourth stage of its Carbon Management Program, VANOC invites partners, sponsors and spectators to offset their contributions to the indirect footprint of the Games. By November 2009, 26 organizations have joined VANOC's Carbon Partner Program and many others are learning about it.

Our Carbon Strategy at a Glance

KNOW how much carbon the 2010 Winter Games are emitting; publicly track and report on it	**2007 & 2009 carbon forecast issued** Based on internationally recognized standards for carbon management
REDUCE as many emissions as possible	**Energy conservation integrated into planning and operations** Examples: reduced fuel use, lean technology choices and LEED
NEUTRALIZE BY OFFSETTING direct carbon emissions that cannot be eliminated or reduced	**Offsetters signed as the Official Carbon Offset Sponsor** Supplying offsets for direct emissions
ENABLE & INSPIRE FURTHER ACTION use the 2010 experience to increase awareness of/participation in emerging solutions to climate change	**Voluntary program for offsetting indirect emissions** Interested Games participants

BACKGROUND

Reduce . . . Reduce . . . Reduce: The Most Important Step

Our focus has been to reduce carbon emissions by not emitting them in the first place. Examples of where VANOC and our partners have focused our efforts include:

- strategic venue site selection; compact clusters of villages and venues have been built in Vancouver and Whistler to minimize energy and travel requirements
- innovative approaches to energy management featured at Games venues, including The Whistler Sliding Centre; such innovations include the harvesting and reuse of waste heat energy from ice refrigeration plants and the replacement of diesel generators with cleaner hydro power
- creating new community energy systems; these are increasing the total renewable energy that will be available to meet local demand at the Olympic and Paralympic Villages in Whistler and Vancouver
- placing an emphasis on "travelling smart;" expanded public transit during the 2010 Winter Games will reduce fuel use and carbon emissions.

WHAT IS AN OFFSET?

A carbon offset is a carbon emission reduction, applied elsewhere, that provides "credit" to the purchasing organization and can be applied to reduce that organization's carbon footprint.

Carbon offsets are not the sole solution to climate change but, used properly, they are a tool for fast-forwarding the transition to more sustainable energy. Offsets do two important things: (1) support the overall reduction of carbon emissions into the atmosphere, and (2) direct investment into the clean technologies of the future.

DID YOU KNOW?

The 2010 Winter Games is the first Games to embrace the challenge of offsetting its carbon footprint for the entire duration of the Games planning period — from the early days in 2003, after Vancouver won the right to host the Games, through the close of operations, after the Games are over.

Table 1
Energy Consumption and GHG Emissions

	TOTAL VOLUME		ENERGY CONSUMED (gigajoules)		GHG EMISSIONS (tonnes CO_2 equivalent)	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
DIRECT ENERGY CONSUMPTION						
Gasoline	litres	litres				
Fleet	335,588	440,048	11,544	15,138	799	1,048
Venue operation equipment	52,469[1]	58,450	1,805	2,011	125	139
Diesel	litres	litres				
Fleet	-	15,893	-	590	-	44
Venue operation equipment	417,331	243,842	15,483	9,047	1,146	670
Stationary generators	-	122,045	-	4,528	-	335
Natural Gas Consumption	cubic metres	cubic metres				
Other facilities	92,174[2]	455,435	3,511	17,767	170	862
Propane Consumption	litres	litres				
Other facilities	4,172[3]	3,971	107	101	6	6
Venues	10,071	8,668	257	219	15	13
SUBTOTAL DIRECT ENERGY CONSUMPTION			**32,707**	**49,399**	**2,261**	**3,117**
INDIRECT ENERGY (IN KILOWATT HOURS)						
Electricity Consumption						
Venues	2,917,742	5,249,934	10,761	18,900	66	147
Villages	0	400,268		1,441		11
Other facilities	6,419,846	11,488,442	22,854	41,358	140	322
SUBTOTAL INDIRECT ENERGY CONSUMPTION	**9,337,588**	**17,138,644**	**33,615**	**61,699**	**206**	**480**
TOTAL DIRECT AND INDIRECT ENERGY CONSUMPTION AND GHG EMISSIONS			**66,322**	**111,099**	**2,467**	**3,597**

[1] Fuel use in 2007-08 has been adjusted to add unreported gasoline (52,469 litres) and diesel (286,587 litres) consumption through bulk fuel tanks at mountain venues. This increase in fuel use also increased the reported energy consumed and GHG emissions compared to information in our 2007-08 sustainability report

[2] Natural gas consumption for 2007-08 has been adjusted to include unreported gas used at the Fab Shop (1,530 GJ); this increase in natural gas use also increased the reported energy consumed and GHG emissions compared to information in the 2007-08 Sustainability Report.

[3] Propane in 2007-08 consumed at Whistler facilities was incorrectly reported as natural gas; while the overall impact to energy consumed (GJ) and GHG emissions (tCO_2 e) is immaterial, VANOC has made this adjustment for consistency in reporting.

Table 2
Significant Air Emissions in 2008-09

		CRITERIA AIR CONTAMINANTS (KILOGRAMS)							
Source	Volume (L or m^3)	HC	CO	NOx	PM**	PM_{10}**	$PM_{2.5}$**	SO_2	VOC
Gasoline									
Vehicle fleet	440,048 L		32,049	1,746	41	40	19	11	1,790
Venue operations	58,450 L	195	6,417	412.8	7.98	7.93	3.45	1.18	185
Diesel*									
Vehicle fleet	15,893 L		47	48	7.9	7.9	6.7	2.6	22
Venue operations	243,842 L	211	1,043	3,096.8	188.6				
Stationary generators	122,045 L		1,903	8,835.6	621.1			581.06	721.3
Natural gas – building heating	cubic metres 455,435		621.8	373.1	56.8	56.8	56.8	4.4	40.8
Propane – building heating	12,639 L		13.3	23.2	1.2	1.2	1.2	0.1	0.6
TOTAL 2008-09		**406**	**42,094**	**14,535**	**924**	**114**	**87**	**601**	**2,760**

* The calculations above for diesel criteria air contaminants assume that average engine technology and use are comparable to that of heavy-duty commercial vehicles.

** All PM is assumed to be one micrometre or less.

C Air Quality

To perform at their best, athletes require good air quality, both outdoors and indoors. Outdoor air quality in the Lower Mainland and the Sea to Sky corridor (from Vancouver to Whistler), as elsewhere, is linked to emissions of air contaminants such as particulate matter, nitrogen oxides, sulphur oxides and volatile organic compounds. The sources of these emissions include transportation, industrial facilities, power generation, building systems and construction and operational activities. Indoor air quality and human health can be negatively affected by emissions from a variety of sources, including paints, floor coverings, furnishings, cleaning supplies and equipment operation (heating, ventilation or air conditioning systems).

As we plan for the Games, we are ensuring minimal negative impacts to indoor and outdoor air quality. We are achieving this by:

Adhering to the LEED Green Building Rating System — applying Leadership in Energy and Environmental Design green building criteria in venue development and at our head office, including low-emission interior construction materials and furnishings, natural ventilation and high-quality air and heating systems

Following best practices in construction and operations — following environmental management procedures, plans and other guidelines on best practices for indoor and outdoor air quality, such as minimizing dust, choosing non-toxic products and minimizing equipment and vehicle emissions

Reducing energy consumption and air contaminants — increasing energy efficiency and reducing consumption of carbon-based energy, which not only reduces GHG emissions and their effect on global warming, but reduces impacts on air quality by limiting the amount of air contaminants released

See Table 2 for reporting on significant air emissions.

BACKGROUND

What is LEED?

VANOC and many of our venue partners are using Leadership in Energy and Environmental Design (LEED) criteria to guide our building activities and reduce our environmental impact. This ensures buildings are designed, constructed and operated, both to reduce their overall environmental impact and for optimal occupant well-being. The Canadian LEED rating system is administered by the Canadian Green Building Council (CaGBC).

Under LEED, there are different levels of certification (Certified, Silver, Gold and Platinum) for different performance criteria, including site selection, water efficiency, energy, materials and indoor environmental quality.

Vancouver 2010 venue partners are pursuing LEED certification for the Whistler Olympic Park day lodge,*; the refrigeration building at The Whistler Sliding Centre; the Whistler Athletes' Centre; Canada Olympic/Paralympic Centre (otherwise known as Hillcrest/Nat Bailey Stadium Park); the Richmond Olympic Oval; and the Olympic and Paralympic Villages in Vancouver and Whistler. All facilities are targeting a minimum of LEED Silver certification. Most certifications are expected before Games time.

Both Olympic and Paralympic Village sites/developments are piloting a new LEED rating system for neighbourhood development. It focuses not just on single buildings, but on their integration with broader neighbourhood requirements for green space and other amenities.

* In December 2009, the Whistler Olympic Park day lodge building was certified LEED Gold.

D Water Quality and Conservation

In designing and constructing our venues, particularly those in the mountains, we are committed to preserving natural water systems, such as streams and wetlands, to protect both fish and wildlife habitat and ensure clean drinking water sources. Efficient and effective site infrastructure (such as water-efficient appliances and sediment and erosion-control measures) will support our ability to achieve water-efficient operations and maintain water quality, while we also work to employ best practices in our activities to help achieve these commitments.

In this reporting year we withdrew

Surface water*	189,702 m^3
Municipal water	461.17 m^3
Total water	190,163 m^3

* Surface water from: Madeley Creek at Whistler Olympic Park and Fitzsimmons Creek at Whistler Creekside were primarily used for snowmaking purposes, and were not significantly affected by our activities.

CHALLENGE

Safety First: For Competition *and* For Habitats

Convening alpine sport events in mountainous conditions is both exciting and challenging. On one hand, we want to ensure trails and race courses are safe, fast and optimal for elite competition. On the other hand, we want to ensure we tread lightly in and around Environmentally Sensitive Areas (ESAs). ESAs contain significant biodiversity and habitats, such as riparian areas along streams — an important habitat for organisms including fish, birds, frogs and vegetation.

Preparation for mountainous sport events involves snow clearing and snow management, including snow hardening. VANOC has created snow management procedures that define best practices for both managing snow and minimizing negative environmental impacts, and will continue to integrate best practices into all its alpine event planning. To avoid disturbing ESAs at Games time, signage will be posted identifying these areas to people working and moving in/around the venues and facilities.

E Waste Management

From January 1 through March 31, 2010, VANOC has a target of diverting from landfill at least 85 per cent of solid waste generated during all operations of the 2010 Olympic and Paralympic Winter Games. (To provide some regional context, Metro Vancouver currently achieves a rate of 50 to 55 per cent solid waste diversion from landfill (source: metrovancouver.org). Our solid waste diversion target stems from a commitment we made when Vancouver bid to host the Games: to take on the Zero Waste Challenge.

VANOC applies a zero-waste integrated waste management strategy by working with sponsors, product suppliers, contractors and staff to strategically implement the following combination of activities and techniques during venue construction, Games planning and operations and in the post-Games decommissioning phase (listed in priority order):

Source Reduction — We ask questions such as: Is the product needed? Are there opportunities to reduce the amount of product required? Can we lease or rent rather than own? Can packaging be reduced or eliminated?

Reuse — We ask questions such as: Can recycled and recyclable materials be used? Can we reuse our old or used items in creative ways? We also consider product end-of-use destination (such as donations to community groups).

Recycle — We aim to optimize all recycling options, including composting. Where possible, we source disposable products that fit into our recycling or composting waste streams.

Waste to Energy — We aim to divert non-recyclable waste to facilities that convert waste materials to energy through combustion.

Disposal at Landfill — As a last resort, waste may be sent to gas-to-energy or standard landfills.

Education and Communications — We aim to build awareness about the program by incorporating messaging into communication tools that target all groups attending or organizing the Games. These tools include guides, manuals, electronic communications, newsletters, team meetings, training sessions, announcements and signage.

Hudson's Bay Company Finds Sustainable Waste Solution for VANOC

One of VANOC's sponsors, Hudson's Bay Company, provided furniture and linen products for the athletes' villages. Initially this procurement was going to generate large amounts of polystyrene (foam) packaging waste. The result would have been extra waste, additional traffic, higher waste disposal costs and unnecessary greenhouse gas emissions to remove a waste that is not readily recyclable. Fortunately, Hudson's Bay Company was able to work with its suppliers to replace the foam packaging with easily compactable and recyclable cardboard and plastic films — waste products that are deemed acceptable according to VANOC's waste management program. Hudson's Bay Company has also committed to supplying all Games-time workforce uniforms in bulk packaging to further reduce waste generation. This initiative alone resulted in savings of almost $61,000.

CHALLENGE

Waste Diversion in the Pre-Games Period

While we have been successful in diverting significant amounts of waste in the venue construction phase, our project is diverting less waste in the pre-Games operations phase. This is partly because VANOC has either limited or no control over many of the waste disposal contracts in this phase, as they are held by other companies. Additionally, it is costly to separate and collect every type of operational-based waste when volumes are so low, so VANOC has chosen to apply the majority of its waste management resources to its Games-time level of service.

We anticipate we will be able to achieve a higher diversion rate at Games time. At that time, VANOC will have more control through direct waste management contracts and decision making.

To help meet our Games-time target, VANOC will not only be monitoring contractor waste disposal, but we will be communicating with sponsors, partners, athletes, our own workforce members and spectators on how they can do their part by correctly disposing of waste.

Table 3 shows how we disposed of our solid waste during the last reporting period. The bulk of our waste is not generated on a per-capita basis by our workforce, but through venue development and overall operational activities. The changing nature and scope of venue development and operations, combined with the evolution of VANOC's size and activities, results in different types and amounts of waste in different fiscal years. Our VANOC operations team is working closely with our suppliers and partners to explore opportunities to further reduce and divert waste from landfill.

Table 3
Solid Waste Generation and Disposal Activities in 2008-09

In 2008-09, we generated 3.8 metric tonnes of hazardous waste consisting of waste oil, oil filters, antifreeze and lead, all of which was recycled within British Columbia. This is accounted for in the data below.

2008-09 Waste Data[1]

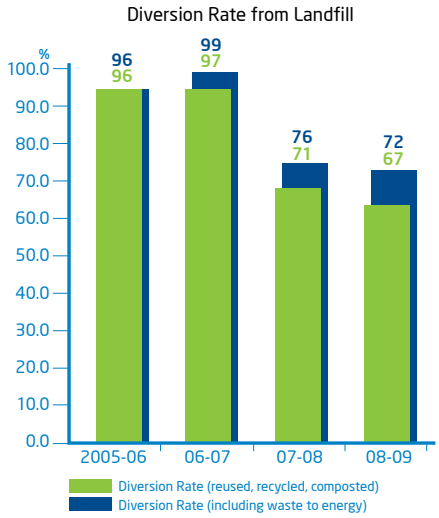
ACTIVITY	2008-09 METRIC TONNES OF WASTE GENERATED AND DIVERTED[2]
Reuse (on-site) of materials for venue development[3]	0
Recycling	712.2
Composting	21.9
Waste to energy	62.4
Disposal at standard landfill	114.9
Disposal at gas-to-energy landfill	191.5
Total Generation (metric tonnes)	**1,103.0**
Total solid waste reused, recycled or composted	734.2
Total disposed waste	368.8
Diversion rate	67%
Diversion rate including waste to energy	72%

[1] The above data is attributed to the following venues: RONA Vancouver 2010 Fabrication Shop (FAB Shop); Vancouver Olympic and Paralympic Centre; Vancouver 2010 Headquarters (VHQ); Uniform and Accreditation Centre — Vancouver; the Main Distribution Centre; the Doping Control Laboratory at the Richmond Olympic Oval; the Sea to Sky Volunteer Centre (in Squamish); Whistler Olympic/Paralympic Park (WOP); The Whistler Sliding Centre (WSC); the Whistler Athletes' Centre; Whistler Creekside (VANOC operations only); and VANOC's administration office in Whistler.

[2] Approximately 2 per cent of the total estimated weight is based on the number of bags collected by contracted cleaners. VANOC converts the number of bags to a weight, based on a pre-determined typical bag weight for each type of waste commodity.

[3] In this reporting year, certain Games-related products and materials have been reused, both internally and externally (for example, through donations).There are inherent difficulties, however, in quantifying the weight identified in this category, as the cost and time required to do so would be substantial and is beyond the scope of typical waste management data tracking.

VANOC DIVERSION RATES 2005-09



ACTION TRACKER

Biodiversity and Habitat

GOALS FOR 2008-09	PROGRESS IN 2008-09	GOALS FOR 2009-10
Continue to monitor sites for compliance with EA commitments during construction and operations	Monitored sites for compliance, primarily through our third-party professional environmental monitors wand confirmed compliance with EA operational commitments flagging issues and overseeing preventive or corrective action plans when required	Continue to monitor sites for compliance during overlay fit-out, Games-time operations and decommissioning phases Report on outcomes, challenges and lessons learned in all phases of operations with regard to compliance with environmental requirements, environmental monitoring and implementation of EMPs, Standard Operating Procedures and best practice guidelines
Pursue formal LEED certification applications for key buildings at Whistler Olympic/Paralympic Park, The Whistler Sliding Centre and Whistler Athletes' Centre	Submitted LEED applications for all these buildings	Update LEED certification results of VANOC venues
Develop venue-specific EMPs for Games-time operations, and overlay fit-out and decommissioning phases	Developed tested and revised venue-specific EMPs for Games-time operations for all competition venues for all phases of operations. Implemented Sustainable Sport Event Guidelines at sport events	See goal above
Develop a wildlife legacy program to support research and recovery initiatives for species at risk of extirpation or extinction	VANOC and BC Ministry of Environment collaborated to create a legacy fund for post-Games grizzly bear research and management that would expand on the research done for the Games; funding for this legacy project was not available in 2008-09 and the project will be revisited in 2009-10	

Energy and Climate Change

Continue measuring and reporting on greenhouse gas (GHG) emissions reductions Continue refining our GHG emissions forecast	Tracked and reported 2008-09 GHG emissions (see table 1) Confirmed methodology and data sources for GHG emissions forecast	Update forecast and measure and report final reference scenario, GHG emissions and reductions Report on outcomes, challenges and lessons learned regarding the Carbon Management Program
Continue refining our reference scenario, which estimates GHG emissions that would occur in the absence of reduction initiatives — a "business-as-usual" estimate	Refined our reference scenario	See goal above
Conclude our analysis of Games venues to identify potential improvements in operational energy efficiencies; work to implement recommendations	Worked with relevant venue owners/ operators to implement recommendations for operational energy efficiency	
Develop a smart driving program for VANOC fleet vehicle drivers and Games transportation service providers (for instance, shuttles and motor coaches)	Launched a Smart Driver in the City Program for fleet drivers and workforce in general aimed at contributing to VANOC's sustainability achievements in transportation	
Initiate an energy conservation action program targeting VANOC workforce	Launched an internal program in Q3 2008 to promote workforce energy conservation initiatives in and out of the workplace	Promote energy conservation through workforce initiatives such as venue and job training and Smart Driver Program
Finalize our GHG offset program	Established a 2010 Winter Games offset target of 300,000 tonnes for direct and indirect emissions Announced an official carbon offset supplier (Offsetters) to provide offsets for the 110,000 tonnes of direct VANOC carbon emissions	Track and report on progress towards offset targets for direct and indirect emissions
Engage our partners, sponsors and the Olympic Family on GHG emission reductions efforts	Designed a voluntarily carbon offset program to invite Games partners (corporate, government, sport, broadcast) and spectators to offset indirect emissions from travel to the Games	

ACTION TRACKER

Air Quality

GOALS FOR 2008-09	PROGRESS IN 2008-09	GOALS FOR 2009-10
Continue to track and quantify air contaminant emissions and begin to track and report on related reductions from initiatives undertaken to protect air quality	Quantified and reported on air contaminant emissions (see table 2) and defined specific reduction initiatives	Continue to track and report significant air emissions and reduction initiatives
Conclude our analysis of completed Games venues to identify potential improvements in operational energy efficiencies and work to implement recommendations Refine our transportation and power plans to increase efficiency and reduce emissions	Along with other initiatives to reduce GHG emissions: Worked to emphasize electric power versus carbon-based fuels for generators and temporary space heating Released a refined transportation plan that emphasizes mass transit, active transit and initiatives to reduce background traffic	See goal above
Continue to avoid use of toxic materials in venue development and employ best practices in indoor equipment operation to reduce potential indoor air quality impacts	Continued to avoid the use of toxic materials through a implementation of EMPs, SOPs, guidelines and our Buy Smart Program	See goal above

Water Quality and Conservation

Integrate best environmental practices for water quality protection and conservation in venue-specific EMPs for the overlay fit-out, Games-time operations and decommissioning phases Continue integrating best practices into Games-time operational plans	Completed EMPs for the overlay fit-out, Games-time operations and decommissioning phases Implement Sustainable Sport Event Guidelines	Report on impacts, outcomes, challenges and lessons learned with regards to water conservation, maintenance of water quality and water use impacts
Finalize our Games-time Integrated Snow Management Plan for relevant venues	Continued to work towards finalizing Snow Management contracts with service providers for main venues and including relevant information in final Games-time integrated snow management plans	Monitor snow management at fit-out, Games-time and decommissioning phases
Continue water quality monitoring programs at venue sites including monitoring related to use of snow-hardening additives For the Whistler Olympic/Paralympic Park wastewater treatment plant, track the quality of discharge and work with the facility operator to ensure discharge complies with regulations and requirements for protecting water quality and aquatic habitat in receiving waterway	Tracked and reported on water consumption and use and, where possible, ensured any discharge complied with regulations and requirements particularly for the Whistler Olympic/Paralympic Park wastewater treatment plant	See goal above

ACTION TRACKER
Waste Management

GOALS FOR 2008-09	PROGRESS IN 2008-09	GOALS FOR 2009-10
Finalize our Integrated Waste Management Plan, including assessment of financial and GHG-related impacts of waste disposal options and Games-time waste collection system	Integrated waste management has been ongoing throughout all phases of the Games project Continued development of the Games-time waste management plans	Report on outcomes, challenges and lessons learned while implementing VANOC's integrated waste management strategy.
Support planning and operations to maximize the volume of material that can be reduced, reused, recycled or composted, emphasizing the priority hierarchy of the 3 Rs Develop and begin to implement policies and procedures specific to waste management that will apply to all our activities from overlay fit-out, through Games-time operations to decommissioning	Continued integrating waste minimization and waste impact reduction specifications · at our offices and operational sites through a multi-stream recycling collection system. · through implementing Sustainable Meetings/Special Events Guidelines, Green Office Guidelines and Sustainable Sport Event Guidelines · through collaboration with specific sponsors and suppliers · through the development of fit-out, Games-time and decommissioning waste management procedures	Implement VANOC waste management plans and procedures for all streams and phases and monitor compliance Implement a communications strategy to promote Games-time waste management goals
Through the procurement process, determine efficient routing and optimal disposal destinations for Games time	Initiated detailed waste management planning with Games-time service providers	Implement and monitor waste management strategy for all Games-time contracts, including data tracking and reporting
Support development of asset disposal plan for Games-related goods to minimize waste to landfill and benefit local communities	An asset disposal committee continued to determine post-Games use for VANOC assets; plans included an asset donation program where certain items are earmarked for community donation	See chapter 5