

## 4.0 Green Purchasing Opportunities

Ski resorts purchase numerous products from a variety of sources. Virtually all items purchased will result in the generation of waste over the product’s lifetime. In addition, some products require energy or water in order to function. By focusing our attention on identifying the products we use, it is possible to identify opportunities and strategies to reduce significantly the environmental impact of our ski resorts.

Green purchasing involves the integration of environmental considerations into purchasing decisions. Purchasing decisions can reduce the costs associated with waste management, improve worker health and safety, reduce energy and water use and more.









This best practices template on green purchasing is designed for everyone who has purchasing authority or whom are able to influence decision-making with respect to purchasing, i.e. purchasing managers and managers in food/beverage services, lodging, and building/facilities management.







### Creating and Implementing Green Purchasing Guidelines

Green purchasing guidelines present an opportunity for ski resorts to reduce their costs associated with waste management, energy and water use while improving worker health and safety. Successfully developing and implementing green purchasing guidelines involve seven key steps:







1. Enlist Management Support – without management commitment, green purchasing typically occurs on an adhoc basis
2. Develop a Committed Team – a team committed to creating and implementing green purchasing guidelines should be established.
3. Decide on an Overall Purchasing Strategy – the team must evaluate how items are currently purchased and whether that system is effective.
4. Create Guiding Principles and Objectives – should be relevant, measurable and attainable.
5. Determine Focus Areas – the team needs to identify commonly purchased items and develop guidelines for their purchase.
6. Establish a Baseline – it is important to measure the impact of the new purchasing system. The team should establish a baseline of products purchased prior to the implementation of green purchasing guidelines.
7. Implement Guidelines and Track Progress – enlisting management support is critical to ensuring that everyone who has purchasing authority follows the guiding principles. The team will also need procedures to track progress and publicize successes.

### (A) Purchasing Procedures

Does this apply to my facility?	Already in place at my facility	Applicable Sustainable Slopes Principle(s):		Useful Resources:	Ease of implementation (easy ●, intermediate ■, expert ◆)	Resulting savings (see legend)
		Considerations / Scope:				
		<ul style="list-style-type: none"> <li>● Reduce waste produced at ski area facilities</li> <li>● Reuse products and materials where possible</li> <li>● Reduce air pollution and greenhouse gas emissions as feasible</li> </ul>	<ul style="list-style-type: none"> <li>● Staff programs – training, incentives, recognition</li> <li>● Community/municipality- will impact recycling options</li> <li>● Across all ski resort departments</li> </ul>	Chapter 6 of Greening Your Ski Area – A Pollution Prevention Handbook: <a href="http://peakstoprairies.org/p2bande/skigreen/">http://peakstoprairies.org/p2bande/skigreen/</a>  GIPPER’s Guide to Environmental Purchasing: <a href="http://www.pmac.ca/PDF/gipper.pdf">http://www.pmac.ca/PDF/gipper.pdf</a>  EnergyStar program: <a href="http://oee.nrcan.gc.ca/energystar/">http://oee.nrcan.gc.ca/energystar/</a>  Environmental Choice: <a href="http://www.environmentalchoice.ca">www.environmentalchoice.ca</a>		
<input type="checkbox"/>	<input type="checkbox"/>	Review existing purchasing practices to determine how purchasing decisions impact the ski resorts waste management quantities and costs.			●	
<input type="checkbox"/>	<input type="checkbox"/>	Establish a purchasing policy and guidelines for staff that are responsible for purchasing. Guidelines should include preferences toward products made of recycled material, are biodegradable, energy efficient, non-toxic, more durable and/or reusable.			■	
<input type="checkbox"/>	<input type="checkbox"/>	Work with all departments to discuss and improve purchasing procedures, criteria and efficiency.			●	
<input type="checkbox"/>	<input type="checkbox"/>	Communicate environmental purchasing criteria/requirements to marketing staff, employees, suppliers, customers and other stakeholders.			■	 
<input type="checkbox"/>	<input type="checkbox"/>	Purchasing decisions are based on a total cost or best value approach (i.e. looking at the total cost of purchasing, use and waste management of a particular material, substance or product).			●	
<input type="checkbox"/>	<input type="checkbox"/>	Provide education/assistance to suppliers on environmental matters. Ask suppliers to find new products that meet your environmental criteria. Encourage your supplier to inform their other customers regarding green purchasing and green products available.			■	 

<input type="checkbox"/>	<input type="checkbox"/>	Require suppliers to provide environmental information about their company and products.	◆	
<input type="checkbox"/>	<input type="checkbox"/>	Require the use of environmentally preferable transport (i.e. shipping via train versus plane, using propane-fuelled trucks versus diesel and carrying full loads as oppose to half empty one).	■	
<input type="checkbox"/>	<input type="checkbox"/>	Minimize or phase out the purchase, use, handling and disposal of materials and substances that are hazardous or toxic. Check the manufacturer's claims for terms such as non-toxic and biodegradable before making purchasing decisions. Look for recognized scientifically based biodegradability/compostability specifications, such as the USA standard ASTM D6400-99 and the European standard EN 13432. Biodegradation is the process of converting organic materials back to CO <sub>2</sub> and H <sub>2</sub> O.	●	
<input type="checkbox"/>	<input type="checkbox"/>	Buy locally produced products whenever possible, this not only supports the local economy but it helps to decrease fuel use and emissions associated with transporting products.	●	
<input type="checkbox"/>	<input type="checkbox"/>	Replace disposable products with reusable, durable products wherever feasible	■	
<input type="checkbox"/>	<input type="checkbox"/>	For printed products, such as trail maps and brochures, request that all of printers give quotes for the product using non-chlorine bleached paper with post-consumer content. Consider purchasing only Forest Stewardship Council Certified paper ( <a href="http://www.fscus.org/paper/">http://www.fscus.org/paper/</a> ). Replace all toilet paper, paper towels, tissues and napkins with 100% recycled materials that have at least 15% post-consumer waste and are unbleached paper products.	●	

### Green Purchasing Techniques








<input type="checkbox"/>	<input type="checkbox"/>	Making smarter purchases – can be used as a means of eliminating inefficiencies. Ways to undertake smarter purchasing include: minimizing the number of different products that serve the same function; ordering appropriate quantities in circumstances when products have a limited shelf life (i.e. food) or pose increase risk when stored (i.e. chemicals); and, purchase in bulk when savings in packaging and delivery costs can be achieved.	●	
<input type="checkbox"/>	<input type="checkbox"/>	Green specifications – can be used to require that products exhibit certain attributes such as product or packaging content, labelling, design features, reusability of the product and take-back at end-of-life. Optimize the purchase of products/material that exhibit eco-logos, environmental labels, or contain recycled/renewable material.	■	
<input type="checkbox"/>	<input type="checkbox"/>	Prohibit or limit certain substances – such that their use in products purchased is reduced or eliminated.	●	
<input type="checkbox"/>	<input type="checkbox"/>	Develop a list of environmentally preferred products – from which a purchaser can select from.	■	
<input type="checkbox"/>	<input type="checkbox"/>	Qualify suppliers – by requiring them to have a corporate environmental policy or be certified to a set of environmental standards (such as ISO 14001 or eco-logo certification).	■	
<input type="checkbox"/>	<input type="checkbox"/>	Working collaboratively with suppliers – to avoid excessive boxes, bags and wrapping when shipping your purchases. Encourage suppliers to deliver goods in returnable packages. Enhance the service component, where the supplier retains ownership and responsibility for certain pieces of equipment.	●	

#### Success Story #1: Purchasing Policy at Keystone Resort, Colorado

Through its purchasing policy, Keystone Resort makes every reasonable effort to reduce the environmental impact of its operations through buying recycled content products and recyclable products, purchasing energy and water efficient fixtures and equipment, promoting chemical waste reduction, and recycling all possible waste materials from its operations. In support of this policy, Keystone Resort replaced 10 residential decks, a spa deck, and 2 restaurant/bar decks with zero-maintenance composite lumber made from 100% waste wood and plastic milk jugs. The Resort has also switched its purchasing of 10,000+ cases of paper products to all 30% or higher post-consumer content (up from 20% in previous years). Restaurants switched to bleach-free napkins and installed condiment dispensers, eliminating disposable packet waste and saving over \$5,000. Wooden pallets, toner cartridges, and polystyrene packing peanuts are collected for composting, recycling, and re-use, respectively. The Keystone Lodge finished a 2 year renovation that upgraded all 153 rooms with 1.6 gallon toilets (from 3.5g), 2.5 gallon/minute bathroom faucets (from 5g/m), and 2.5 gallon/minute showerheads (from 7g/m). Resulting water savings are estimated at 117 gallons of water per room day, or 4 million gallons per year. The Lodge is currently under way researching dispenser options for a change from individual in-room amenities that will reduce 5.7 tons of waste per year.

Keystone Resort's landscaping department, through smart purchasing, has begun to incorporate native plants into the resort's landscaping schemes. By xeriscaping, Keystone can minimize the amount of water used by incorporating native, drought resistant species.

## (B) Cafeteria / Kitchen

Does this apply to my facility?	Already in place at my facility	<p><b>Applicable Sustainable Slopes Principle(s):</b></p> <ul style="list-style-type: none"> <li>Reduce waste produced at ski area facilities</li> <li>Reuse products and materials where possible</li> <li>Reduce air pollution and greenhouse gas emissions as feasible</li> </ul> <p><b>Resources:</b></p> <p>Environmental Choice: <a href="http://www.environmentalchoice.ca">www.environmentalchoice.ca</a></p> <p>Canadian Organic Growers Inc.: <a href="http://www.cog.ca/">http://www.cog.ca/</a></p>	Ease of implementation (easy ●, intermediate ■, expert ◆)	Resulting savings (see legend)
<input type="checkbox"/>	<input type="checkbox"/>	Request that all fruits, vegetables and meats purchased are packaged and delivered in returnable crates or recyclable boxes.	●	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase dispenser beverages (i.e. juice) in concentrate or bulk and pour into reusable serving containers.	■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase condiments (i.e. ketchup, mustard) in bulk and supply to visitors at a central location rather than individually wrapped condiment packages.	■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase products in refillable, reusable or at least recyclable containers, and ask your suppliers to take back containers	■	
<input type="checkbox"/>	<input type="checkbox"/>	Use reusable cups, dishes and utensils in the cafeteria and staff room.	■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase furniture, carpet, padding, trash cans and recycling containers made from recycled plastic.	■	
<input type="checkbox"/>	<input type="checkbox"/>	Investigate the use of biodegradable plastic products such as cups, plates, utensils for use in cafeteria and snack bar operations. For example, Seeker Green Products Limited ( <a href="http://www.seeker.com.hk">www.seeker.com.hk</a> ) has undergone the verification process of the Environmental Choice Program. Consider charging customers an additional fee for the use of single use, disposable items that must be sent to landfills.	◆	

### Success Story #2 – Canadian Mountain Holidays (CMH)

CMH is the largest helicopter skiing and hiking company in the world. CMH operates in the Purcell, Selkirk, Monashee and Cariboo mountains of eastern British Columbia. CMH has a Purchasing Policy for Waste Reduction that guides CMH staff, guests and suppliers toward a responsible, healthy and wise use of resources while maintaining fiscal responsibility. Below are some examples of how CMH has reduced its waste through smarter purchasing practices.

As much as possible, CMH purchases food and beverage supplies in bulk with consideration for packaging and ease of recycling. Ready foods and convenience foods that come in glass, plastic or tin, are only supplements to fresh foods and CMH tries to minimize their purchase. CMH does not purchase or use packaged condiments. All beverage containers used are returnable, including Tetra packs, bottles and cans. None of the lodges use plastic, paper or Styrofoam plates, cups or cutlery on a regular basis.

On the retail side, CMH has worked with its suppliers to reduce packaging waste. For instance, in the past, each pair of ski gloves came wrapped in plastic with tissue between the palms. They are now shipped bulk in one large bag, reducing the packaging waste. Similarly, skis used to come individually wrapped in plastic and are now wrapped in plastic in quantities of six, reducing packaging waste. CMH is currently phasing in the purchase of organic t-shirts, with the goal of only having organic t-shirts in its retail outlets within the next two years. CMH is also investigating the use of reusable plastic boxes in place of cardboard boxes for shipping products from its warehouse to its lodges. For more information on CMH's sustainability performance, visit: [www.canadianmountainholidays.com](http://www.canadianmountainholidays.com)

### (C) Housekeeping / Operations / Maintenance Activities

Does this apply to my facility?	Already in place at my facility	<b>Applicable Sustainable Slopes Principle(s):</b> <ul style="list-style-type: none"> <li>Minimize the use of potentially hazardous materials, the generation of potentially hazardous wastes and the risk of them entering the environment</li> <li>Reduce waste produced at ski area facilities</li> <li>Reuse products and materials where possible</li> <li>Use cleaner fuel where possible</li> <li>Use cleaner or renewable energy in ski area facilities where possible</li> <li>Reduce overall energy use in ski area facilities</li> </ul>	Ease of implementation (easy ●, intermediate ■, expert ◆)	Resulting savings (see legend)	
		<b>Considerations / Scope:</b> <ul style="list-style-type: none"> <li>Hotel / Lodging</li> <li>Building Operations</li> <li>Vehicle Maintenance Shops</li> </ul>	<b>Resources:</b> Cleaners and Toxins Project – Labour Environmental Alliance Society: <a href="http://www.leas.ca/projects/cleaners.htm">http://www.leas.ca/projects/cleaners.htm</a>  The Canadian Renewable Fuels Association: <a href="http://www.greenfuels.org">http://www.greenfuels.org</a>  Clean Snowmobile <a href="http://www.deq.state.mt.us/cleansnowmobile/">http://www.deq.state.mt.us/cleansnowmobile/</a>		
<input type="checkbox"/>	<input type="checkbox"/>	Purchase cleaning supplies (preferably non-toxic or less toxic cleaners) in bulk/concentrated forms. Dispense/dilute into smaller reusable containers for cleaning staff to use.	●		
<input type="checkbox"/>	<input type="checkbox"/>	Purchase toilet paper, tissues, paper towels etc. made from recycled paper products.	●		
<input type="checkbox"/>	<input type="checkbox"/>	Purchase housekeeping carts, waste containers, recycling bins, buckets etc. made from recycled products.	●		
<input type="checkbox"/>	<input type="checkbox"/>	Use water based paints instead of oil based. Look for paints that meet the EcoLogo Standard ( <a href="http://www.environmentalchoice.ca">www.environmentalchoice.ca</a> ).	●		
<input type="checkbox"/>	<input type="checkbox"/>	Convert incandescent lighting to compact fluorescent. Convert incandescent exit lights to LED, upgrade fluorescent tubes to T8 or newer, and ballasts from magnetic to electronic.	■		
<input type="checkbox"/>	<input type="checkbox"/>	Replace your incandescent or mercury vapour lighting for your parking area with high-pressure sodium or metal halide lighting (add photocells and/or timers for additional savings).	■		
<input type="checkbox"/>	<input type="checkbox"/>	Replace an old oil or gas boiler or furnace with a high-efficiency oil or gas boiler or furnace.	■		
<input type="checkbox"/>	<input type="checkbox"/>	Purchase energy efficient water heaters or insulate older water heaters well. Insulate hot water pipe runs. Locate water heaters as close as possible to the primary sites of hot water use.	●		
<input type="checkbox"/>	<input type="checkbox"/>	Purchase new, energy efficient motors. Rewinding commonly yields motors with poorer energy performance than prior to rewinding, and multiple rewinding typically reduces performance further.	●		
<input type="checkbox"/>	<input type="checkbox"/>	Investigate and purchase a renewable energy source to add to your ski resort's conventional electricity supply.	◆		
<input type="checkbox"/>	<input type="checkbox"/>	Use ethanol-blend gasoline or bio-diesel fuel wherever possible in fleet vehicles including shuttles, trucks, snowmobiles, and other pieces of equipment.	■		
<input type="checkbox"/>	<input type="checkbox"/>	Use alternative lubricants (i.e. synthetic low particulate or synthetic biodegradable) in snowmobiles to reduce toxic emissions.	■		
<input type="checkbox"/>	<input type="checkbox"/>	Purchase and plant heat resistant, drought tolerant vegetation in landscaped areas.	●		

#### Success Story #3: Horseshoe Valley Resort's Heat Recovery System

In 2005, Horseshoe Valley Resort installed a combined gas energy turbine – heat recovery system for \$22 200 to reduce energy costs. “We’ll recover our installation costs in about two and a half years. Then, conservatively we estimate our payback at \$10 300 a year, even without considering increasing energy and peak demand costs”, says Horseshoe’s Martin Kimble, Vice President of Operations and Development. To reduce energy costs, waste turbine heat is recovered and used to heat the building and domestic hot water.

#### Success Story #4: Green Alternative to Conventional Ski Wax Being Pilot Tested in Grand Targhee Resort

The Mountain Stewardship Program (MSP) is a business-to-business outreach effort initiated by the Ethica Enviro-Wax division of Hillbilly Wax Works Ltd. The principal area of MSP's focus is on the materials used in the manufacture and composition of conventional ski wax, and the ongoing use of these hazardous substances in rental fleet tuning at resorts throughout North America.

Currently, all ski wax manufacturers rely heavily upon the use of two groups of chemicals, the hydrocarbons, and the fluorocarbons. Hydrocarbon waxes include paraffin, synthetic paraffin, and microcrystalline based mineral waxes. Fluorocarbons are highly persistent chemicals that never truly biodegrade and will consequently continue to build up in the environment. Both groups of chemicals pose risks to human health and the environment.

Waste wax material, scraped away from a ski base and disposed of, goes to landfills where it can leach into groundwater; while wax scoured away from a ski base while on the slopes enters waterways or sensitive habitat when the snow thaws. The materials also pose health risks to tuning operations when applying the waxes without proper ventilation.

MSP is currently working with the Grand Targhee Resort in Wyoming to pilot test the use of Hillbilly Wax, the world's first eco-friendly wax. The wax is fluorocarbon-free and is made from hydrogenated vegetable glycerides blended with natural polymers, hydrophobic agents, and natural antioxidants. Samples of this wax can be made available to interested resorts by November, 2005.

For more information visit: [www.hillbillywaxworks.com](http://www.hillbillywaxworks.com) or contact Tyler Bradley at: 1-888-686-4628 / [tyler@hillbillywaxworks.com](mailto:tyler@hillbillywaxworks.com)

#### (D) In Offices / Lodge Areas

Does this apply to my facility?	Already in place at my facility	Applicable Sustainable Slopes Principle(s):		Ease of implementation (easy ●, intermediate ■, expert ◆)	Resulting savings (see legend)
		Considerations / Scope:	Resources:		
		<ul style="list-style-type: none"> <li>Reduce overall energy use in ski area facilities</li> <li>Meet or exceed energy standards in new or retrofit projects</li> <li>Reduce waste produced at ski area facilities</li> <li>Reuse products and materials where possible</li> <li>Reduce air pollution and greenhouse gas emissions as feasible</li> </ul>	<ul style="list-style-type: none"> <li>Reducing / reusing materials</li> </ul>	Project Planet: <a href="http://www.projectplanetcorp.com/">http://www.projectplanetcorp.com/</a> EnergyStar program: <a href="http://oee.nrcan.gc.ca/energystar/">http://oee.nrcan.gc.ca/energystar/</a> Environmental Choice: <a href="http://www.environmentalchoice.ca">www.environmentalchoice.ca</a>	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase in bulk wherever possible, i.e. combine office supply orders into one large order – ordering in bulk reduces packaging waste and saves time, energy and money. Investigate whether establishing a buying cooperative with other nearby businesses is an option.		■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase remanufactured toner cartridges for office machines (i.e. copiers, laser printers, fax machines, cash registers and ATM machines).		●	
<input type="checkbox"/>	<input type="checkbox"/>	Consider purchasing only Forest Stewardship Council Certified paper ( <a href="http://www.fscus.org/paper/">http://www.fscus.org/paper/</a> ). Replace all toilet paper, paper towels, tissues and napkins with 100% recycled materials that have at least 15% post-consumer waste and are unbleached paper products.		●	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase furniture, carpet, padding, trash cans and recycling containers made from recycled plastic.		■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase or lease a double sided photo-copier. Allocate one of the trays in the photocopier and printer for used paper. Use this tray to print or copy draft reports or memos.		■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase printers capable of double siding. Set the default on all office printers to double-sided. Have one central printer shared by all employees rather than desk top printers.		■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase a shredder to shred office paper. Shredded paper can then be recycled or composted or used to package shipments.		■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase office equipment that is ENERGY STAR certified.		■	
<input type="checkbox"/>	<input type="checkbox"/>	Purchase and use energy and water saving equipment for lodges (i.e. ENERGY STAR labeled televisions and dishwashers). Install automatic shut off controls or motion detector switches.		■	

# TOOL #1: Green Purchasing Checklist

Once you have established that a purchase should be made, there are a number of specific product characteristics that can help identify a greener alternative.	Response		
	Yes	No	N/A
<b>Is the product:</b>			
• Designed to minimize waste?			
• Energy efficient?			
• Less polluting during its use than other competing products (e.g. non-toxic cleaning products, biodegradable, no volatile organic compounds)?			
• Manufactured from recycled materials including a high percentage of post-consumer recycled content?			
• Free from restricted or banned substances (e.g. no chlorofluorocarbons)			
• Durable, with a long service life warranty?			
• Accompanied by clear and comprehensive operating instructions? (this will help ensure it is used efficiently)			
• Easy to maintain in good operating condition?			
• Economical to repair or have replaceable parts?			
• Easy to upgrade?			
• Reusable or includes reusable parts?			
• Produced locally?			
<b>Is the product packaging:</b>			
• Designed to minimize waste?			
• Refillable?			
• Reusable by the end-user?			
• Recyclable locally?			
• Made from recycled materials containing a high percentage of post consumer waste?			
• Accepted by the supplier for reuse, recycling or recovery?			
<b>At the end of the product's useful life can the product or its parts:</b>			
• Be reused?			
• Be resold?			
• Be returned to the supplier for reuse, recycling or recovery?			
• Be recycled locally?			

Calculate the product's green score:

\_\_\_\_\_ divided by (22 - \_\_\_) = \_\_\_\_\_ multiplied by 100 = \_\_\_\_\_

**[Total Yes]**                      **[Total N/A]**                      **[Total Score]**

**Green Score: 0-33% (Not Green)      34-66% (Light Green)      67-100% (Dark Green)**

## TOOL #2: GREEN PURCHASING OPTIONS RANKING TABLE

### How to Use the Green Purchasing Options Ranking Table:

The purpose of the ranking table is to determine which of the potential purchasing actions can provide your ski resort with the greatest benefit for the least cost.

Transfer your potential purchasing actions to the attached Green Purchasing Options Ranking Table. With input from team members and management, identify all foreseeable costs and benefits associated with each purchasing action. Aspects of costs and benefits can include, but are not limited to the following (a more comprehensive list can be found in tool #3):

- Monetary: investment requirements
- Personnel: training, health + safety
- Customers: corporate image
- Product Use and Maintenance: re-tooling, inventory, durability, energy requirements, serviceability, user operating costs
- Environmental: toxic emissions, waste management costs

### Example of Potential Purchasing Action

	Benefits	Costs
Integrate energy use requirements into purchasing decisions	<ul style="list-style-type: none"> <li>• Lower energy requirements for equipment and machinery</li> </ul>	<ul style="list-style-type: none"> <li>• Research</li> <li>• Possible relationship costs associated with changing suppliers</li> <li>• Administrative costs</li> </ul>

After listing the costs and benefits for a purchasing action, assign a numerical ranking of 3, 2, or 1 (high, medium or low) to describe that action's total benefits and costs. Lastly, calculate the benefit-cost ratio using the formula in the attached ranking table. The result will be either:

**Greater than 1:** benefits are greater than costs; purchasing action should be given a high priority;

**Equal to 1:** benefits are equal to costs; purchasing action should be given a lower priority; or

**Less than 1:** costs are greater than benefits; actions should only be implemented on compelling, non-financial grounds.

## TOOL #2: GREEN PURCHASING OPTIONS RANKING TABLE

Potential Purchasing Actions	Benefits	Benefits High = 3 Med = 2 Low = 1	Costs	Costs High = 3 Med = 2 Low = 1	Ratio Benefits/Costs	Rank

Source: Adapted from *Three Steps to Eco-Efficiency* (Industry Canada, 2001)

## TOOL #3: FINANCIAL ANALYSIS METHODS

It is possible to measure cost savings from green purchasing using traditional financial data that measures direct cost savings such as capital costs, raw materials, and utilities. Yet, unlike other purchasing decisions, green products may offer significant indirect savings in areas of waste management, worker health and safety, and other often overlooked expenses. By solely focusing on direct cost savings, organizations have a tendency to underestimate the financial benefits and long-term qualitative benefits of green purchasing.

The table presented below provides a list of important costs to consider when comparing and evaluating green products with the current products your ski resort uses.

<b>Direct Costs: Capital and Operating</b>	
<ul style="list-style-type: none"> <li>• New Equipment / Product</li> <li>• Installation / Site Preparation</li> <li>• Start up Training</li> <li>• Parts</li> <li>• Space Needs</li> <li>• Utility Systems and Connections</li> </ul>	<ul style="list-style-type: none"> <li>• Materials / Supplies</li> <li>• Labour (process operations, time spent, monitoring)</li> <li>• Maintenance (labour &amp; materials)</li> <li>• Protective Equipment</li> <li>• Utilities</li> </ul>
<b>Indirect Costs: Capital and Operating</b>	
<ul style="list-style-type: none"> <li>• Permit fees</li> <li>• Monitoring</li> <li>• Remediation</li> <li>• Demolition and Salvage</li> <li>• Installation and Construction</li> <li>• Training</li> <li>• Taxes</li> <li>• Insurance</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing and Public relations</li> <li>• Emergency Plans</li> <li>• Material reuse</li> <li>• Waste handling (labour and fees)</li> <li>• Waste disposal (transport and fees)</li> <li>• Paperwork (tracking information and reporting)</li> <li>• Storage</li> <li>• On-going Safety and Equipment Training</li> <li>• Legislative compliance</li> <li>• Fees</li> <li>• Taxes</li> <li>• Insurance</li> </ul>
<b>Future Liability Costs</b>	
<ul style="list-style-type: none"> <li>• Fines</li> <li>• Personal injury claims</li> <li>• Site remediation</li> </ul>	
<b>Intangible / Less Quantifiable Costs</b>	
<ul style="list-style-type: none"> <li>• Negative image (customers, investors, staff, insurers, regulators)</li> <li>• Employee and community health and safety</li> </ul>	
<b>External Costs</b>	
<ul style="list-style-type: none"> <li>• Societal costs associated with production, use and disposal of product</li> </ul>	

### Financial Analysis Methods for Assessing Green Products

Payback and Net Present Value are the two most common financial analysis methods. Payback can be a quick method for comparing alternatives while Net Present Value offer the advantage of accounting for the time-value of money.

#### Resources to help use financial analysis methods:

Environmental Accounting Online Training Tool: <http://learning.c2p2online.com/>

Pollution Prevention Planning Handbook (Appendix C: Assessing the Costs and Benefits of Pollution Prevention Options): [http://www.ec.gc.ca/NOPP/DOCS/P2P/hbook/En/TAB5\\_B.cfm](http://www.ec.gc.ca/NOPP/DOCS/P2P/hbook/En/TAB5_B.cfm)

Environmental Management Accounting Topic Hub:

<http://www.newmoa.org/prevention/topichub/toc.cfm?hub=105&subsec=7&nav=7>

