

Build a Greener Business

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What is the Biosphere Institute?

- Founded in 1997
- Charitable Non-Profit Society
- Focused on ecological integrity and community sustainability in the Bow Valley

Sustainability Programs and Planning

- Many definitions and approaches to sustainability
- Biosphere Institute has been involved in community sustainability planning in Canmore based on The Natural Step
- Part of The Natural Step are 4 basic objectives.....

Objectives for a Sustainable Society

To become a sustainable society, we must reduce and eventually eliminate our contribution to . . .



...the progressive buildup of substances extracted from the Earth's crust (e.g. heavy metals, fossil-based fuels);



...the progressive buildup of chemicals and compounds produced by society (e.g. DDT, PCBs, PVC, CFCs);



...the progressive degradation and destruction of nature and natural processes (e.g. deforestation);



...conditions that systematically undermine people's capacity to meet their basic human needs (e.g. living wages, affordable housing).

Sustainable Objectives

- How to apply to your business?

Rocky Mountain Flatbread Action Plan

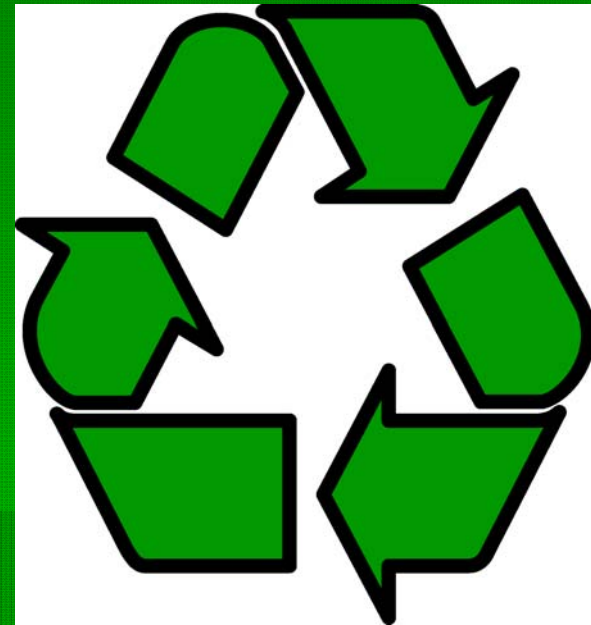
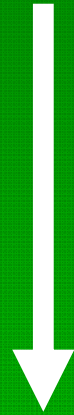
SC1 Eliminate increasing concentrations of substances extracted from the Earth's crust	SC2 Eliminate increasing concentrations of substances produced by society	SC3 Eliminate physical degradation of Nature	SC4 Eliminate barriers that undermine people from meeting their needs
Strategy: Increase resource productivity of inputs	Increase resource productivity of inputs	Increase resource productivity of inputs	Increase resource productivity of inputs
<ul style="list-style-type: none"> ✓ Turn off lights when not used ✓ Turn off computers when used ✓ Turn off vehicles when not in use ✓ Buy smaller energy efficient vehicles ✓ New lighting to be energy efficient 	<ul style="list-style-type: none"> ✓ Reduce frequency of chemical cleaning 	<ul style="list-style-type: none"> ✓ Use recycled woods and metals for construction ✓ Use composting toilets in new buildings ✓ Use grey water in restaurants for toilets, watering, etc. 	<ul style="list-style-type: none"> ✓ Actions to improve energy efficiency saves resources for other needs
Strategy: Create less waste output	Create less waste output	Create less waste output	Create less waste output
<ul style="list-style-type: none"> ✓ Recycle computers, electronics, tins 	<ul style="list-style-type: none"> ✓ Recycle all plastics 	<ul style="list-style-type: none"> ✓ Compost all food waste 	<ul style="list-style-type: none"> ✓ Recycling saves resources for other needs
Strategy: Use more abundant materials from the Earth's crust	Use human-made substances that degrade naturally into compounds that do not increase in concentration in the ecosphere	Use less land areas to deliver similar or greater value	Change the focus from commodity to service to find completely new ways of meeting the same human needs
	<ul style="list-style-type: none"> ✓ Source and introduce bio-degradable plastics ✓ Source and use non-volatile paint ✓ Source and use eco-friendly plastics for countertops, etc. 	<ul style="list-style-type: none"> ✓ Always use our assets to a maximum - for example, doubling up as a factory and restaurant ✓ Always develop on brown sites or developed areas ✓ Reuse our grey water 	
Strategy: Use renewable materials that don't use materials extracted from the Earth's crust	Use materials that avoid substances foreign to nature altogether	Create better management routines that do not degrade productive ecosystems by physical means	Change practices/suppliers to those that do no cause barriers to people meeting their needs
<ul style="list-style-type: none"> ✓ Use renewable energy ✓ Trade-in vehicles for diesel and use bio-diesel ✓ Encourage our distributors to use bio-diesel 	<ul style="list-style-type: none"> ✓ Use orange peel and baking soda to do our everyday toilet and restaurant cleaning ✓ Forge further partnerships with local organic farmers 	<ul style="list-style-type: none"> ✓ All wood to be certified sustainable 	<ul style="list-style-type: none"> ✓ Purchase fair trade for coffee and oils ✓ Buy more from local organic farmers ✓ Publicize more about the importance of local organics and what you can do everyday to lessen your ecological impact ✓ Continue to expand our responsible entrepreneur school programs

Greening your business

- Where to start?

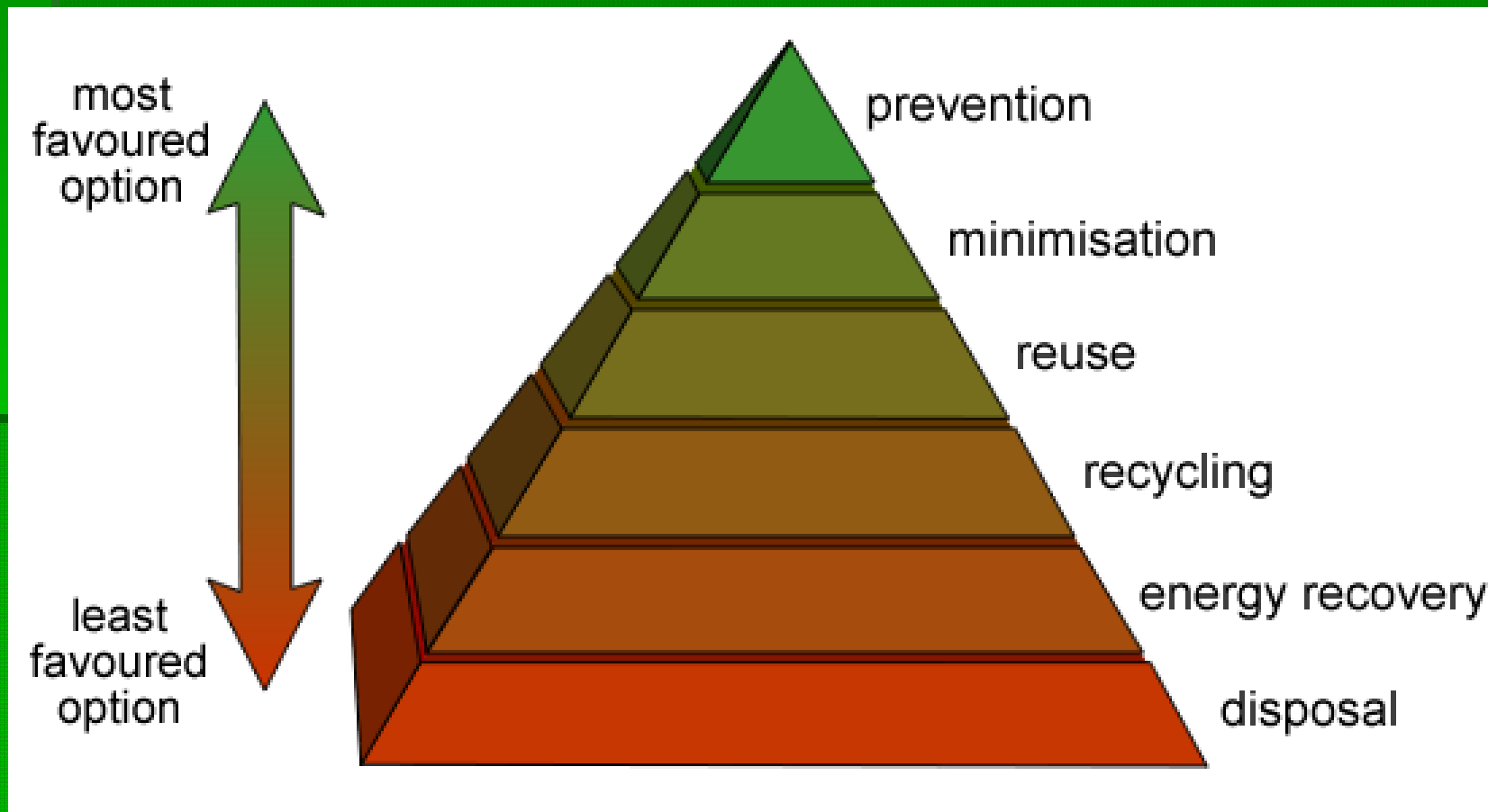
The 3 R's are not all equal...

- Reduce
- Reuse
- Recycle



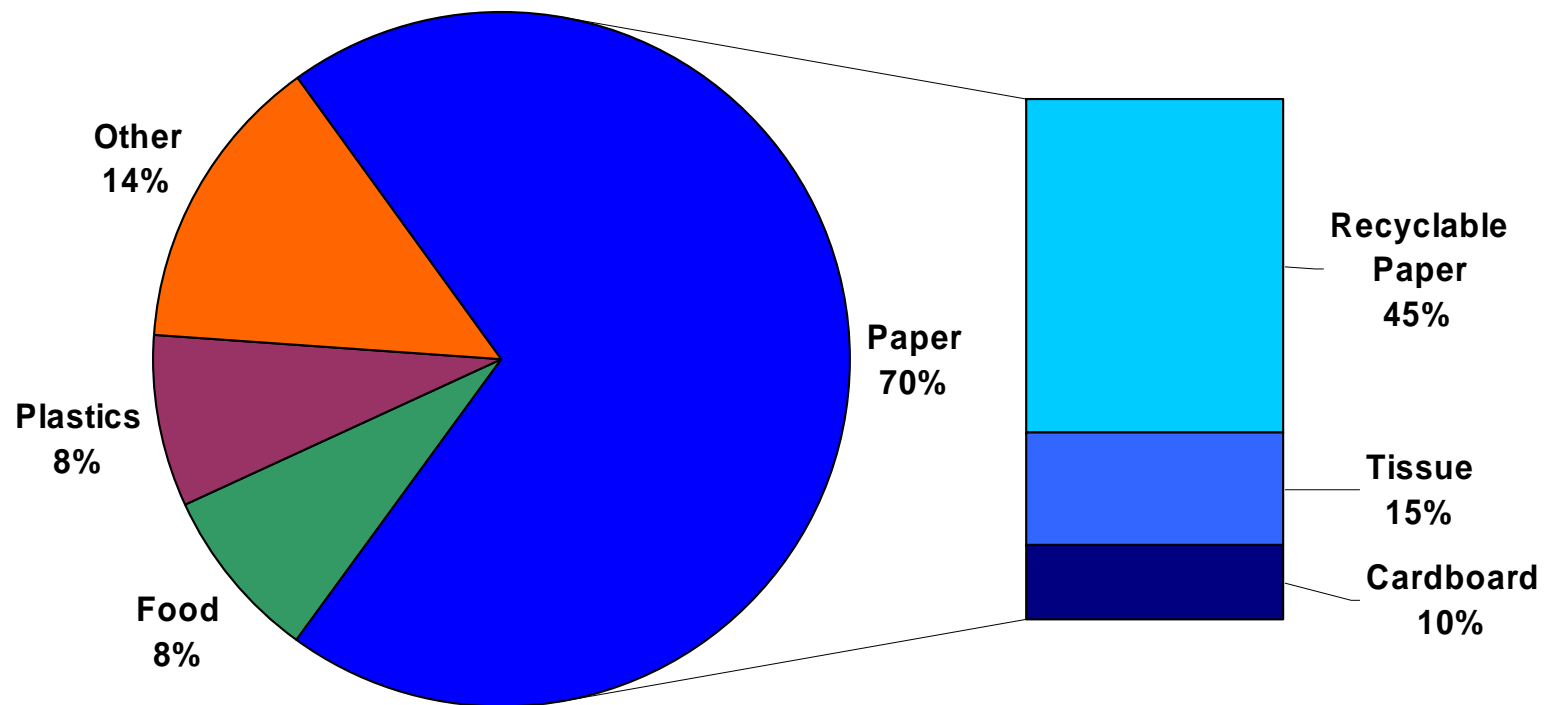
Decision Hierarchy

- Not all options are considered equal, they range from disposal to prevention:



Office Waste

Office Waste Makeup - By Weight



Reduce Paper Use

- Print or photocopy e-mails, forms, and other documents only when necessary
- Publish documents electronically, post one copy at a central bulletin board, or distribute as e-mail attachments
- Eliminate fax cover sheets by using Post-it style fax labels
- Use double sided printing or copying as default

Reduce Paper Use cont'd

- Don't print more copies than you need
- Reduce white space on documents
- Proof and edit documents (with track changes, spell check and print preview) before printing

Reduce Junk/Catalogue Mail

- Return unwanted mail with a “remove from mailing list” note
- Put a “No Ad Mail” sticker inside your mailbox
- Call all catalogues and change to email notices of online products

Reduce Junk Mail

- Production and disposal of junk mail consumes more energy than 2.8 million cars/year (in USA)
- Canadian residents can register to have their names removed from marketing lists held by members of the Canadian Marketing Association. “Do not contact” list (<http://www.the-cma.org/public.asp?WCE=C=47|K=224217>) or the Canadian Government “Do not call list” ([https://www.innate-dncl.gc.ca/index-engincludes mail/call/fax](https://www.innate-dncl.gc.ca/index-engincludes%20mail/call/fax))
- About 20 per cent of Canada Post revenue comes from “addressed and unaddressed advertising mail” — which most Canadians call “junk mail” — and Canada Post hopes to expand that market.

Paper Reuse and Recycling

- Reuse one-side printed paper
- Switch to 100-percent recycled paper in printers and copy machines

Benefits of Recycled Paper

	30% Recycled Paper	50% Recycled Paper	100% Recycled Paper
% Fewer trees used	30%	50%	100%
% Less energy used	13%	22%	43%
% Reduction in greenhouse gas emissions	11%	19%	37%
% Less water used	14%	23%	46%
% Reduction in waste	15%	25%	49%

Source: Environmental Defense's Paper Calculator
(www.environmentaldefense.org/papercalculator)

Plastic Bags

- Canadians take home 55 million/ week
- Take 500+ years to break down

They take up space in land-fills, are unattractive, their production is harmful to the environment and they're not necessary

- Keep cloth bags handy for office shopping

Get Free (or cheap) or give away

- Victory Thrift Shop
- Bow Valley Freecycle
<http://groups.freecycle.org/BowValleyFreecycle/posts/all>
- Recycled paint
 - toxic round up to give away
 - Calibre Environmental Ltd in Calgary to purchase recycled paint (~\$65 for 5 gallons)

Toxic Round-Up

- Toxic Round-up April & October
(Includes paint recycling) 678-1580

Other Local Recycling

- The UPS store recycles packing peanuts and bubble wrap (not big chunks of Styrofoam)
- Radio Shack take used batteries and cell phones for recycling (get refurbished for charitable organizations)

Computer reuse and recycling

- Town of Canmore recycles computers
- Sigma will recycle computers; give to Sigma computers for kids; give to those in need in community or elsewhere; or sell and give profits to community groups
- Printer cartridges can be dropped off at Bow Valley Basics or Sigma for recycling

Recycling in the Office

- Handy labeled bins
- Clear signs about what can be recycled
- Make it easier than garbage
- Provide a central area to share unwanted office supplies

Get Worms!

- Reduce garbage by getting an indoor worm composter in the office for lunch left-overs (i.e. banana peels)
- Sign up for Biosphere Institute worm workshop

Meals and Coffee Breaks

- REDUCE - avoid disposable and single serving containers, Keep reusable containers handy to pick up lunches to go (Communithea gives discount if you bring own take-out container)
- REUSE - use reusable coffee cups and filters, plates, and washable towels
- RECYCLE - beverage containers, if you REDUCE and REUSE there could be very little left to recycle

Greener Meetings

- Use china and linen products/service or biodegradable products
- Invite participants to bring a mug
- Provide water in pitchers
- Donate un-served food
- Reduce paper use
- Reduce and offset emissions
- Recycle

Green Cleaning

Two All Purpose Cleaners

- A. Apply a 1:1 solution of VINEGAR and WATER.
(No rinsing necessary.)
- B. Dissolve 3T (45 ML) WASHING SODA in 4 CUPS (1L) WARM WATER. Apply and rinse.

For more cleaning recipes (i.e. glass, oven)
check out:

http://www.greenup.on.ca/images/stories/pdf_files/WasteReduction/alternative%20cleaners.pdf

Computers

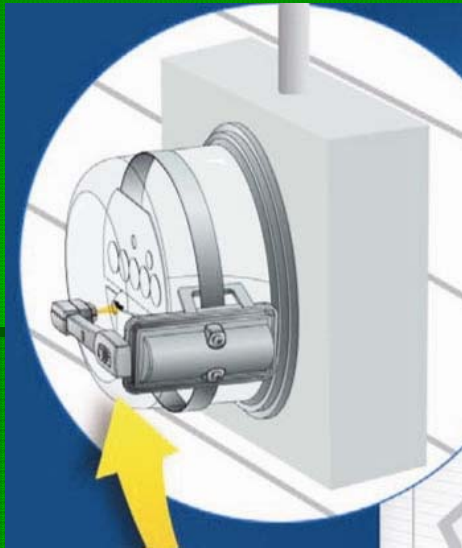
- Turn off your computer at night and save \$70 per year/per computer
- Turn off hard drive (or use 'sleep mode') if away an hour
- Purchase energy efficient computers: 42 W instead of 150-227W (some laptops=14 W)
- Screen savers: set to none or blank screen
- Turn off monitor if away for 15+ minutes or use power management settings to shut off automatically

Energy Savings

- Use Kill-A-Watt meters to test energy use of individual appliances
- Use PowerCost Monitors to test home office use
- Get a programmable thermostat and turn it down when you are out
- Replace appliances and lights with energy efficient products
- Turn off unused lights and equipment
- Consider energy efficiency when buying equipment

Energy Monitors

- Audit your business electricity use



ecoENERGY Retrofit

- For small and medium sized businesses: ecoENERGY Retrofit Incentive for Buildings
- Current funding round ends March 31, 2011 or when money runs out
- Up to 25 percent of eligible project costs to a maximum of \$50,000 per project
- A pre-project audit is required (list of service providers from Canmore/Calgary):
http://oee.nrcan.gc.ca/providers/contractor_search.cfm
- For more information:
<http://oee.nrcan.gc.ca/commercial/financial-assistance/existing/retrofits/>

Case Study - Canmore Public Library

Canmore Public Library Lighting Upgrade

Annual Cost of Operation (before)	\$5,778.86
Annual Cost of Operation (after)	\$2,996.45
Total Project Cost	\$6,020.00
Annual Savings	\$2,782.42
Payback (Months)	25.96

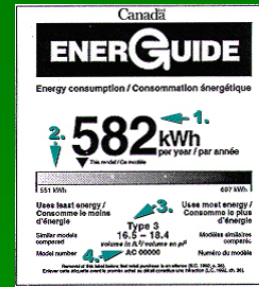
Renewable Energy

- For Home or Business:
<http://www.bullfrogpower.com/> or
<https://www.enmax.com/Energy/SmBus/Go+Green/Greenmax.htm>
- Renewable electricity for home/business:
www.bullfrogpower.com
- ecoEnergy for Renewable Heat offers an incentive to industrial, commercial and institutional purchasers of solar heating systems:
<http://ecoaction.gc.ca/ecoenergy-ecoenergie/heat-chauffage/index-eng.cfm>

Green Product Certification

- A variety of government/industry product certifications are available such as:
- Environmental Choice™ (Canada)
- Ecologo (USA)
- Forest Stewardship Council (FSC)
- EnerGuide

EnerGuide



- Allows you to compare the energy efficiency of the many different models of appliances or heating and cooling products (not only efficient models).
- The ENERGY STAR symbol identifies energy efficient models and may appear on an EnerGuide label.

ENERGY STAR®



- The international ENERGY STAR symbol identifies products that are among the most energy-efficient on the market
- Identifies specific models that meet or exceed premium levels of energy efficiency

Transportation

- Reduce single passenger travel
 - Carpool
 - Lump staff car trips
 - Use courier services instead of driving

Rotate Your "Greener"

- “Companies everywhere are suddenly clamoring to snag a vice president of sustainability. Or a director of environmental affairs.....
- Ten years ago, the job essentially didn't exist. Now **Starbucks** has one. **Ford** too. Also **Airbus**, **Albertson's**, **Alcoa**, **Alaska Airlines**, and **Anheuser-Busch**. **Dow Chemical** and **DuPont** have even given the position C-level heft -- chief sustainability officer.”

From 50 Ways to Green Your Business...And You'll Boost Your Bottom Line Too from fastcompany.com

Waste Audit

- One of the most effective ways to identify areas you should target.
- A pre and post audit can identify successes or areas for improvement

OFFICE WASTE AUDIT FORM

	GENERATION SITE	TYPES OF WASTE	APPROX. QUANTITY	RECYCLING POTENTIAL	COMMENTS
ex.	MAIL ROOM	MP, OP, OCC, M	25 kg./week	good for OCC/OP	
	PHOTOCOPY ROOM				
	PRINTER AREA				
	COMPUTER AREA				
	FILE ROOM				
	INDIVIDUAL WORKSTATIONS				
	GENERAL OFFICE				
	OTHER AREA(S)				
	TOTALS		25 kg./week		

KEY

Computer Paper = CP
 White Ledger Paper = WL
 Coloured Ledger Paper = CL
 Mixed Fine Paper = MP
 Magazines = M

Old Newspaper = OP
 Old Corrugated Cardboard = OCC
 Glass Bottles, Jars = G
 Metal Cans = C

NOTES

Computer Paper: 18" tab
White ledger: white bond, photocopy paper, laser paper, deposit slips, letter-sized computer paper
Coloured Ledger: coloured bond and photocopy paper, cheques, carbonless forms
Office Mixed: ledger plus onion skin, envelopes, manila file folders

Civic Center Waste Audit

- In 2006, 6 full bags of garbage/ day at this building
- Through initiatives such as "mini-trash buckets", electric hand driers, and asking Civic Centre staff to help reduce the amount of garbage they reduced it to an average of 2 bags per day
- Annual reduction of approximately 1,460 full bags going to the landfill for permanent storage.

Green Procurement (Buying Green)

Buy products that meet as many of the following criteria as possible:

- are reusable or contain reusable parts (refillable pens, beverage containers, rechargeable batteries);
- are recyclable; contain recycled materials (paper products containing post-consumer recycled fibre, re-refined motor oil)

Green Procurement (Buying Green) cont'd

- make efficient use of resources and energy (water-saving devices; double-sided photocopiers; energy-efficient lighting);
- produce fewer polluting by-products and safety hazards during use and disposal (low-pollution water-based paints, natural gas fuel systems for fleet vehicles);
- have a long service life and/or can be economically and effectively repaired as opposed to replaced (energy efficient light bulbs; equipment obtained with provision for regular maintenance).

Let your suppliers know

A example statement of Principle or Practice

- "It is the purchasing policy of this organization to give preference, where possible, to products that carry the EcoLogo symbol; contain recycled waste materials or products; or are otherwise environmentally sound (i.e. encourage reduction and efficient use of resources, and minimization of chemical pollution; and are reusable or recyclable)."

Polar Pin Action Plan

short term

mid range

long range

Polar Pin - Vision

	Sourcing Our Product Recyclable Biodegradable	Our Suppliers (System Conditions)	Our 'Footprint' Minimal Socially Responsible Operations	Transportation Of Our Goods Low Impact	Our Customers Knowledgeable Satisfied	Our Public Relations Role Modelling
Research & Development	Identify New Products Web research & network with other 'Green' purchasers Delegate who will research what	Web search Fast track using existing 'Green Procurement org's (i.e. Terra Choice, Recyclers, Amazing Recycled)	Investigate options for ideal working conditions (physical), that minimize consumption and maximize "productivity" through physical and mental well being.	Research companies demonstrating environmental practices	Broaden customer base to include like-minded organizations	Network with other environmentally sustainable Co's
Education		Educate our suppliers as to our new goals to get their buy-in -	Internal operations (staff, landlords, service providers (i.e. Pembina Institute Windpower)		Educate our customers as to our new environmental objectives through newsletter, e-mail blasts, website	Newspaper articles, education flyers for greater good, role modelling
Governance/CSR		Contribute globally(suppliers) and locally communities (Social & Environmental Dev. - % of profits)				m
Redefine Product	Start introducing better choice products. Review present products (re SC) and determine qualifying criteria for new products		Check off that each of our products leave a min. footprint (SC) Ensure traditional product line meets new standards for recycled content/biodegradability		Continue to meet customer's needs in a sustainable line of products	Educate customers as to where we are moving to re sustainability (as well as meeting their needs)
Policies - Greening of		Initiate relationships with like-minded suppliers. Define minimal standards manufacturing, working conditions, "fair trade policies" Exclusive use of	Carbon Offsets for interim while cleaner freight alternatives become available and local suppliers found.	Transportation Of Our Goods - Best practice freight provider, local suppliers, low Impact		

Case Studies

- A variety of local businesses and organizations participated in the Natural Step to a Sustainable Canmore program. Case studies are available (www.biosphereinstitute.org).

- Alpine Insurance
- Canmore Public Library
- Canmore Seniors' Association
- Radisson Hotel
- Riverdale Homes
- The Rocky Mountain Flatbread Company
- Polar Pin
- Three Sisters Mountain Village
- Tourism Canmore
- Town of Canmore

Thank You

- Canmore Home Hardware
- Bow Valley Basics
- Environment Canada: EcoAction
- Canmore Economic Development Authority
- Town of Canmore