Jeff Darrow
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Canadian Pacific Hotels & Resorts

THE Green PARTNERSHIP GUIDE

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12 STEPS TO HELP CREATE AN ENVIRONMENTALLY-FRIENDLY SETTING FOR OUR GUESTS, OURSELVES AND OUR FUTURE

WARNER TROYER

THE CP H&R GREEN PARTNERSHIP GUIDE

12 STEPS TO HELP CREATE AN ENVIRONMENTALLY-FRIENDLY SETTING FOR OUR GUESTS, FOR OURSELVES, AND FOR OUR FUTURE

Author's note: We are indebted to Ontario Hydro and to several departments of our federal and provincial governments as well as a number of universities and environmental organizations in Canada and the U.S. for much of the data which follows.

Written by Warner Troyer

Table of Contents

Introduction:
CPH&R Green Partnership Policy 1

1

12 STEPS TO A GREENER PLANET

Step 1: **Reduce; Reuse; Recycle** 5
Step 2: **Eliminate Excessive and Unnecessary Packaging** 8
Step 3: **Eliminate All Aerosols & Phosphates** 14
Step 4: **Buy Recycled Paper Products Wherever Possible** 16
Step 5: **Recycle Everything Possible & Practical** 18
Step 6: **Replace Incandescent Lights with Fluorescents** 23
Step 7: **Save our Precious Water** 27
Step 8: **Buy Organic Foods Wherever Possible** 33
Step 9: **Establish a Guest Recycling Program** 37
Step 10: **Redistribute Used Amenities to Charity** 39
Step 11: **Establish a Toxic Waste Disposal Program** 41
Step 12: **Establish a Green Corporate Purchasing Policy** 44

2

GREENING YOUR DEPARTMENT

Introduction 47
I. **Waste Disposal** 48
II. **Laundry** 49
III. **Kitchen** 55
IV. **Grounds & Golf Course Management** 69
V. **Rooms Division** 78
VI. **Stores & Purchasing** 86
VII. **Housekeeping** 87
VIII. **Repairs and Renovations** 89
IX. **Food Services** 99

3

SUCCESS STORIES 101

4

GREEN CONTACTS ..... *See Table of Contents in Green Contacts Section*

Note: The Green Contacts section is numbered separately from the rest of the manual.

THE CPH&R GREEN PARTNERSHIP POLICY

In 1990, Canadian Pacific Hotels & Resorts undertook the development of a green program for all of our hotels in Canada. Our aim was to institute the highest possible standards of environmental responsibility throughout the chain.

We formed environmental committees at every one of our hotels to lead the green program in-house. We did an environmental audit of all our hotels in Canada, looking for areas where we could introduce more nature-friendly products and practises. We asked professional environmental consultants for ideas on "going green." And most importantly, we asked our 10,000 employees in Canada how they felt about introducing a green program. Our employees gave us an overwhelming vote of support (over 90% said they strongly favoured starting a green program) and they also gave us lots of great ideas on where to start greening our hotels.

The message from environmentalists, guests, co-workers and members of our communities was clear:

- ***Get in sync with nature.***
- ***Use our skills and knowledge to build a safe, clean-and-green future for our children.***
- ***Become industry leaders – and planet savers.***

We agree with this message. In response, we've developed this, **The Green Partnership Guide** – an accessible and friendly manual designed to help our employees implement the exciting and aggressive green program which we have developed in response to your suggestions and ideas.

Our objective? For CPH&R to become a world leader and pace setter in establishing responsible environmental practices for the hotel industry. Anything less would be a denial of our heritage and our history, and a write-off of our future and the rich rewards of responsible environmental citizenship.

In 1991, environmental questionnaires were distributed to all CPH&R employees. Here are some of the things you told us:

- **95+%** of you see our environment as a critical issue.
- **89%** want to know more about what you can do to help.
- **82+%** would volunteer extra time and effort to help.

THE CPH&R GREEN PARTNERSHIP POLICY

- 92+% agree CPH&R efforts will help our planet.
- 88+% will take more pride in jobs with a "green" CPH&R.

The results of this survey constitute nothing less than a mandate from our employees. The Green Partnership Guide has been developed in response. You want to act with environmental responsibility – and this manual is designed to show you how.

A number of CPH&R facilities have already begun major greening initiatives. Many recycle bottles, tins, cardboard and newspapers; some have installed water-saving showerheads, others have low-flow aerators in water taps; three dedicated facilities have even moved to reduce water flows in toilets.

We face an immediate and critical need to reduce and conserve energy. By following the sensible and simple steps outlined in the CPH&R Green Partnership Guide, we can extend the best possible environment-friendly practices to **every** department of **every** one of our hotels; and at the same time as we're helping to protect our environment, we'll all benefit from substantial savings as well.

Here's what The Green Partnership Guide Contains:

PART ONE: 12 STEPS TO A GREENER PLANET – realistic and clearly defined steps and timing in all areas where CPH&R can make a positive difference.

PART TWO: GREENING YOUR DEPARTMENT – co-ordinated policy and guidelines to help every Department in every CPH&R location pursue these goals.

PART THREE: SUCCESS STORIES – Great Environmental Ideas from 15 Canadian hotels.

PART FOUR: GREEN CONTACTS – a highly detailed information base to help all Departments achieve these goals.

Please read The Green Partnership Guide carefully; and as you work with it, give us your feedback and experience-based judgement. Through your local environmental committee, send us your comments, questions, suggestions and proposals: they're *essential* to the success of our mutual voyage of discovery and progress.

As our Green Partnership program progresses, we'll be asking you questions, too; and we'll share your ideas with your green partners in all our locations. Remember – our mutual progress in this huge and vital undertaking depends on our collective ability

THE CPH&R GREEN PARTNERSHIP POLICY

to share our experiences, learn from our mistakes, and build on our successes.

To quote Madam Gro Harlem Brundtland, Chairman of the UN Commission on Environment and Development:

"The environment is where we all live."

Today, *no one* can be excused from the critical campaign for responsible environmental citizenship to save this fragile planet where we all live. Using the CPH&R Green Partnership Guide, we can all begin the campaign – right now.

ACTION PLAN

Canadian Pacific Hotels & Resorts has set the following goals:

A. WASTE MANAGEMENT

1. Set target for a 50% reduction in landfill waste (average for chain) and a 20% reduction in paper use by December 1992;
2. Re-distribute and/or recycle all used soap and amenities;
3. Establish programs at all properties to recycle the following:
   a. all paper
   b. newspaper
   c. all cans
   d. organic waste
   e. all motor oils
   f. cardboard
   g. plastics
   h. all bottles
   i. coat hangers
   j. printer cartridges
4. Establish a policy and procedure for the identification and disposal of hazardous waste;
5. Initiate a "phase out" program to reduce or eliminate the use of the following items in CPH&R restaurants and cafeterias:
   a. individual sugar packages
   b. individual creamers
   c. individual condiment containers
   d. disposable cups
6. Introduce "blue boxes" for collection of recyclable materials (glass, tins, etc.) in all guest rooms, chain-wide;

ACTION PLAN

B. ENERGY

7. Initiate a retrofit of all appropriate lighting from incandescent to compact fluorescent bulbs (Environmental Choice standard) at all properties;
8. Replace all showerheads and taps with low-flow alternatives (Environmental Choice standard);
9. Establish a standard temperature for the setting of all hot water tanks (recommended 130F);

C. PURCHASING

10. Establish a corporate purchasing policy that imposes, where appropriate, Environmental Choice standards as the minimum standard for purchase of and/or conversion to "environmentally friendly" products;
11. Convert all necessary paper products to unbleached kraft or recycled materials (minimum Environmental Choice standard);
12. Streamline use of cleaning agents and, where available, replace with non-aerosol products; eliminate hazardous chemicals and synthetic perfumes;
13. Purchase only re-refined motor oil and re-inked printer ribbons for use at CPH&R;
14. Initiate negotiations with suppliers to eliminate and reduce packaging;
15. Initiate strategic alliance with Canadian Organic Growers to purchase organically grown foodstuffs;

D. WATER

16. Establish corporate policy to make toilet dams mandatory in all CPH&R toilet tanks that flush more than two gallons per flush.

12 STEPS TO A GREENER PLANET

STEP 1: Follow the environmental golden rule- REDUCE, RE-USE, RECYCLE

On average, Canadian citizens produce 20% more garbage than U.S. citizens; 100% more than Japanese, Dutch or Swedish citizens; 300% more than Chinese citizens.

A huge amount of our waste garbage comes from needless excess packaging. In fact, 75% of all waste overloading our waste disposal sites comes from just four materials used in:

Paper	28%
Glass	27.1%
Plastics	11.5%
Steel (tins)	6.4%

We can reduce waste garbage, pollution, and the staggering costs of dealing with both waste and pollution, by following the environmental golden rule:

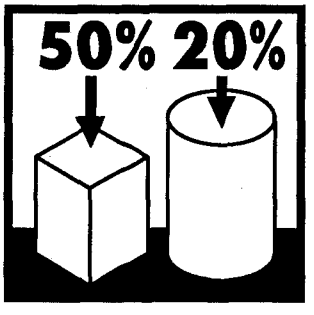
Reduce • Re-use • Recycle

REDUCE:

We can reduce garbage in a hundred different ways.

- **Don't** buy over-packaged single serving of anything; buy in bulk.
- **Reduce** or eliminate throwaway wrapping on guests' laundry. Re-usable wicker baskets are an attractive presentation container for clean laundry and need no further wrapping.
- **Don't** put the daily room-deliver newspaper in a throwaway plastic bag, but leave it folded on the hall floor.
- **Buy** beverages in returnable bottles, wherever possible; or in recyclable containers such as aluminum, glass, or P.E.T. plastic.
- **Don't** buy 'Tetrapak' containers of juices; they can be recycled only at a few facilities, and are far less environment-friendly than other similar packaging.
- **Reject** over-wrapped produce such as bananas, oranges, etc. which Mother Nature has already packaged perfectly well.
- **Don't** buy or sell 'disposables' such as throw-away razors, lighters, unrefillable ballpoints. (North Americans throw away 2 billion plastic razors and 500 million lighters every year.)
- **Don't** buy or sell items packaged in blister-plastic on cardboard.

REDUCE, RE-USE, RECYCLE
START NOW



(cont'd)

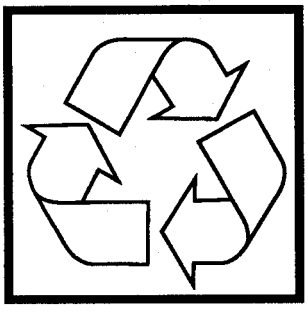
- **Reduce** or eliminate throwaway styrofoam or waxed-paper cups, or throwaway plastic cutlery.
- **Win** the war on waste paper in the office!
- **Do** all photocopying on both sides of every sheet;
- **Consolidate** or eliminate unnecessary hotel business forms;
- **Circulate** written reports or memos in a single copy to all concerned, and have them initial it after reading (don't distribute separate copies unless absolutely essential);
- **Use** computers for internal and inter-property mail, memos, messages, daily lists, etc; the money you save in paper costs will quickly help pay back the cost of the computers.

RE-USE:

Reuse everything possible – from composting kitchen and yard wastes to refilling bottles in the kitchens.

- **Re-use** office scrap letters, faxes and memos: cut into squares and staple into bundles for scratch/telephone pads.
- **Re-ink** computer ribbons for re-use many times.
- **Re-use** envelopes, using printed labels (on recycled paper).
- **Re-use** bulky (and expensive!) book-bags.
- **Reuse** paper-clips and rubber bands saved from incoming mail.
- **Reuse** slivers of soap: (mixed with warm water, they make a good nature-safe insect spray for indoor/outdoor plants).
- **Send** your surplus prepared food and bakery goods to food banks or soup kitchens; sell organic kitchen scraps to pig farms; and if neither solutions is possible, compost organic wastes.
- **Use** re-usable wipe-up cloths instead of throwaway paper towels.
- **Store** food in reusable plastic containers with lids instead of throwaway cling-wrap.

REDUCE,
RE-USE, RECYCLE
START NOW



RECYCLE:

Recycling covers the obvious – glass bottles, aluminum tins, office stationery and newspapers; and the less obvious – computer printer ribbons and cartridges, coat hangers, batteries large and small, motor oil, tires.

No one expects you to monitor every cubic centimetre of garbage; but if we're going to end the eco-vandalism we all cause, mostly by simply not paying attention, we all must become "enviro-cops".

Begin with a systematic analysis of what you're throwing out. Find out what's retrievable, and what's not; and post a list of the good stuff and the no-no's*.

*Items which should not be in the garbage of an environmentally-friendly hotel include:
Toxic and hazardous waste;
Used cardboard cartons;
Yard cuttings and kitchen wastes suitable for composting;
All recyclable items.

Some garbage can actually make you money.
Don't assume that the materials collected should simply go into your municipal recycling program. Many items such as plastics, bottles, tins, newspapers and cardboard can have a considerable market value. Given the volume of material you will accumulate in a large hotel, explore the possibility of selling your recyclable material directly to dealers, or actual recyclers such as ALCAN, which buys aluminum.

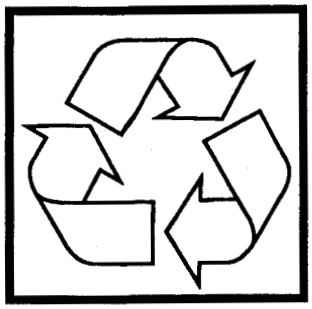
- Aluminum cans: **.40/50 cents**/lb.
- Plastics: **$40**/ton
- Newspapers (and phone books): **$5**/ton
- Fine paper: **$80**/ton
- Other papers: **$30**/ton

Some recyclers will take usable trash at no cost; an important benefit in urban areas where it can cost up to $150 a load to send garbage to the landfill sites.

Invite a firm of waste management specialists to quote on conducting a "waste efficient audit" for your facility. Ask them to indicate areas for efficient waste reduction, identify markets for recyclable materials, and give you a cost analysis of proposed changes. You'll be surprised by the cost savings – even profits you may now be missing.

"I'm gonna clean this ole' world up whether anyone likes it or not."
- says **former gardener**

REDUCE,
RE-USE, RECYCLE
START NOW



STEP 2: ELIMINATE EXCESSIVE AND UNNECESSARY PACKAGING

Follow the four green rules to reduce packaging waste:

1. The best packaging is no packaging.
2. Buy in bulk.
3. Re-use packaging materials wherever possible.
4. If you can't re-use packaging, recycle it.

Timing: ***start today.***

Unnecessary packaging and needless energy consumption are the two greatest single causes of pollution and environmental damage. Moreover, excess packaging is a major factor in wasteful energy consumption.

ITEM: The Canadian packaging industry generates ***$8 billion*** in revenue, every year.

ITEM: On average, Canadians each throw out over 600 pounds of packaging material every year.

ITEM: Half of all garbage (by volume) and more than one-third of it (by weight) is from packaging.

ITEM: Garbage collection and dumping costs in most large urban centres are doubling every year. **At this rate we'll soon be paying more to throw away packages than we pay to buy them.**

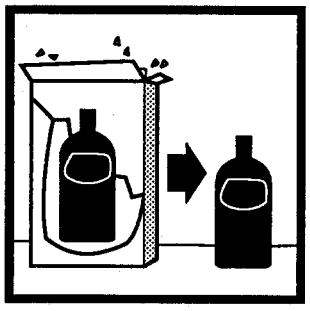
ITEM: Estimates are that the packaging wrapped around our food now costs as much money annually as farmers get to produce it.

ITEM: 35% of every dollar spent on baby food is for packaging; 40% of every dollar spent on beverages in non-returnable bottles is wasted on the container; 25% of every dollar spent on motor oil is packaging costs.

ITEM: The packaging of many luxury items – cosmetics, perfumes, chocolates – may be anywhere from 100% to 600% *greater than the value of the contents.* The same holds true of many patent medicines.

Effective damage control starts with refusing to accept any packaging that is not absolutely essential. (Pass it on!)

ELIMINATE EXCESSIVE PACKAGING
THE BEST PACKAGING IS NO PACKAGING



Major Packaging Materials:
Here's a quick break-down of the major packaging materials in our marketplace:

Paper	28%
Glass	27.1%
Plastics	11.5%
Steel (tins)	6.4%
Aluminum	2%
Miscellaneous – pottery, wood, etc.	25%

"Not *more* packaging!"
- exclaims **purchasing agent**

Eliminating Waste Packaging Worldwide:
Not all governments are willing to wait for the marketplace to regulate itself, or for corporations to police themselves.

• **Austria** will permit the use of recyclable packaging materials only, beginning in 1992. After that, producers will be allowed to use packaging materials not covered by existing recycling programmes only if *they* set up and pay for programs to recycle their products.

• **Italian cities,** including Venice and Florence, have banned the sale of *any* foods packaged in plastic containers.

• **The Danish and Dutch** Ministers of the Environment are now empowered to ban or limit *any* materials which add needlessly to waste (ie: not recyclable or re-usable.)

• **In Japan,** major appliances such as refrigerators and tv sets go from the factory or warehouse directly onto trucks with custom-fitted racks to hold them secure; and are delivered directly to the retail stores or customers' homes without wrapping or packaging of any kind. (Think of our appliances, which come wrapped in plastic, packed with styrofoam, and encased in heavy cardboard. They make great playhouses for kids – and a huge headache at the dump.)

• **Many U.S. cities and counties** are moving to ban the sale of styrofoam packaging, and any other packaging which is neither returnable or recyclable. Several Canadian cities are now examining similar proposals.

It's ironic that many multinational corporations are already meeting much higher standards for some of their products in Europe, where they're required to do so by law, than in North America, where so far, they're not.

The Current Situation in Canada:
Canada lags far behind many other countries in packaging

ELIMINATE EXCESSIVE PACKAGING
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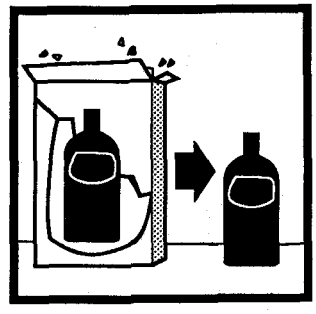

controls. Even if we did achieve the goal of cutting packaging consumption in half which was set by the Federation of Canadian Municipalities in November, 1988, we'd merely have matched the results achieved by West Europe's most prosperous countries a decade ago.

Canadians pay for every scrap of 'extra' or unnecessary packaging several times over:

1. In the waste of natural resources.
2. In needless use of energy during production.
3. In the pollution created both by the energy-generating and the production processes.
4. In the costs of cleaning up the pollution.
5. In the cost of extra electricity-generating facilities.
6. In the cost of disposing of all that packaging.
7. At the order desk, for the actual cost of the packaging.

The federal government is seriously examining the possibility of "green taxes" which would put a surcharge on any wasteful packaging, with the money going to funding recycling and waste disposal projects.

Some Canadian municipalities are passing bylaws to prohibit the most wasteful or polluting forms of packaging.

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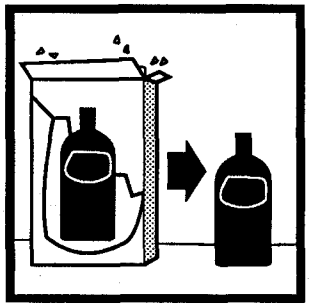

Private industry is trying to avoid government-imposed regulations, taxes and fines by moving to simpler and more efficient forms of packaging. That's why cereal and detergent boxes have less "air space" than a few years ago; and why some manufacturers such as Proctor and Gamble are now marketing refillable containers.

This means that all purchasers have more options every month in shopping for the most efficiently-packaged products; **and bulk purchasers like CPH&R have very strong clout with suppliers: if we *demand* <u>less</u> packaging, and <u>more efficient</u> packaging, we'll get it.**

Our positive actions can also have a ripple effect; as manufacturers make more efficient packaging, they'll offer it or similar packaging to other consumers. Thus, our initiatives at CPH&R can literally impact on all Canadian sales, with enormous benefit to the environment.

What Can We at CPH&R Do To Help?
Stop buying *anything* packed or wrapped with styrofoam. Here's why:

- **Styrofoam** (actually "polystyrene foam") is one of the most dangerous packaging products made by man.
- **Styrofoam** is made from benzene, a known carcinogen.
- **Converted** to styrene, a plastic soup-like substance, it's injected with gases to build the bubbles needed in a "foam" product.
- **The** gases used are often ozone-depleting CFCs; or HCFCs, which also destroy ozone, although somewhat more slowly that CFCs.
- **Other** widely-used gas substitutes are pentane and butane, both major contributors to urban smog.
- **Polystyrene** is totally non-biodegradable. Bury a foam coffee cup in your garden tomorrow and future generations will be able to dig it up, rinse it off, and use it – 500 years from now.
- **Polystyrene** takes up huge chunks of space in landfill sites, precisely because it is, for its weight, so bulky.
- **Polystyrene** is lethal when discarded on land or water. Small chunks of plastic foam (especially foam "peanuts" used in packing) look like food to animals and marine life. Birds often choke on the plastic. Sea turtles die from eating foam plastics because their buoyancy keeps the turtles from diving for their food.

- Many manufacturers now package fragile items, even light bulbs, in shredded newspaper, which can go into the recycling bin; or popcorn, which costs one-fifth the price of styrofoam and can be composted (or fed to seagulls!). Ask your suppliers to do the same.

- Tell suppliers you don't want half-filled boxes of anything. To prevent waste, cartons shouldn't be sealed until they are full.

- Ask suppliers to re-use boxes. Return empty cartons to them to be used again. Only when they're too beaten-up to be re-used should they be baled for recycling.

- Ask suppliers to buy and use cardboard boxes made of recycled, post-consumer material.

- Look for packaging items which can be re-used for some other purpose. A couple of examples:

  - **Welsh's** is once again selling jelly jars like it made in the 1940s and 1950s. After use, the jelly jar becomes an instant drinking glass. (Collectors pay $20 and up for the originals.)

ELIMINATE EXCESSIVE PACKAGING
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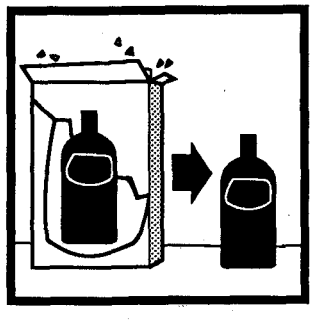

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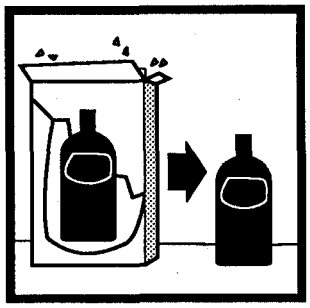


If your bar stocks Grolsch (Dutch) beer, have them save the bottles, which come with a wire-attached, re-usable airtight ceramic cap. Use them to store vinegar, cooking oil, dressings, etc.

Plastic margarine, cottage cheese and sour cream tubs are excellent for starting bedding plants in the greenhouse.

Identify and Phase Out Wasteful and Disposable Packaging in Restaurants, Cafeterias and Dining Rooms.

Eliminate Single-Serving Packaging*
When you've used up all those teensy single-serving packages where the wrapping is bulkier than the contents (and often more costly), re-order in bulk. For example:

- **individual** sugar packets;
- **individual** coffee creamers;
- **individual** condiments: mustard, vinegar, ketchup, etc.;
- **individual** packages of jams, jellies, butter, honey, etc.;
- **Tetrapaks** of juice etc.;
- **Single** servings of ice cream in plastic tubs;
- **Single** serving cereal boxes;
- **Single** servings of soda-crackers and cookies;
- **Individually-wrapped** breadsticks;
- **Individually-wrapped** after-dinner mints or chocolates;
- **Individually,** cellophane-wrapped hard candies or mints in that king-sized brandy snifter by the cashier's desk;
- **Single-cup** servings of hot chocolate or cocoa.

*Currently, there is no legislation in Canada requiring single servings (for sugar, butter, jam, etc). If you have any questions about serving these and similar products in attractive bowls or dishes, contact your local Food & Beverage Department.

Put a Green Partnership Tent Card on restaurant tables and room service trays, to explain to our guests why these changes are being made.

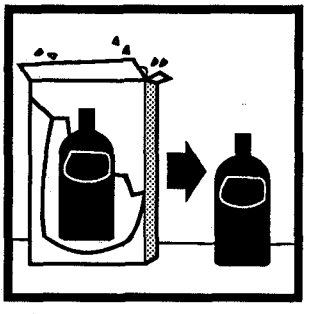
Buy in Bulk for the Kitchen:
- **Yeast**
- **Bouillon**
- **Powdered** gravy mixes
- **Powdered** condensed soups
- **Herbs** and spices
- **Flavourings:** vanilla, almond extract, tabasco, etc.
- **Syrups:** maple syrup, corn syrup, etc.
- **Small** tins of anything (buy the largest tin practical).

Eliminate unnecessary packaging at picnics, pools and outdoor snacks:

- **Replace** single-use plastic or paper cups with nature-friendly alternatives for take-out snacks, guest picnics, poolside refreshments, outdoor bars and food kiosks:
- **Serve** soft drinks directly in the can or bottle.
- **Remind** guests to bring back returnable empties, or put them into our Green Parnership recycling bins.
- **Replace** dangerous glass bottles at the poolside with heavy duty plastic tumblers that are safe, machine washable and just about indestructible. (Why not decorate them with the CPH&R Green Logo and your hotel's name – and sell them in the hotel news stand or gift shop.)
- **Ice Cream:** Replace single-serving ice cream in plastic with ice cream scooped into re-usable plastic bowls – or better still – ice cream cones. Use washable, returnable spoons, or opt for wooden spoons over throw-away plastic... pack picnic tea and coffee in thermos flasks with built-in cups.
- **For** take-out coffee, consider selling strong, plastic car-coffee-mugs with lids, decorated with the CPH&R Green Logo, at your restaurants and gift shop.
- **Give** local taxi drivers their coffee mugs for free – they're excellent, inexpensive advertising both for the hotel and for our Green Partnership Program. And offer taxi drivers complimentary coffee refills whenever they deliver a fare to the hotel.
- **If** you must use throwaway cups, use paper cups in preference to any form of plastic.

ELIMINATE EXCESSIVE PACKAGING

THE BEST PACKAGING IS NO PACKAGING



STEP 3. ELIMINATE ALL AEROSOLS & PHOSPHATES

Timing: *Start Now.*

Aerosols – a Terrible Example of Over-Packaging:
For years, the propellant in most aerosols was ozone-depleting CFCs. Since CFCs have been phased out, except for certain medicinal sprays, many people think it's now all right to use aerosols again. Not so.

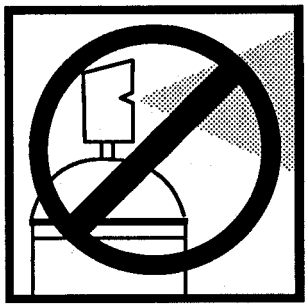
Non-CFC aerosols help cause smog, and can contain dangerous nitrous oxide, ketones, solvents and acetone, all bad for your health. HCFCs – the usual substitute for CFCs – are fractionally less-ozone destructive, but *still* destructive.

There are *no* recycling projects readily available for aerosol containers. Because of their pressurized contents, aerosols can explode in incinerators, garbage compactor trucks, even in landfill garbage sites.

The sensible solution: switch to pump spray dispensers: they're far cheaper; can be refilled and re-used for years; and reduce garbage, pollution, and waste costs.

Phospate-based Detergents – very Damaging to our Water:
Phosphate-based detergents pass through our sewage systems mostly without breaking down, and accumulate in lakes and streams, where they create billowing tides of foam, and cause the lake-killing 'algae bloom' which uses up oxygen in the water, killing fish and other marine life.

ELIMINATE ALL AEROSOLS AND PHOSPHATES
START NOW



Laundry detergents in Canada are restricted to a maximum of 5% phosphate content. Manufacturers are *not* required to mention the phosphate content on their labels. **Phosphate-free laundry detergent brands** (i.e. from retailers like Loblaws and Miracle Mart), announce the fact loud and clear on their packaging) .

One obvious way to avoid phosphates is to switch to pure soap. **Ivory Snow** does most jobs as well as detergent, and is kind to the environ-ment. (A useful tip: when you switch to pure soap, get rid of the residual detergent in clothes and linens by adding 50ml of washing soda to each washer load. If the water in your area is hard, add 25 to 50ml washing soda to every load with the soap for a good wash.)

Liquid dishwashing detergents – the kind you use in the sink to wash dishes – do *not* contain phosphates.

Automatic dishwasher detergents are a different story. They're not restricted as to phosphate content, nor is labelling required; and some brands are extremely extremely high in phosphates.

You'll find the names of the most common dangerous brands and some environmentally acceptable alternatives in the Green Contacts List.

"CFCs, HCFCs – it's all the same if you ask me."
- says **ozone expert**

ELIMINATE ALL AEROSOLS AND PHOSPHATES
START NOW

STEP 4. BUY RECYCLED PAPER PRODUCTS WHEREVER POSSIBLE

Timing: *Start Now.*

Some Background on Paper Products:
"Modern" paper making began entirely as a matter of recycling. Paper was made from fibres obtained from old bits of cloth and rope collected by rag-pickers, who were an essential link in the cottage industry paper-making process.

This process still applies to some degree. For the past 60 years, for example, the Domtar mill at Beauharnois, Quebec has been reclaiming fibre from rags and rope ends; every year it buys an average of 2,500 tonnes of rags which it recycles into fine papers.

Paper is essential to our civilization – we can't do without it. But we can take two positive steps:
1) reduce the amount of paper we use, wherever possible;

2) switch from virgin paper to unbleached kraft paper or post-consumer recycled paper products.

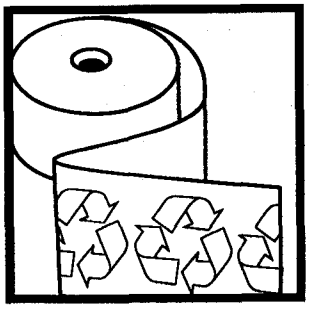
'Virgin' Paper:
A tonne of so-called 'virgin' paper uses the fibres of 17 trees. The fibres are reduced to a pulp by a process which uses vast amounts of highly corrosive and toxic chemicals, energy, and fresh water. The paper-making process also produces a huge residue of filthy and highly toxic waste water which is discharged into nearby rivers and lakes where it eventually kills or poisons all but the hardiest marine and plant life.

'Post-Consumer' Recycled Paper:
We are now beginning to see 'post-consumer' paper products – made from paper which has been recycled after a first use in newsprint, paper bags, office paper, etc. Every tonne of post-consumer recycled paper saves 17 trees, and also consumes 50% less energy and 60% less water in its production, and causes 35% less water pollution and 75% less air pollution, than virgin papers.

Until recently, recycled paper was difficult to locate and buy. Paper companies blamed its scarcity in Canada on the fact that Canada *exports* between 75% and 80% of the paper we manufacture. In reality, for years we shipped our *used* paper to the U.S. and Japan for them to recycle.

Now, as Canadian paper companies respond to the exploding demand for recycled papers, that's changing. Most major office

BUY RECYCLED PAPER
START NOW



supply houses now stock a good line of recycled papers, including computer printer supplies, and usually at the same unit price as virgin paper supplies.

Purchases of recycled paper should cover much more than the office and stationery needs. For example, recycled toilet and facial tissues and paper towels are now widely available, and should be used throughout the hotel, including guest rooms.
There *is* a difference: recycled facial tissues, for example, are so far available only in two-ply, and not the "softer" three-ply many guests might prefer. But people *want* opportunities to help the environment; and if a tent card in guest bathrooms explains the changes and their benefits to the environment, they'll almost all applaud and accept the change.

The 'Recycled Paper' label – A word of caution.
Except for a few paper products which carry Ottawa's "Eco Logo" seal of approval, "Recycled" labels on paper products can mean almost anything. Some so-called recycled paper products have only a 5% or 10% recycled content. Others range all the way to 100%.

We need more help from our public servants.
Our governments have no laws, nor any regulations whatsoever about either manufacturing or labelling recycled products.

In May, 1991, Ottawa's Ministry of Consumer Affairs announced a set of "guidelines" on labeling claims which "suggest" the percentage of recycled content paper products labeled "recycled" should contain. However the guidelines are just that; manufacturers and suppliers are not required to follow them, or even to say whether they are so doing.

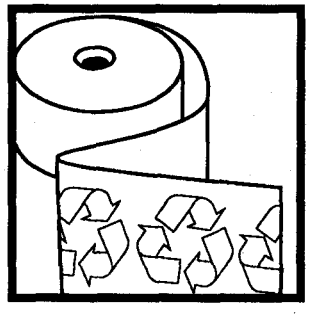
As we go to press, no government has yet decided what proportion of recycled material must go into a new product to permit producers to call it, "recycled". Nor are there *any* ground rules at all on the words used on packaging.

However, recycled paper, like most environmental topics, is a moving target, with product availabilities, prices, and even the companies dealing in these products changing literally from week to week. As time passes, you'll almost certainly find many new products and suppliers, and more competitive prices.

In the meantime, private sector sources for recycled paper products can be found in the Green Contacts List.

"We kinda like recycling."
- say **hotel regulars**

BUY RECYCLED PAPER
START NOW



STEP 5. RECYCLE EVERYTHING POSSIBLE AND PRACTICAL

Timing: ***effective immediately.***

Recycling achieves many goals:

a) Recycling reduces garbage & waste. Every pound of recycled material is one pound less going in landfill sites – and one pound less of potential pollutants dumped into our ecosphere.

b) Recycling reduces pick-up, hauling & dumping costs.

c) Recycling saves using natural resources to manufacture a replacement.
ITEM: Canadians throw out about 5,000,000 pounds of newspapers every day. If we recycled most of them, we'd save over 700,000 hectares of pulpwood forest annually – an area larger than Prince Edward Island! Not insignificant!

d) Recycled products use less energy and create less pollution during manufacture than products made from virgin resources.
ITEM: Compared with making glass from scratch, making glass through recycling reduces the energy used by 30%, air pollution by 20%, and water pollution by 50%.

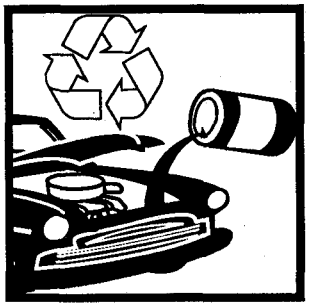
ITEM: Products using recycled aluminum consume 90% less manufacturing energy than "new" products, and cause 95% less air pollution than making virgin products.

Quick Facts on Saving Energy:
If Canadians recycled all the glass bottles and aluminum cans, all the newspapers, and 80% of the metal tins we use *every* year, we'd *save*:

In fuel:	**5,950,000 barrels of oil**
In air pollutants:	**83,000 tonnes**
In solid waste:	**143,500 tonnes**

- Recycling 1 glass bottle saves enough energy to power a 100-watt fluorescent light for a full 40-hour work week.
- Recycling 10 aluminum cans saves enough energy to power your TV set for a week.
- Recycling aluminum cans in 1988 (latest year for which complete figures are available) saved 11 billion kilowatt hours of energy – enough to power all the homes in New York City for 6 months!

RECYCLE EVERYTHING
IF POSSIBLE



e) Many recycled materials have a considerable cash value.
ITEM: A Northern Ontario village of less than 500 people bought a hay baler, modified it and used it at the local dump to bail discarded cardboard for recycling. In its first year of operation, the community had far less garbage than usual to dispose of, and they made a profit of $3000!

Chances are your hotel discards more cardboard per week than that village. So it matters – hugely.

"Once more 'round the engine block."
- say **all-around recyclers**

Here's What Your Recycling Program Should Include:

Fine Paper:
- Separate waste fine papers (e.g. office stationery, computer paper, menu cards, etc.) from ordinary paper scrap, and put it flat into bins marked 'fine paper', for regular pick-up.

- Check your local Yellow Pages under 'Recycling' for the names of firms which will collect, and possibly even pay for your used paper; or see the Green Contact List.

Newsprint/Telephone Books:
Blue-box programs recycle newspapers. If you don't have a local newspaper recycling program, start from scratch in cooperation with your city administration or with firms which collect and sell used newsprint. Phone books are recycled with newspapers in the same mills; and ask your telephone company about disposal of old phone books.

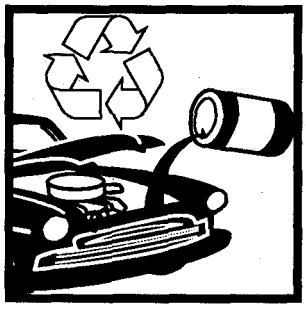
Cardboard:
- Some localities won't accept cardboard anymore as garbage. Loblaws, the supermarket chain, saved over $600,000 in one year by baling their used cardboard and sending it for recycling. (Think of the money you'll save in waste disposal charges alone.)

- Another possible solution: return the flattened, tied, cardboard boxes to the supplier for re-use.

- Otherwise, check with your recycling council or the Green Contacts List for firms which will buy your cardboard, or at least pick it up free of charge.

Cans:
- ALCAN – The Aluminum Company of Canada – will provide bins and bags for your aluminum waste, including cans, pie plates, foil, frozen food trays, window frames and siding. For phone numbers, check the Green Contacts List.

RECYCLE EVERYTHING
IF POSSIBLE



Organic waste:

- It's estimated 25 to 40% of our garbage is compostable. Contact Canadian Organic Growers for information on how to set up your own composting.
- Set up clearly marked separate bins in your kitchen for compostable material. (N.B. Meat, grease, bones and fish **should not** be composted.)
- Canada's long cold winters and short summers sometime discourage composting. Indoor composting year-round in a basement or other non-freezing area is perfectly good; or custom-build your own outdoor all-weather composter using acceptable insulating material.
- Use red wriggler worms to speed the composting process.
- Don't put grass clippings and yard waste **sprayed with toxic herbicides or pesticides** into the composter.

For everything you've ever wanted to know about composting – and more! – check with Federal and Provincial Departments of Agriculture, universities and community colleges; check your Green Contacts List; or buy:

The Rodale Guide to Composting
published by Rodale Press, Emmaus, Penn.
Available at most fairly large bookstores.

Used motor oils:

Don't pour used motor oil down drains or into ditches, or sprinkle on dusty roads. Dumped oil seeps into groundwater – eventually, your drinking water. One quart of oil can contaminate a quarter of a million gallons of water.

Disposing of your used motor oil in a responsible way is essential:

- If hotel drivers do their own oil-changes, save the used oil and take it to any large service station which recycles it and doesn't merely dump it.
- If vehicles are serviced elsewhere, use only a service station which recycles its used oil.
- **Laidlaw Waste Systems** picks up used oil – minimum, 45 gallon drum. It isn't refined, but used as fuel in incinerators.
- If you don't have access to a recycling facility, set used oil aside in a drum and dispose of it through the municipal program dealing with household hazardous waste.

Where to Buy Re-refined Motor Oil:

Re-refined motor oil is available from Petro Canada and other

RECYCLE EVERYTHING
IF POSSIBLE

petroleum companies, Canadian Tire, and some supermarkets. (For help, see Green Contacts List.)

Used Tires:
- Used tires are dangerous garbage. Have them retreaded; they're as durable and safe as new tires.

Big Batteries:
- Canadian Tire now accepts automobile batteries for recycling. If there isn't a store in your area, contact the nearest Recycling Council for guidance.

Small Batteries:
- Canadians throw out around 100 million small batteries every year, from tape-recorders, toys, flashlights, etc. These used batteries are hazardous waste; keep them out of the regular garbage, and send them to a toxic waste collection point. Your community will have one – call city hall.
- Buy rechargeable batteries, which last for years and more than pay back the cost of the recharger.
- Buy solar-powered calculators which don't use batteries.

Plastic containers:
- If you don't already have a P.E.T. plastic jug recycling program, call the soft drink companies which supply you.
- Mixed plastics are more of a problem. Unbelievably, there is a shortage of used plastic for recycling simply because plastic collection systems are not yet in place. Work with other businesses in your community to get one started.
- Domtar Inc. and Dow Chemical currently recycle these plastics, with collection points in Guelph and Toronto.

Bottles & glass containers:
- A 475-room hotel generates about 10,000 liquor and wine bottles a month, none of which should ever go into a landfill site.
- Recycling programmes are already in place in most cities. Check your Yellow Pages under 'glass manufacturers' and 'recycling' for companies who buy used glass.
  N.B. Some buyers insist the coloured and plain glass be separated.

Metal coat hangers:
- Never put metal coat hangers in the garbage. Return them to your cleaning establishment for re-use. Some cleaners will pay you for them.

RECYCLE EVERYTHING
IF POSSIBLE

Laser printer cartridges:
Laser printer cartridges are a problem??? Absolutely yes. If all the printer cartridges discarded last year in Canada were piled up, the stack would be about 16 ft. square and as tall as the CN tower – a BIG environmental problem!

And if you think that's bad, wait till 1993, when they're projected to sell almost four times as much – about 1,300,000 units, or 34% of the printer market. Happily, LaserNetworks franchises across Canada now offer a complete 'green' service for laser printers, that modifies whatever kind of cartridge you're currently using, so it can be refilled as many as 10 times. Addresses of LaserNetworks outlets close to CPH&R hotels and resorts can be found in the Green Contacts List.

Computer Printer Ribbons:
If your printer uses ribbons, re-ink them. A ribbon re-inking kit costs less than $100 and will pay for itself very quickly.

A New Source of Recycling Help:
Laidlaw Waste Systems, probably North America's largest garbage collector, transports waste to landfill sites and toxic materials to incinerators; and is developing a commercial system to recycle the following among others:

- newspapers
- computer paper
- coloured papers
- glass
- plastics
- magazines
- writing paper
- steel and aluminum cans
- corrugated cardboard

Numbers for Laidlaw Waste Systems are listed in the Green Contacts List.

RECYCLE EVERYTHING
IF POSSIBLE

Finally, most provinces have a Recycling Council. Some communities don't yet have recycling programmes for all of these categories of material. Talk with municipal officials; and call your provincial environment ministry. Many local municipalities run their own Waste Exchanges, generally organized through the local Municipal Works Department, and can be good sources of information.

Ask local community groups to help organize recycling programmes. (See Green Contact List for addresses.)

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STEP 6. REPLACE INCANDESCENT LIGHTS WITH FLUORESCENTS

Timing: *Start Now.*

Light bulbs must be replaced when they burn out – that's a fact of life. However, replacing with fluorescents can save your facility huge amounts of money.

1. Background on Saving Electricity.

What's a 'watt'?
Most people think a watt is a measure of brightness: a 100-W bulb can light a room; a 7-W bulb only works as a night light.

In fact, the watt is not a measure of light output, but of energy. For example, every 40-W bulb uses 70 watts of electricity; but the amount of light that 70 watts will give you can vary greatly, depending on the type of bulb.

What's a 'lumen'?
The lumen is the measure of light output: a 40-W incandescent bulb produces about 450 lumens; a 40-W fluorescent tube produces about 2150 lumens – nearly five times as much light! – and all with the same 70 watts of electricity.

What would you rather buy?: 450 lumens of incandescent light?; or 2150 lumens of fluorescent light for the same price?

Why You Should Replace Incandescents with Fluorescents:
Compact fluorescent bulbs that save you an arm and a leg in electrical costs are now available for use in incandescent fixtures. Example:

- A 13-W compact fluorescent bulbs gives the same light as a 60-W incandescent, lasts about 10 times longer, and uses 70% – 80% less energy than its incandescent alternative.

2. Types of Fluorescent: Single Units, and Two-Piece Units.

- single-unit fluorescents screw directly into the socket;
- two-piece fluorescents: the bulb screws into an adaptor base, or 'ballast' which screws into the socket.

Two-piece fluorescents cost more the first time, because you have

REPLACE INCANDESCENT LIGHTS
WITH FLUORESCENTS

to pay for both parts; but in the long run they're far more sensible, economical and environmentally friendly, because the ballast unit lasts indefinitely and you only pay for second and subsequent bulbs. *P.S. – You also save the energy and resources used to manufacture the ballast in the first place.*

Look At The Money You Save On Fluorescents!

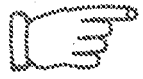
	60-W Incandescent	**13-W Compact Fluorescent**
Price tag #1 10,000 hours of reusable light:	10 bulbs $8	1 bulb + 1 adaptor $20
Price tag #2 Energy costs for 10,000 hours of light @ 5.5 cents/kWh:	$33	$9
Total Cost:	**$41**	**$29**

Cash savings from *each* fluorescent bulb: $12

When the fluorescent burns out, you replace only the bulb and not the ballast. This lowers the lifetime cost of your second and subsequent fluorescents from $29 to $19, and increases your savings from $12 to $22 per unit.

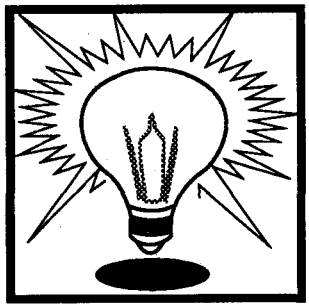
Let's assume that your location has 200 rooms, with an average of 7 seven light bulbs in each rooms. Let's also split the savings difference, and assume that each fluorescent saves you not $12, or $22, but $17:

200 rooms X 7 fixtures x savings of $17 per fixture = $23,000.



*CPH&R has 12,000 guest rooms across Canada. Assuming seven light fixtures per room, the cash savings to CPH&R on just one set of fluorescents would be **at least $1,428,000** over the lifetime of just one set of bulbs – and you repeat these savings every time you replace the bulbs.*

REPLACE INCANDESCENT LIGHTS WITH FLUORESCENTS



Still More Savings:

- Our calculations are based on normal retail costs, and don't take volume purchase discounts into consideration.

- Some power utilities offer discounts, even free fluorescents, to encourage businesses to switch to these energy-conserving units. Check with your power utility.

Environmental savings from retrofitting with fluorescents:
Over its lifetime, an 18-watt compact fluorescent lamp producing the same light as a 75-watt incandescent lamp, and for roughly 13 times as long, will save enough electricity to:

i] eliminate the emission from a typical **coal-burning generating plant** of:
- a ton of carbon dioxide greenhouse gas, which adds to global warming;
- approximately 8 kg of sulphur dioxide, which contributes to acid rain;
- plus oxides of nitrogen, heavy metals, and other pollutants.

ii] Avoid the production by a typical **nuclear generating plant** of:
- half a curie of strontium-90 and cesium-137 (two major components of high-level waste);
- about 25 mg of plutonium, equivalent in radiotoxicity to approximately 2,000 cancer-causing doses.

iii] During its lifetime, a single fluorescent bulb will make it unnecessary to finance, build or buy approximately $200-$300 worth of generating capacity, distribution lines and equipment.

Remember: all these savings are for the lifetime of just one bulb; every replacement fluorescent provides equally enormous savings.

"Think of the money!" - says **delighted conservationist**

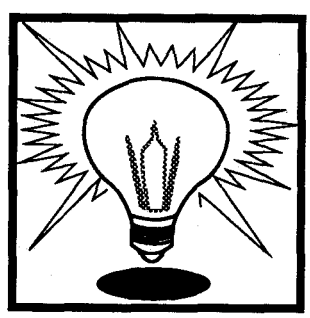
Other savings:
- Fluorescents need to be changed only once for every 10 times you must change an incandescent – a real bonus in time and money.
- Fluorescents don't get as hot as incandescents, an important advantage in recessed light fixtures, etc..

Both single-piece and 2-piece fluorescents are slightly longer than standard incandescents; check before buying to make sure they'll fit your fixtures.

Circular fluorescent tubes with adaptors can also be used in incand-escent fixtures. These are long-life bulbs, and save approximately 50% in energy use.

Start your fluorescent refitting program with reading lamps in all guest rooms and bathroom fixtures. Use a tent card in guest rooms to explain the conversion, and the environmental benefits.

REPLACE INCANDESCENT LIGHTS
WITH FLUORESCENTS



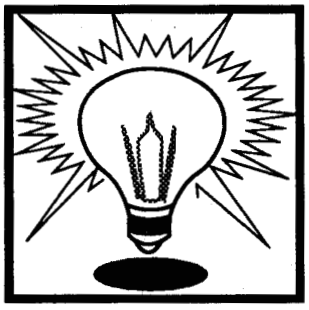
Fluorescent Tubes:
If you already have fluorescent tube fixtures, you have energy-efficient lighting right now. But you probably can still make improvements:

- When buying replacement tubes, ask for the special extra-efficient type. A standard, four-foot (1.2 m) fluorescent tube uses 40 watts, while the energy-efficient variety uses only 34 watts. That means another 15 per cent saving in power costs – and in energy generation.

N.B. Energy-efficient tubes don't always fit old fixtures; so be sure to take along the model number of your old tube to avoid a mismatch.

For major manufacturers of energy-efficient fluorescent bulbs in Canada, see the Green Contact List.

REPLACE INCANDESCENT LIGHTS
WITH FLUORESCENTS



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STEP 7: SAVE OUR PRECIOUS WATER: INSTALL WATER SAVING FIXTURES; IMPLEMENT A STANDARD HOT-WATER HEATING SETTING.

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Timing: *Start Now.*

Water Wasted = Energy Wasted!
Canadians are the world's second-heaviest water consumers. Only Americans use more water per day/per person – not least because they have proportionately more industry. Consider:

Country	Daily Water Consumption per person (liters)
Canada	4,125
Netherlands	2,512
Japan	2,528
Germany	1,869
Sweden	1,308
Great Britain	700
Denmark	651
Switzerland	291

Multiply Canada's daily per-capita water consumption figure of 4,125 liters by 4 (size of an average family) and then by 365 days: the average Canadian family consumes 6,000,000 liters of water every year!

Experts agree that we could easily reduce our water consumption by a third – 2,000,000 liters per family per year. The savings in energy needs and sewerage treatment facilities would add up to hundreds of millions of dollars, to say nothing of the savings to the environment.

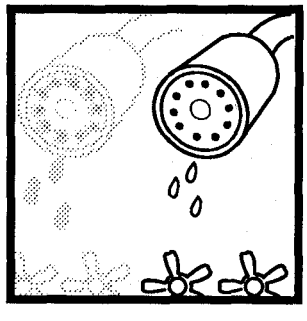
Why are other nationalities less wasteful of water? Swedes, Swiss, Brits and Danes don't go bath-less, or eat from dirty dishes. But they *are* more efficient.

Most of them pay **directly and visibly for the water they use, via water meters.**

We pay, too: but most of us pay an unrealistically low subsidized flat rate – and we pay the rest of the real cost of or water in hidden municipal, provincial and federal taxes.

A U.S. study found that homes with flat water rates sitting beside

SAVE OUR PRECIOUS WATER
INSTALL WATER SAVING DEVICES



homes with realistic metered water charges *used three times as much water as their neighbours.*

A Canadian example: Calgary does not have water meters; Edmonton does. *Calgarians use twice as much water as Edmontonians.* It's easy to use water when it seems cheap. **There is no free flush.**

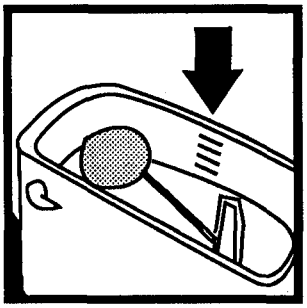
How We Use Our Water:
Here's how we use water, both in our daily lives , and approximately in CPH&R hotels and resorts:

Water Use by Function	**Percentage of All Water Used**
Washing, laundry & bathing	27%
Toilets	24%
Laundry	17%
Dish washing	14%
Drinking & cooking	10%
Outdoors (gardens/car washes)	8%

Note that one-quarter of our water literally goes down the toilet. And remember toilet water has been filtered, purified, chlorinated and pumped, at considerable expense. Those flows can be cut by at least two-thirds, an overall saving of more than 15% of our total water use!

Simple Ways To Stop Wasting Water:
When we think of wasting water in terms of energy and pollution, we usually think of ***hot water.*** But as you've just seen, a quarter of *all* the water is the cold water that goes through our toilets! Wasting cold water causes enormous energy and pollution problems, just as saving it can have enormous benefit.

SAVE OUR PRECIOUS WATER
INSTALL WATER SAVING DEVICES



The less cold water we use:
- the less we take from our dwindling clean water supply;
- the less water has to be treated by our utilities, at very considerable real costs in labor, chemicals and energy;.
- the less energy it requires to pump water under pressure through our systems to every building, house and hotel.

1. Fix Leaking Taps:
A dripping tap can waste 36,000 liters of water a year. We pay for every drop – in the energy to transport it to the water treatment plant, to purify it, to pump it, and finally to process it at a sewage treatment plant. **Install a new washer in that tap – it's cheaper.**

2. Check Toilets Regularly:
Put a couple of drops of food colouring into the toilet tank. If the colour leaks into the toilet bowl without flushing, check the seal at the bottom of the tank for leaks. ***Silent leaks in all of your hotel's toilet tanks can waste 300,000 liters of water a year.***

3. Put toilet dams in all toilet tanks to reduce water consumption. Commercial plastic toilet dams are inexpensive and widely available. Easily placed in the toilet tank, they reduce the water flow by up to 18,000 liters per year, without any guest inconvenience whatsoever!

Make your own "free" toilet dams: put pebbles or marbles in two plastic, one-liter soap or bleach containers, fill them with water, and stand them in the toilet tank, one on each side. You'll reduce water use, water costs and pollution while "recycling" some used plastic jugs. ***N.B.: Don't use bricks, unless they're ceramic.***

Pottery bricks erode and crumble quickly in running water, which could lead to very expensive plumbing repairs.

4. Retrofit or install Water-Saving Toilets.
Many makes of water-saving toilets are now available. For example, most European models use just 6 *liters* of water per flush, as compared to our 19 or 20-liter purges. You'll find some recommended names in the Green Contact List.

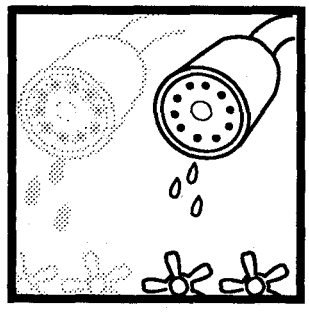
5. Retrofit or install Low-Flow Showerheads.
Where a conventional showerhead uses 15 to 30 liters of water a minute; a low-flow showerhead delivers only 7 to 10 liters a minute, and gives an equally satisfactory shower. Guests will be unaware of any change, unless you tell them; and you'll enjoy enormous savings in your hot water heating cost.

Tested in homes, these showerheads have saved 115 to 190 liters of hot water *per day* – much more with a teenager in the house. They're widely available from plumbing supply firms and hardware chains. For information on **Econo-Flo, Ener-Jet** and other brands, see the Green Contacts List.

6. Retrofit or Install Aerators or Flow Restrictors on all Faucets.
Normal faucets deliver 11 to 13 liters per minute; faucet aerators can cut that rate in half. Some units combine an aerator, flow restrictor and automatic cut-off, and use only 0.5 liters per minute – with no detectable difference in performance.

"Go for low-flow, Joe."
- says **one maintenance person to another**

SAVE OUR PRECIOUS WATER
INSTALL WATER SAVING DEVICES



6. Install Photo-Electric-Cell-Activated Facilities Wherever Beneficial.

Water-saving showerheads and faucets operated by photo-electric cells can generate huge savings in your public washrooms, pool areas, fitness centres and sports areas, and can pay-back their cost in 2 years.

- Showers in fitness and sports areas can be set with pre-mixed low-flow hot and cold water at a comfortable temperature, and turn on and off as the user steps in or out of range of the photo-electric cell.
- Urinals in public washrooms can be set to flush automatically as the user steps back from the basin.
- Soap dispensers can operate in the same manner, delivering soap when the palm is placed beneath the nozzle. A combination wall-mounted faucet/soap dispenser is often used in food-preparation areas.
- Automatic hand-dryers save energy by starting as hands are placed beneath the dryer, stopping when they're withdrawn. (Traditional hand-dryers are often still blasting out hot air while the guest is getting into the elevator.)
- Lavatory cubicles and hotel rooms designated specifically for handicapped people are ideal places for flushing mechanisms operated by photo-electric cells which activate as the user leaves the toilet area.

Brand names of products mentioned above which use photo-electric cells are listed in the Green Contacts List. Most large plumbing contractors should carry them in stock.

Save Energy: Set Water Heaters at a Standard 130 Degrees

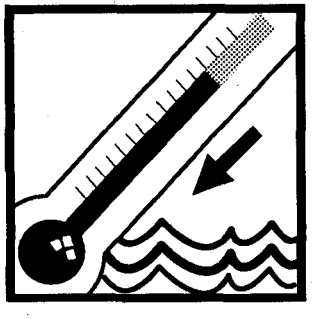
Most of our hotels now have hot water thermostats set at between 140 and 180 degrees F., heating water 24 hours a day that's used only 12 to 16 hours daily!

Except for dish-washing, hot tap water at 120 degrees fahrenheit is adequate; above that temperature, people have to add cold water to avoid being scalded in the shower. In large older hotels, this could mean setting thermostats at up to 130 degrees to allow for heat loss through lengthy piping systems to the guest rooms.

Simple Ways to Reduce Hot Water Waste:

- Ensure that all major hot water pipes and storage tanks are fully insulated – and check the insulation regularly.
- Drain and flush your hot water tanks at least every six months to prevent scale build-up and deposits which can reduce heating efficiency.

SAVE OUR PRECIOUS WATER
INSTALL WATER SAVING DEVICES



- Have all gas or oil burners serviced regularly.
- Check all hot water thermostats frequently: setting temperatures where you want them is pointless if the thermostats are malfunctioning.
- Clean and recondition hot water temperature mixing valves at least annually.
- Remove exterior scale buildup from electric hot water heater coils at least annually. With immersion type hot water heaters installed into the boiler shell, remove and clean scale from interior and exterior coil surfaces.

Save on Hot Water in the Kitchen:

- Reduce dishwater hot water temperatures to the lowest temperature allowed by health regulations.
- Position hot water boosters within 5' of dishwashers; insulate the pipes; and shut off boosters when not needed.
- Don't turn the dishwasher on till it's fully loaded; it uses the same amount of energy and hot water full or empty.
- When the main dishwashing rush is over, turn off the booster heaters and accumulate dishes until next rush period.
- Turn the water heater down to 24 deg. C (75 deg. F) when the kitchen closes; turn back up 2 hours (or appropriate warm-up time for your particular unit) before opening.
- Check rinse water regularly for excessive temperature.

Point-of-Use Hot Water Heaters for Public Washrooms and Remote Locations:

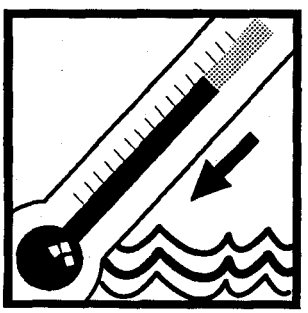
Compact, self-contained point-of-use (or "point of demand") instant electric water heaters mount directly above or below the basin or tub, and eliminate the heat loss from storage tanks or lengthy hot water supply lines.

Almost all French and German homes and hotels are equipped with point heaters; and use only one-tenth as much energy as is used to heat water as in Canada!

Their great virtue is that they don't simmer all night, while hotel guests are sleeping, or all day, while rooms are not being used, but are "on" only when and as needed. They're also ideal where the demand for hot water is light – as where people are merely washing their hands briefly.

Wherever practical, retrofit guest room bathrooms with point heaters set at a sensible 120 degrees. Set the thermostats of point

SAVE OUR PRECIOUS WATER
INSTALL WATER SAVING DEVICES



heaters in public washrooms no higher than 110 degrees.

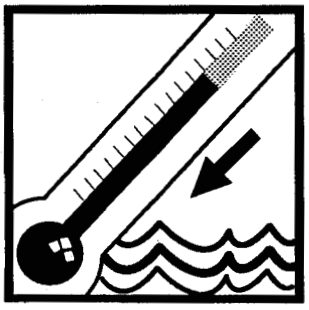
Solar Water Heating:
Solar water heating is a long established and well proven method of heating water that can help cut heating costs even during Canada's shortest winter days.

In the hospitality industry, solar water heaters are most commonly used for heating swimming pools and for pre-heating water. Obviously, water pre-heated by solar energy uses less of other forms of energy to raise the temperature to the desired levels.

Generally, solar heating installations recover their costs in about 5 years, after which time they supply "free" hot water with minimum maintenance.

Wash in Cold Water, Wherever Possible.
In the laundry, *all* clothes and linens should be washed in the coolest water which will do the job. Experiment with cold water washing and rinsing; it usually does the job just as well as hot water, except for very heavily soiled washloads. Washing with cold water will also save on ventilating and air conditioning the laundry during hot weather.

SAVE OUR PRECIOUS WATER
INSTALL WATER SAVING DEVICES



STEP 8: BUY ORGANIC FOODS WHEREVER POSSIBLE AND PROMOTE THIS FACT TO YOUR GUESTS

Timing: *Start Now.*

Are Organic Foods Important to Consumers? Absolutely!

In 1988, Agriculture Canada commissioned Baseline Market Research of Fredericton, N.B., to do a major consumer attitudes survey on organic food in homes all across Canada, from Halifax to Vancouver.

The Report included these findings:

- **Even among Canadians who do not buy organic foods at present, 70% of respondents stated they would buy them if they were easily available.**
- **77% would buy organic fruits and vegetables.**
- **65% would buy organic meats if they could.**
- **53% would willingly pay up to 25% more for organic foods. – 25% of those polled in the Vancouver market area (where awareness of organic food is highest) would pay up to 50% more for organic foods.**

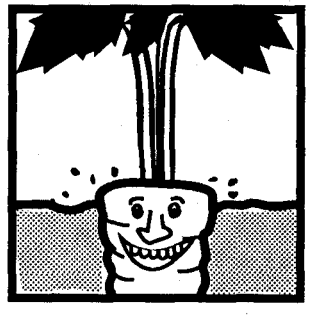
Consumer demand for organic foods has grown dramatically since 1988. Here's why those polled prefer organic foods to "commercial" food products:

1) 87% said they were healthier.
2) 85% wanted fewer chemicals in their food.
3) 78% said they were more nutritious.
4) 72% said they tasted better.
5) 66% said they were of higher quality.

Organically-produced food is healthier for you, and infinitely better for the environment. Organic food uses no pesticides, herbicides or chemical fertilizers – so our soil, water and air are relieved of the toxic chemicals used by conventional, modern agribusiness methods.

Genetically-Engineered Foods:
Today's genetically-engineered and chemically-treated "designer" foods are likely to be more symmetrical, more even in colour, and more resistant to bruising during shipment. But at what price?

BUY ORGANIC FOODS
PROMOTE IT TO YOUR GUESTS



One "engineered" species of California-grown tomatoes is designed to withstand shocks during shipment of up to 13.4 mph without bruising. Its benefits to consumers are minimal, and the hazards to unpopular opera singers or politicians are considerable. Would you want to be pelted with a tomato guaranteed to survive a 13.4 mph collision?

On the other hand, an organically-grown tomato can have up to 1900 times more iron, for example, than those bruiseless babies.

Happily, consumers prefer natural organic produce by a margin of three to one. Quebec consumers are more concerned about buying organic foods than any other Canadians; and their *demand for most organic foods exceeds the supply by about ten times.* Quebec already has about 300 certified organic farmers; and the provincial government estimates that 30% of all provincial farmers will go organic before the year 2000.

One reason Canadian supermarkets are short of organic produce is the much greater awareness of and interest in organic foods in Europe. Canadian and American *organic grain* producers ship thousands of tons of their produce to Europe. (Generally, European buyers won't even order the grain until their inspectors have travelled to Canada to inspect the farms.)

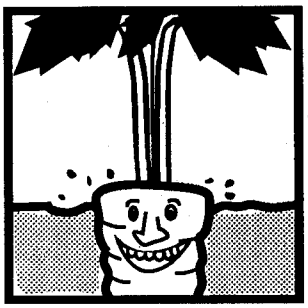
How to Identify Organic Foods:
In Canada, look for the "OCIA" label or standard on food products. OCIA – Organic Crop Improvement Association – is your best guarantee that food you buy is produced organically. (N.B. The OCIA label or logo is not given to a particular farm or farmer but only to individual food products, each year.)

Canadian farmers wanting "certified organic" labelling on their produce must undergo stringent inspection, and meet rigid production standards. Farmers can't even apply for organic certification of food they produce until their land has been chemical free for at least three years.

In Ontario, OCIA inspects all organic producers for certification. OCIA is self-policing, and producers belonging to this association **cannot** use the OCIA label or logo unless their food meets the OCIA organic food definition.

Your best place to find organic foods is probably in your own hotel garden, if you have one, and if it's been free of any chemicals for the past three years.

BUY ORGANIC FOODS
PROMOTE IT TO YOUR GUESTS



Foods trumpeted as *"fresh"*, *"natural"*, *"green"*, *"pure"*, or whatever are not all necessarily organic. Those words are in no way regulated or monitored by our government, or for that matter, anybody else, and can mean whatever food distributors want them to seem to mean.

Addresses for Organic Organizations across Canada are in the Green Contacts List.

"Those are some carrots!" - says **guest who enjoyed meal**

Organic Wines:
Here's a quote for your dining room wine card, from French wine maker Pierre Barron:

"Drink little but drink well, and drink natural wine in order to drink for a long time."

Canada does not produce organic wines. However, Canadian provincial liquor control boards will import *any* wine for a customer with a minimum order of 1 case (12 bottles.) In Ontario, a few organic wines are now stocked in small quantities by government liquor stores. Organic wines which do not contain additives are in the Green Contacts List.

Organic Beers:
With the rise of huge commercial breweries after World War Two, and the explosive growth of the chemical industry, brewers came to rely more and more on chemical aids as quick and economical substitutes for pasteurization, and other uses.

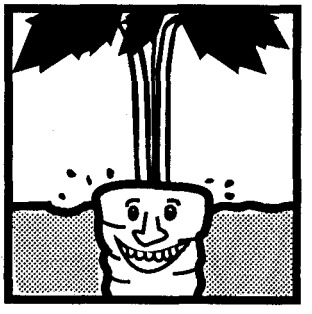
Some of the chemicals used were very heavy duty, such as cobalt salts, then in common use as a foaming agent. (Here's a simple home test to see if there's a chemical foaming agent in your beer: Put a drop of milk in the glass; if there's no foaming agent, the head will collapse within a couple of minutes.)

There's also the question of possible pesticide, fungicide and herbicide residues in your beer from the barley, hops and other field crops used to make it.

Your best guarantee of safe, natural organic beer is to buy only from a Canadian micro brewery which buys its malt, barley and hops only from organically-certified farmers, and produces additive-free beer and ale. Natural organic beers taste better, and are also better for our environment – and most serious beer drinkers will happily pay a premium price for them.
The names of most of Canada's Micro Breweries can be found in the Green Contacts List.

As you go organic, be sure to brag about it. Signpost your buffet

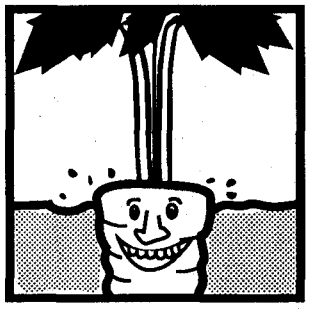
BUY ORGANIC FOODS
PROMOTE IT TO YOUR GUESTS



tables to advertise your organic produce. Your guests will appreciate it.

Insist that your food suppliers seek out and provide you with organic foods and free range fowl. Ask the Canadian Organic Growers (COG) to help you find suppliers. COG's address is:
Canadian Organic Growers,
P.O. Box 6408,
Ottawa, Ontario
K2A 3Y6

BUY ORGANIC FOODS
PROMOTE IT
TO YOUR GUESTS



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STEP 9: ESTABLISH A GUEST RECYCLING PROGRAM WITH A COMPACT 'BLUE BOX' IN EVERY ROOM.

"Room with a view and a blue box too." - say **enthused guests**

Timing: *Start Now.*

In very real terms, this participatory guest room recycling program will be a major selling point and demonstration project for the CPH&R Green Program.

i] It's highly visible to every guest – tangible evidence that CPH&R is not just issuing press releases and making slight, cosmetic changes, but acting in a positive way.

ii] It's an ideal way to invite guests to participate in our program. The guest room Blue Boxes make *every guest* a hands-on participant. And as any social psychologist will testify, individuals who play an active role, however small, in any project, immediately find themselves strongly supportive of and committed to that project.

Logistics of the Guest Blue Box Program:

- Try to get Blue Boxes at a discount from recycling manufacturers in return for free promotion of their recycled products; or send your recyclable plastic to the company in return for a supply of boxes.

- Another procurement possibility: ask your municipality, provincial environment ministry or recycling commission to provide Blue Boxes free of charge.

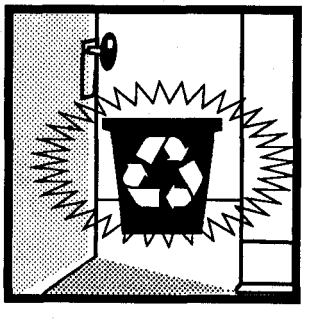
- Put a brochure in every guest room, asking guests to deposit all glass bottles, plastic containers, tins, newspapers and magazines in their Blue Box; point out that the boxes are made of recycled plastic.

- Supply each housekeeping cart with a large container for the contents of guest room Blue Boxes; e.g. a large green heavy canvas sack suspended from the end of the cart and prominently labelled with the CPH&R Green Logo and slogan.

- Put large storage bins in each guest floor's supplies station, where housekeepers can empty their containers.

- Sell all saleable materials collected from the guest rooms. Use any profits to buy more boxes, or add them to your "green

GUEST RECYCLING PROGRAM
A BLUE BOX IN EVERY ROOM

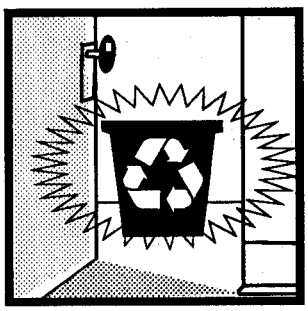


account" to finance in-house environmental programmes or to help support community environmental activities.

Good environmental citizenship is always good business! Tell your guests, and your suppliers:

"We've appointed Mother Nature to the CPH&R's Board of Directors!"

GUEST RECYCLING PROGRAM
A BLUE BOX
IN EVERY ROOM



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STEP 10: SET UP PROGRAMS FOR REDISTRIBUTING USED AMENITIES TO CHARITY

"Where'd all the soap go?"
- asks **concerned guest**

Timing: *Start Now.*

When guests check out, the soap and amenities they leave behind are thrown away—even if they're only partially used. Without a recycling program, a large hotel such as the Banff Springs could send up to a thousand bars of soap to landfill every day. That's a lot of solid waste!

Canadian Pacific Hotels & Resorts aims to make our used amenities useful to those in need, by donating them to shelters for the homeless, food banks and women's shelters. Many hotels are working through their local branch of the United Way; some are working through missions which send the soap and shampoo overseas.

Your hotel green committee should go ahead and seek out local organizations which could use your amenities.

How we can all help

- Call your local United Way office to ask about local shelters and programs which might be interested in taking your amenities

- Contact local nursing homes, halfway houses and similar agencies. Try asking your local service club or community group to help you find a worthy recipient.

Other ideas:

In certain communities, it may not be possible to locate an organization willing to take your soap and shampoo. This doesn't mean you should send it to landfill! Here are some alternate suggestions for handling used soap:

- Start up a pilot project in your laundry: in some machines, flaked bar soap can be used instead of commercial laundry detergent. If this works well in your laundry, it's a great way of using guest room soap.

- Flaked bar soap can also be used to clean floors and walls

REDISTRIBUTE USED AMENITIES
DONATE IT

All CPH&R hotels should be re-using and/or recycling all soap, shampoo and conditioner by the end of 1992.

REDISTRIBUTE USED AMENITIES
DONATE IT

STEP 11: ESTABLISH A TOXIC WASTE DISPOSAL PROGRAM TO IDENTIFY AND PROPERLY DISPOSE OF ALL TOXIC WASTE

"I'm gonna miss pollution."
- says **chemical sludge inspector**

Timing: *Immediate.*

Without a proper program of toxic waste disposal, toxic liquids are poured down sinks, and toxic solids go into regular garbage. Eventually, both kinds get into our precious groundwater.

Almost every non-organic commercial cleaning, disinfecting, deodorizing or painting product is toxic:

Solvents	Varnishes	Oil-based paints
Herbicides	Fungicides	Pesticides
Oven cleaners	Air fresheners	Mothballs
Permanent ink markers	Office "white out" fluids	Carpet cleaners
Acrylic floor polishes	Furniture polish	Motor Oil
Lubricating oil	Aerosols	Kitchen grease
Photocopying fluids	Batteries	Pool chemicals
Shoe polish	Metal polishes	Spot remover, etc.

How To Dispose of These Dangerous and Illegal Pollutants:

1. Clearly label a container **'Hazardous Waste'** and set it apart from the regular trash bins.
2. Post and update a list of all items which must go in this container.
3. Ask your municipality for the approved way of disposing of hazardous waste, and the location of collection depots.

The Sure Way to Wipe Out Toxic Wastes: Stop Using Them!

a) Use only Water-Based Paints. Don't wash your dirty brushes in running water: soak them clean in a water-filled can and when the paint has settled to the bottom, pour away the water and put the paint sediment in your toxic waste disposal bin. For some environmentally friendly paints and wood finish sources, see Green Contacts List.

b) Don't Use Commercial Air Fresheners. Commercial air fresheners often contain toxic chemicals such as ethanol, xylene, napthalene etc. They don't 'freshen' air, but mask odors either by overpowering them with a stronger scent, or worse, deadening your sense of smell. Replace them with small containers of vinegar and lemon juice, or small wicker baskets of

TOXIC WASTE PROGRAM
START NOW

potpourri, which is much more attractive and more environmentally friendly.

c) **Mothballs.** They're made from paradichlorobenzene – which can be very harmful to liver and kidneys. A natural, safe alternative to keep drawers and storage closets fresh: cedar chips or cedar oil.

d) **Permanent Ink Markers or Pens.** These contain extremely toxic chemicals like toluene, xylene, ethanol. Buy water-based markers and pens instead.

e) **No-Iron Permanent Press Bed Linens.** These linens are permanently impregnated with formaldehyde which continues to give off gas despite repeated washes. Buy only natural, untreated linens.

f) **Oven Cleaners.** Their active ingredient is lye – a lethal corrosive you don't want to flush down the drain. Substitute a sprinkle of water, followed by layers of baking soda. Tough spots can be scrubbed with fine steel wool. Another alternative – a dish of ammonia left in the oven overnight should loosen greasy dirt sufficiently that steel wool will remove it.

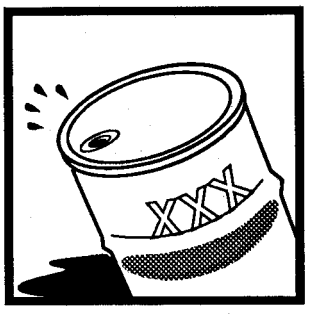
Make Your Own Non-Toxic Cleaners.

- **Non-Toxic Silver Polish.**
  Combine, in a large dish or pot:
  4 cups warm water
  1 Tbs. washing soda
  1 tsp. salt
  small piece of aluminum foil
  Soak silver in this solution until it's clean. When the foil turns black, replace it with a fresh piece.

- **Non-Toxic Scouring Powder.** Commercial scouring powders contain silica, feldspar, volcanic ash, clay fillers, phosphate builders and some surface-scratching corrosives. 2 good alternatives:
  a) mix baking soda with a little water.
  b) mix together:
  1/4 cup Ivory Snow flakes
  2 tsp. borax
  1 1/2 cups boiling water
  1/4 cup whiting (a chalk powder from hardware or paint stores)

- **Non-Toxic Heavy Duty Floor and Furniture Polish.** Save both the environment and a lot of money:

TOXIC WASTE PROGRAM
START NOW



Mix 1 tablespoon of carnuba wax (from auto supply stores or hobby shops) with 2 cups of mineral oil and heat in a double boiler. Cool. Apply with soft rag.

- **Non-Toxic All-Purpose Cleaner.** Ideal for bathroom fixtures, floors, kitchen counters, tiles and painted walls, as well as deodorizing drains:
  Mix together:
  1/2 cup ammonia
  1/3 cup washing soda
  1 gallon warm water

These are just a few examples of the scores of alternatives to extremely toxic and expensive commercial preparations.
An entire book devoted to recipes for non-toxic, non-polluting cleansers is:

The Natural Book for Home & Yard
edited by Dan Wallace;
published by Rodale Press Inc., Emmaus, PA 18049.

TOXIC WASTE PROGRAM
START NOW

STEP 12: ESTABLISH A GREEN CORPORATE PURCHASING POLICY WITH MINIMUM ENVIRONMENTAL STANDARDS

Timing: *Start Now.*

Purchasing for CPH&R is like buying supplies for up to 12,000 households!
Our large volume gives us the influence to **insist** that suppliers provide more nature-friendly products and packaging. When we exercise that influence wisely, the ripple effects can help society at large: as suppliers develop simpler packaging and more green products to meet our needs, those new initiatives will also become available to other purchasers, and to the public at large.

Use the Federal government's "Environmental Choice" standards to set your program's minimal environmental standards. But *don't* wait for Ottawa to approve "Environmental Choice" products in new categories; it takes up to two years or more to develop approval for products. Where there are no standards, use your common sense *and* your muscle with CPH&R suppliers instead.

Equally, be skeptical of "green" labels and manufacturers' designations. For example, it's legally correct to claim that tetrapaks and disposable diapers are "recyclable" or "compostable". Sure they are; so is plutonium. But in the real world, they're neither recyclable nor compostable; so don't buy them.

GREEN PURCHASING POLICY
START NOW

Use the Knowledge You've Gained from this CPH&R Green Partnership Manual to Develop Your Green Shopping List.

1. Begin with a Few Fundamental Questions about every Purchase:
i] Do we really need this? If the answer is NO, don't buy it.

ii] Does this product damage the environment? If the answer is YES, don't buy it.

iii] Is there a more nature-friendly alternative? If the answer is YES, buy ***that*** one.

2. Buy in Bulk, to Reduce Costs and Packaging Waste.
Don't buy individual or single-serving packages, particularly restaurant and kitchen supplies.

3. **Reject packages and containers that can't be returned, reused or recycled.**

4. **Don't buy single-use, throw-away or 'disposable' anything – whether it's for the newsstand, the gift shops, or for hotel supplies.**

5. **Always opt for products that are natural, organic, chemical-free and synthetics-free.**

6. **Buy recycled items whenever/wherever available.**

Purchasing Check List – DO'S and DON'TS:

- **Do** buy all beverages in returnable bottles or recyclable containers.
- **Don't** buy bottled soda water for your bars and restaurants: instead, buy carbonators and syphons which are re re-usable for years, cheaper, and environmentally-friendly.
- **Do** launderable linen napkins instead of throwaway paper. Don't stock tampons which come with plastic applicators and are over-packaged.
- **Do** replace incandescent light bulbs with energy-saving fluorescents.
- **Don't** buy throw-away plastic cutlery, styrofoam and non-degradable waxed-paper cups and plates.
- **Do** buy battery chargers and rechargeable batteries.
- **Don't** accept any more plastic egg cartons; or foam plastic food trays under meat, fruit or vegetables.
- **Do** buy shampoos and cleaning supplies in bulk, together with refillable containers.
- **Don't** ever accept any product packaged in styrofoam.
- **Do** buy re-inking units for the ribbons in computer printers.
- **Don't** throw away printer cartridges for your laser computer printers – recycle them.
- **Do** buy solar-powered items whenever possible.
- **Don't** buy environmentally-hostile oil-based paints and toxic wood finishes.
- **Do** buy only nature-friendly non-phosphate cleansers and detergents.
- **Don't** buy aerosols.
- **Do** buy pump spray dispensers.
- **Do** retrofit with water-saving toilets, shower heads and faucet aerators.
- **Do** check out the cost-benefits of photo electric cell start-stop flow controls for washroom taps and urinals.
- **Do** consider retrofitting point-of-demand water heaters in guestroom bathrooms.
- **Do** purchase toilet dams to retrofit in guestroom bathrooms.
- **Do** buy only recycled toilet paper, facial tissue and paper toweling, fine papers, computer paper and stationery.
- **Do** check the energy-efficient "Energuide" label ratings when buying new appliances.

"Stick to the rules."
- says **friend of Mother Nature**

GREEN PURCHASING POLICY
START NOW

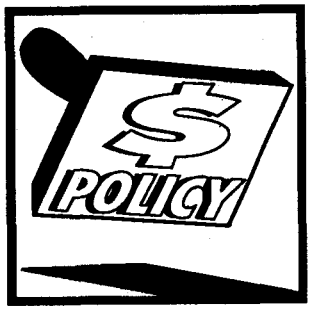
(cont'd)

- **Do** use the federal "Fuel Consumption Guide" to select the most environment-friendly and economical models when buying or leasing vehicles.
- **Do** buy only re-refined motor oil.
- **Do** buy and promote organic foods whenever possible.
- **Do** buy and serve natural 'organic' beers.

MOST IMPORTANT:

DO WORK YOUR CPH&R
GREEN PARTNERSHIP PROGRAM
EVERY DAY
OF EVERY WEEK
OF EVERY YEAR
IN EVERY FACILITY.

GREEN PURCHASING POLICY
START NOW



GREENING YOUR DEPARTMENT

2

INTRODUCTION

No department of *any* hotel can act in isolation. Just as each and every department has a vital role to play in guest comfort and satisfaction, it also has a vital role to play in environmental protection.

In the same way, every CPH&R green partner affects the role and function of every other green partner. Three quick and simple examples:

1) Kitchen staff will inevitably waste energy and add to needless pollution unless:
   - Repairs and Renovations paints the kitchens in light colours;
   - Purchasing provides green products;
   - and Plant Management ensures that vital equipment is in good repair, with thermostats correctly set.

2) Waste Disposal staff can't reduce garbage volume unless:
   - Purchasing reduces or eliminates unnecessary packaging;
   - Kitchen, Grounds and Golf Course staff compost scraps and yard waste;
   - and Kitchen, Housekeeping and Plant Management all cooperate in recycling.

3) Housekeeping can't reduce pollution and garbage unless:
   - Purchasing provides environmentally-friendly products;
   - and Plant Management institutes recycling programmes.

Just as your responsibilities as CPH&R green partners overlap, you'll find overlaps in this manual. Start by reading those parts which apply directly to *your* job. Then read the complete manual, and see how your work overlaps effectively with that of your colleagues. You need their help; they need your help; and Mother Nature needs all our help.

DEPARTMENT GUIDELINES

I. WASTE DISPOSAL

The goal of Waste Disposal is to dramatically reduce the waste we send for incineration or landfill. This is not possible without two major programmes:

ONE: Remove Unnecessary Potential Waste from the Waste Stream

Redirecting the flow-through of materials which are not to be considered anymore as "garbage" will result in huge reductions in our overall volume of "waste". Items to be taken out of the waste stream include:

- **Needless packaging** which should be rejected by every department in the hotel.

- **Everything that can be recycled:** including glass, tins, newspapers, cardboard, office and fine papers, many plastics, tins, batteries, motor oils, coat hangers, printer cartridges and ribbons, fine papers and telephone books.

TWO: Remove Everything That Can Be Composted

This includes:

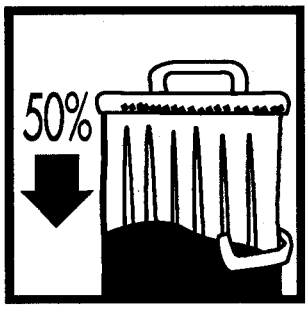
- **All organic kitchen wastes:** coffee grounds, tea leaves, egg shells, fruit rinds, salad leftovers, vegetable trimmings (but no grease, meats or fish).

- **Lawn and garden waste:** grass cuttings, pruning from shrubs and hedges, dead flowers and plants, leaves (but no garden waste that's been sprayed with toxic pesticides, herbicides or fungicides. Those poisons can kill the bacteria which make composting possible; and because many of them persist for months or years, they contaminate the compost for future use.)

OUR TARGET GOAL:
Reduce the overall volume of waste going to landfill by half – by the end of 1992.

We should – and can – do better than that!

WASTE DISPOSAL
50% BY 1993



Your in-house laundry is one of the most energy-intensive areas of your hotel's operation. Its use of energy per square foot may even surpass the kitchen.

HEAT LOST = ENERGY LOST = MONEY LOST!

If you could see an infra-red picture of your laundry area, you'd probably be astonished at the constant heat and energy losses.

Dirty machinery, motors and fans operate inefficiently, and use needless energy. Improperly fitting gaskets, poor insulation and open floor drains can all add heat and humidity to the room, increasing the air conditioning load (and cost). A proper maintenance program will eliminate these problems and improve working conditions.

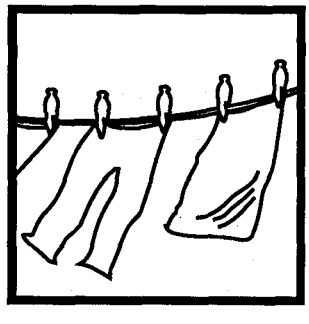
It may make sense to re-schedule your hours of operation. From 10 p.m. to 6 a.m. is the low demand time for energy. Consider using this time period, to help avoid high peak electrical charges (You may be surprised at just how many employees may prefer to work at night.)

Staggered employee lunch and break periods also help keep machinery in continuous operation. Heat is wasted when machines are idle.

A considerable amount of usable steam is left in the boiler and pipes at the end of the day. Try this: shut the boiler down five minutes earlier than usual and observe the results. Then extend the time a few minutes each day until you reach an optimum early shut-down time that doesn't affect production or quality. Unused steam is wasted money.

Don't overlook steam leaks, either. If steam, rather than liquid condensate, is passing through a trap, the trap is defective and should be repaired or replaced right away. For example:
A steam trap with a 3/8" orifice on a 100 psi line can waste up to 470,000 pounds of steam a month if it leaks. At a cost of $5 per thousand pounds, the waste would be $2,350 per month.

LAUNDRY
HEAT LOST=
ENERGY LOST=
MONEY LOST!



'Green' Laundry General Checklist:

- **Stop** using any phosphates and harmful chemicals.
- **Set** hot water thermostats at the minimum level needed.
- **Use** cold water wash whenever possible.
- **Operate** equipment during off-peak electrical load hours.
- **Have** all equipment cleaned and serviced regularly, and maintained at 100% efficiency.
- **Save** and re-use clothes hangers.
- **Recycle** all cartons, bottles and jugs.
- **Install** "station" lighting, and keep light fixtures clean.
- **Paint** walls and ceilings in light, reflective colours.
- **Turn** of all lights and equipment when not in use. (Remember: If it's not in use, turn it off!)
- **Don't** turn on washers and dryers till they're full.
- **Don't** use chemical fabric softeners; instead, add a bit of vinegar to the rinse water.
- **Don't** use commercial, chemical-impregnated anti-cling products; a wet towel in the dryer works the same magic!
- **Send** "perc" cartridges for recycling if your laundry does dry cleaning.
- **Don't** use aerosol products. If you use starch, put it in pump dispensers.
- **Make** your own non-chemical starch for the laundry. Simply add 1 tablespoon of cornstarch to 8 oz. water and mix: much cheaper, and just as effective.

Laundry Management Checklist:

- **Clean** walls, ceilings and light fixtures regularly, to reflect maximum light.
- **In** cooperation with your detergent suppliers, experiment with non-phosphate cold water washes.
- **Heat** water only to the temperature absolutely needed.
- **Install** separate light switches to turn off lights in low-use or naturally lighted areas, or connect them to timers.
- **Colour-code** individual switches in multiple-switch installations to identify which lights they control, and which switches to leave on (or turn off when not needed).
- **Do** laundry during non-peak times, when less equipment and energy are being used in other areas.
- **Institute** regular employee training on proper equipment use.
- **Install** fluorescent lights; they use about 1/3rd the electrical energy used by incandescents.
- **Repaint** with light colours only, to reflect light.
- **Shut** down boilers as soon before the shift end as is practical.

LAUNDRY
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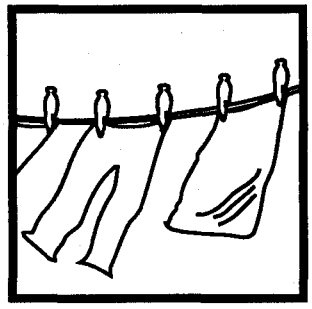

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- **Place** light sources as close as practical to the work area.
- **Install** timers on all equipment.
- **Install** insulated covers on dryers to reduce heat loss.
- **Ensure** that your preventive maintenance program is in full operation.

"Full loads only!" - says **former rocket scientist**

Laundry Operating Procedures Checklist:

- **Operate** machines with full loads only; they use the same energy whether full or not.
- **Sort** dirty clothes according to type and soilage, and wash with minimum cycle necessary for each type.
  ➧ Sort clothes to be dried by type; dry with the lowest temperature and shortest adequate time cycle.
- **Use** the extractor cycle correctly; it's more energy-efficient than heat drying.
- **Schedule** dryers to operate continuously, so as not to waste residual heat built up during the previous load.
- **Clean** lint traps at least twice a day.
- **Check** lint build-up in other parts of dryers daily.
- **Run** ironers as little as possible; minimize warm-up time; heat only to minimum temperature needed; turn off when not in use.
- **Use** timers to avoid running equipment longer than necessary.
- **Immediately** report any malfunctioning equipment, water and steam leaks, or clogged drains.
- **Never** leave faucets running.
- **Turn** off lights, heating and cooling systems at the end of the work day.
- **Cool** laundry room with normal outside air when practical.
- **Turn** off all lights in areas not being used.

Laundry Maintenance Procedure Checklist:

A. Washers:

- **Make** sure control valves are working properly, and don't leak.
- **Check** belt-driven models for tightness of belt and alignment of pulleys.
- **Lubricate** motor as needed; clean off lint, dust and dirt.
- **Have** service rep clean and adjust gas model burners.
- **Ensure** washer timers are all working correctly.

B. Dryers:

- **Check** heat recovery equipment; clean waste-heat exchangers, and periodically check efficiency.
- **Always** check front-to-rear level of tumbler baskets or cylinders. An out-of-level basket axis can result in uneven loading of materials and substantial waste of heat energy.

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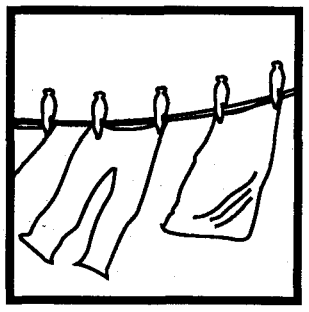

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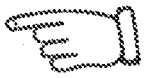
- **Verify** rotating speed of tumbler at full load. If speed is too low, fabric surfaces aren't fully exposed to the drying air, and energy is wasted.
- **Keep** bearings on all rotating equipment well lubricated to reduce friction and the resulting waste of energy.
- **Check** fan speeds in tumblers and dryers. If fan operates below optimum speed, drying time will take longer.
- **On** direct-gas-fired equipment, ensure that burner gas holes are clear.
  ➧ Set all direct-gas-fired equipment at the manufacturer's exact recommended firing rate. Higher or lower firing rates waste energy.
- **Ensure** all timers are operating properly.

C. Extractors:

- **Ensure** that extractors and their timers are working correctly; the more water removed by the extractor, the less the dryers must evaporate, saving both heat and energy.



D. Ventilating, Cooling & Heating Systems:

- **Check** the laundry for negative pressure. Insufficient make-up air to satisfy the exhaust blowers can lead to faulty operation of tumblers and dryers; and may also cause incomplete combustion in direct-fired units, with a resulting waste of fuel.
- **Take** make-up air from outdoors rather than from air conditioned spaces.
- **Clean** or replace filters on ventilating units regularly.
- **Keep** all exhaust and supply systems fan housings clean.
- **Check** proper operation of waste heat recovery units and correct leakages in water-filled or glycol-filled systems.
  ➧ Clean heat exchangers, ductwork and filters. Check for drainage from icing. Verify all timers, temperature controls, damper mechanisms and valves.
- **When** using an air-to-air waste heat recovery system, duct the heated make-up air directly to process dryers, rather than back into open laundry area.

Hot Water & Steam Checklist:

- **Inspect** systems frequently for leaks.
- **Test** and adjust hot water heater controls to avoid overheating.
- **Check** insulation on hot water storage tanks, pipes and steam lines; insulate any hot spots.
- **Drain** and flush hot water heater tanks semi-annually; more often with exceptionally hard water.

LAUNDRY
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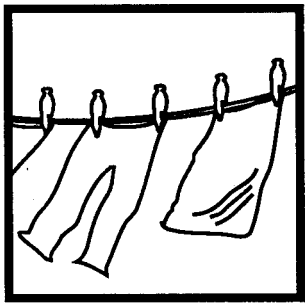

Lighting Checklist:

- **Check** cleanliness of fixtures, bulbs, ceilings, walls and windows; dirt can reduce lighting efficiency by as much as 50%. Test effectiveness of cleaning by measuring a fixture's footcandles with a light meter before and after cleaning.
- **Have** the workers in each area help decide on proper light levels; Individuals' light requirements vary according to age and physical condition; and productivity suffers if light is not adequate.
- **Move** switches, if necessary, so they're convenient and visible; employees are more apt to help conserve energy if it's easy.
- **Install** additional switches in areas that don't always require full lighting, so that only lights which are needed are turned on.
- **Use** light switch stickers to remind staff to 'switch-off' when leaving a room.
- **Replace** resistance dimmer switches with solid state dimmers.
- **Rearrange** work stations where practical to share lighting.
- **Consider** 'task lighting' for employee work stations.
- **Ensure** that the maintenance department does the following:
  - ◗ check automatic lighting controls daily;
  - ◗ clean windows/skylights every 3 months or as required, (especially if you've got seagulls around);
  - ◗ clean lamps, fixtures, every 6 months or as required;
  - ◗ clean ceilings and walls as required.
  - ◗ Replace incandescent lighting with fluorescents wherever feasible.
- **Replace** existing fluorescent lighting with 'watt-saver' or 'watt-miser' tubes, which use less energy with only a minor reduction in light output (e.g. replace 40W tubes with 35W; 75W tubes with 60W).
- **Use** natural light when possible, except when it interferes with temperature controls.
- **Use** the minimum amount of light needed in your work area, and turn lights off when leaving the room for 15 minutes or more.

Water Checklist:

- **Drain** and flush hot water tanks every six months at least to prevent efficiency-reducing scale build-up and deposits.
- **Service** gas or oil burners regularly.
- **Test** all thermostats regularly.
- **Investigate** the possibility of solar water heating, which generally pays for itself in 5 years or less, after which it supplies 'free' hot water.

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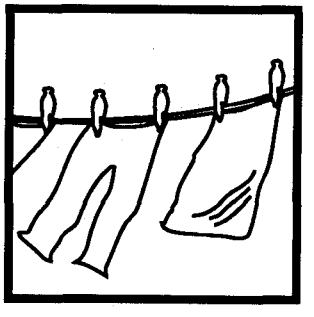

Water Maintenance Checklist:

- **Repair** any leaks in water piping system.
- **Repair** or replace leaky faucets, toilets, pump glands and valves.
- **Clean** and recondition hot water temperature mixing valves at least annually.
- **Check** insulation on hot water pipes and storage tanks frequently.
- **Flush** hot water tanks every 6 months, more frequently with very hard water; remove accumulated solids and sludge.
- **Remove** exterior scale buildup from electric hot water heater coils at least annually.
- **With** immersion type hot water heaters installed into the boiler shell, remove and clean scale from interior and exterior coil surfaces.
- **Check** water storage tank temperature controls every 6 months.
- **Test** all hot water controls and adjust if necessary.
  ➧ Check the steam trap on steam hot water heaters; if it is leaking steam, repair or replace it.

To achieve your Green Partnership goals, you'll need the help of many other departments such as Purchasing, Plant Management, and Repairs and Renovations. Ask for their help, and discuss any special needs or problems with your environment committee.

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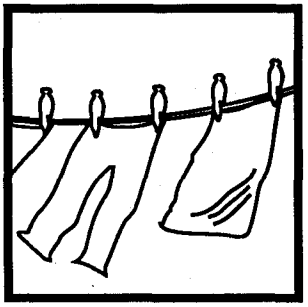


III. KITCHEN

The Kitchen and the Laundry are the two areas in any hotel which waste the most energy, produce the most pollution – and can create the greatest savings to both the environment and the hotel budget.

The recommended changes and checklists on the following pages are designed to help improve both the quality and the quantity of your working hours. By following them, wherever possible:

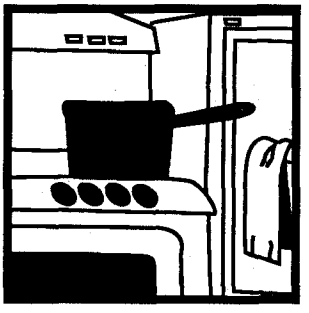
- Your kitchens should become much more pleasant work spaces.
- The quality of the meals they serve should improve.
- You should enjoy savings of at least 1/3rd in energy consumed, waste sent for disposal, and hot water used.
- Your equipment should operate much more efficiently.
- Repair and replacement costs of major equipment should be substantially reduced.

Review the check-lists carefully. Identify any special needs and/or operations. To achieve your objectives, you'll need help from colleagues in many other departments: don't hesitate to ask for it. And talk with your environment committee about specific concerns and problems.

Kitchen 'Green Partnership' Checklist:

- **Eliminate** energy waste. (If it's not in use, turn it off!)
- **Eliminate** food waste.
- **Compost** everything suitable.
- **Stop** accepting needless packaging.
- **Reduce** water heating wherever possible.
- **Recycle** all jars, bottles, jugs, tins etc.
- **Stop** using aerosols; substitute pump containers.
- **Stop** using "disposable" items or dishes; when existing supplies are gone, use only re-usable flatware and dishes.
- **Replace** paper napkins or table coverings with linen. Yes, linen! (Laundering linen wastes less energy, uses fewer precious natural resources, and produces less pollution than throw-away paper or plastic items.)
- **Use** only phosphate-free automatic dishwashing detergents. (Liquid dishwashing detergents don't contain phosphates.)
- **Use** non-toxic cleaners wherever possible. An entire book of recipes for non-toxic, non-polluting cleansers is: *The Natural Book for Home & Yard* edited by Dan Wallace published by Rodale Press Inc., Emmaus, PA 18049

KITCHEN
A 33% ENERGY SAVINGS



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- **Wipe** up spills with washable cloths instead of paper towels.
- **Install** photo-electric-cell activated faucets with pre-set temperatures where water is frequently used, as in a vegetable washing area or staff washrooms.
- **Set** up clearly identified and separate kitchen bins for:
  - recycling materials;
  - compostable materials;
  - regular garbage.
- **Inform** all kitchen staff what goes into each bin, and post prominent lists of acceptable contents above or near each bin.
- **Explore** the feasibility and cost-benefit aspects of retro-fitting kitchens with Sunfrost solar-powered refrigerators.

Kitchen Energy Savings Checklist:

20% to 30% of a hotel's total energy need is used in the kitchen. Restaurant kitchens run close to 80%. It's also been estimated that as much as 60% of the energy consumed in the kitchens is **not** used to cook food.

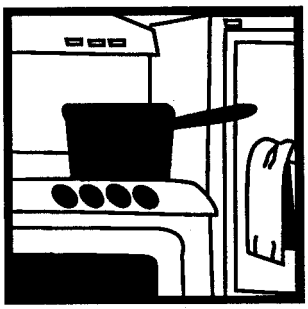
The first rule of the hotel or restaurant kitchen must be:
Don't turn it on till it's needed; turn it off when it's not needed.

Kitchen Maintenance Checklist:

- **Set** up a regular daily/weekly/monthly cleaning and maintenance schedule.
- **Kitchen** dirt, dust, grease and grime clog filters, air ducts, fans and burners and restrict proper heat flow.
  - Clean grills daily (or even each shift);
  - Train griddle cooks to scrape and clean as they work.
  - Clean fryers and filter the oil daily.
  - Clean burners every week.
  - Keep lights clean: a dusty bulb gives off only about two-thirds the light of a clean one but uses the same amount of energy.
- **Clean** windows every week.

These small items add together to create substantial savings.

KITCHEN
A 33% ENERGY SAVINGS



Kitchen Electricity Savings Checklist:

Your electric bill is determined by two factors:

a) a demand charge, the highest (or peak) kilowatt use for any short period during the month (usually a 15 or 30 minute period);

b) an energy charge, based on your total consumption in kilowatt hours.

Because the demand charge is expensive, it's to our advantage to keep our peak usage as low as possible. Have your local utility company explain how demand metering and time-of-day metering are applied, and how to reduce your peak demands.

(See the 'Demand Charge Savings' example in the Green Contacts List.)

Kitchen Water Savings Checklist:

Water uses lots of power – to pump, to purify and to heat. Inexpensive flow restrictor valves on faucets provide even pressure but control water flow, saving as much as 4 gallons of water a minute on each tap.

Kitchen Energy Conservation Quiz

Answer True or False!

1. Ovens should be turned on first thing in the morning, and left on all day in case they're needed.

2. Covering pots helps foods cook more quickly and reduces energy consumption.

3. Keeping a griddle clean improves its efficiency.

4. Keep the dishwasher working, washing dishes as they're received.

5. Always wrap potatoes in aluminum foil to speed baking.

6. Always preheat the oven.

7. To speed preheating, set the oven dial higher than needed.

8. Chilled and frozen foods should be stored a.s.a.p.

9. Turning lights on and off uses more energy than letting them burn all day.

10. Cover stand-by griddles to reduce heat loss.

11. Food cooks faster at a higher range-top temperature.

12. Kitchen exhaust fans must be on constantly while the kitchen is in operation.

13. Scheduling turn-on times of kitchen equipment helps conserve energy.

14. Washing vegetables under running water wastes little energy.

15. Deep fat fryers use the same amount of energy whether they're covered or uncovered.

Answers
1- false 2 - true 3 - true 4 - false 5 - false 6 - false 7 - true 8 - true 9 - false 10 - true 11- false 2 - false 13 - true 14 - false 15 - false

KITCHEN
A 33% ENERGY SAVINGS

Kitchen Energy-Saving Checklist:

- **Schedule** pre-heating times for ovens, grills, broilers, fryers and other cooking equipment following manufacturers' suggestions; and post prominently by each unit.
- **Cook** the largest volume practical; many foods can be volume-cooked and frozen till needed.
- **Consider** a blast freezer for large volumes of food, to save production time, operating time, and hours of labour.
- **Try** turning off ice machines from late evening till early morning. If their insulation and gasketing are efficient, temperature change will be minimal.
- **Group** your hot appliances – grills, ovens and warmers – as close together as possible – and as far as practical from refrigerators and freezers.
- **Investigate** the possibility of installing side walls on your existing exhaust hoods; codes generally allow for lower exhaust rates from cubicles than from hoods.
- **Size** your exhaust fans to meet minimum code requirements. Many exhaust systems are greatly 'oversized' to meet any eventuality and remove far more conditioned air than necessary.
- **Have** walls and ceilings cleaned regularly; clean light-coloured walls reflect and multiply light, and save on energy.
- **Schedule** cleaning for daylight hours to save on heating and lighting.
- **Reduce** dishwasher temperatures to the lowest allowed by health regulations.
- **Position** hot water boosters within five feet of dishwashers; insulate pipes to avoid heat loss; shut dishwashers off when not needed.
- **Fence** griddles on three sides to reflect heat onto food.
- **Hold** regular training sessions and refresher workshops on equipment use and maintenance, and energy conservation.
- **Paint** with light colours which reflect light; this reduces wattage needed for adequate working light.
- **Consider** installing automatic shut-offs for:
  - Variable speed hood exhaust systems;
  - Dishwashers (to shut off 1-2 minutes after last rack);
  - Intermittent exhaust fans, such as used over dishwashers (to shutoff 2 - 3 minutes after dishwasher shuts off).
- **Install** twist-on timer switches for all storeroom lights.
- **Coordinate** deliveries to eliminate unnecessary opening of freezers and refrigeration units.
- **Install** solenoids on garbage disposal units for automatic cut-off of water and electricity.
- **Install** an 'in-meat thermometer' with outside-oven gauge so you don't have to open oven doors to check roasting progress.
- **Consider** installing plastic strip freezer 'doors' to reduce heat gain.

KITCHEN
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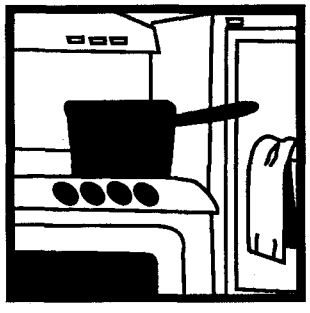

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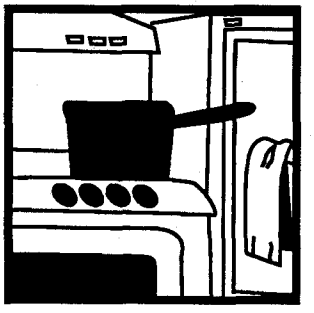
- **Replace** equipment with the exact right size to do the job; and take advantage of all available energy-saving features.

Food Preparation Checklist:

- **Break** the habit of turning everything on first thing every morning. Leave equipment off till it's needed.
- **Cook** at the lowest temperature that gives satisfactory results. Slow cooking reduces meat shrinkage; retains nutrients and better colour in all foods; and is more energy-efficient. (Roasting meet for five hours at 121 deg. C (250 deg. F) could save 25% to 50% of the energy required to roast it three hours at 177 deg. C (350 deg. F).
- **Longer** broiling time at moderate temperatures retains food juices, flavour and tenderness.
- **Always** turn char-broiler heat to medium after the briquets are hot; and keep briquets clean.
- **Aluminum** foil slows the baking of potatoes. For presentation, put foil on **after** potato is baked.
- **Placing** a weight on bacon and sausage on the griddle shortens their cooking times.
- **Lids** on pots and pans keep heated air in and decrease cooking time.
- **Turn** on cooking equipment (fryers, broilers, stoves) only as needed.
- **Turn** off cooling and heating units which aren't needed.
- **Operate** supply and exhaust fans only when and as required. Stagger equipment start-up times to avoid heavy peak electrical demand.
- **Immediately** following rush periods, turn off all but one of each type of equipment; (ie. 1 burner instead of 2, 1 fryer instead of 3); and lower the temperatures of idling equipment whenever possible.
- **Set** all cooking equipment thermostats to the lowest temperature that gives satisfactory results and is consistent with safe food-handling practices.
- **Cook** in the largest volume possible.
- **Don't** position fans to blow directly onto any cooking equipment or surface.
- **Thaw** frozen food in the refrigerator (this reduces the refrigerator's demand for electricity). Large volumes of food can be thawed on racks in steamers. If you must defrost foods quickly, a microwave uses much less energy for this job than any other heat source in your kitchen.
- **Thaw** all foods before cooking unless prohibited by product characteristics (as with French fries and pies). Thawed foods require one third less cooking time.
- **Use** cold water whenever practical. Hot water is expensive in power costs and pollution; use it only when you must.

*"Use up **everything**."*
- says hometown kitchen expert

KITCHEN
A 33% ENERGY SAVINGS



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- **Don't** leave faucets running. (Put onions in the freezer for an hour before chopping them; you won't have to run the tap to carry-off that "itchy" gas.)
- **Washing** pots and clean and peel vegetables in a partly-filled sink, not in running water.
- **Using** hot tap water for cooking is more energy-efficient than heating cooking water on the range-top.
- **Clean** rotary toasters regularly; clean equipment performs more efficiently and uses less energy.
- **Turn** off toasters (& other appliances) when not in use.

A: Fryers Checklist:

- **Drain** and clean fryers and filter the oil at least once a day (or each shift, depending on use). Follow manufacturer's recommendations.
- **Don't** load fryer beyond manufacturer's stated capacity.
- **During** slack periods, turn fryer off or reduce to idling temperature and cover.
- **Turn** thermostat only as high as necessary to reach frying temperatures. In modern high-speed fryers, temperatures from 163 deg. C (325 deg. F) to 177 deg. C (350 deg. F) are ideal. (Too high a temperature wastes energy, and also causes the oil to break down.)
- **Preheat** according to manufacturer's specific instructions. Turn on gas fryer no more than 20 minutes before use.
- **Fry** in your fryer instead of on the range top; and don't turn on two fryers when one will do.
- **Remove** any water or ice from foods before frying to eliminate oil breakdown and temperature fluctuation.
- **Clean** heating elements at least once a week (daily if used for high volume frying); and remove any burnt food or grease that will interfere with efficient operation.

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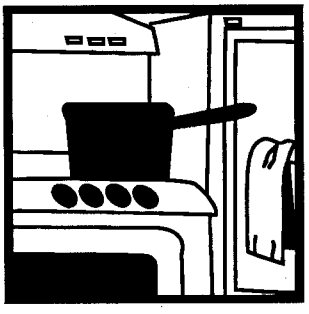

B: Griddles Checklist:

- **Whenever** possible, huddle food close together on the griddle, and heat only the portion of griddle being used.
- **Heat** griddle only to temperature required for food being cooked. A low or medium flame is best for griddling.
- **Never** overheat a griddle in the interest of speed; it wastes gas, and the cooking results could be disastrous.
- **During** slack periods, turn griddle burner down and turn off non-needed sections.
- **Scrape** griddle surfaces clean of excess food and fat with a flexible spatula or other device after each cooking load.

C: Broiler Operating Procedures Checklist:

- **Preheat** broilers no longer than manufacturer's instructions recommend; monitor preheat times with thermostats or timers.
- **Load** heated broilers to capacity when practical, to use the entire surface area.
- **Heat** only those sections as required by the cooking load.
- **Turn** char-broilers to medium as soon as briquets are hot.
- **Turn** broiler flame to low between broiling operations; turn off completely during slow periods.
- **When** possible, use infrared broilers; they can be turned off when not in use, and reheat quickly.

D: Broiler Maintenance Checklist:

- **Lubricate** broiler valves regularly.
- **Check** flue for proper draft and remove any obstructions.
- **Have** a qualified utility company service rep check air shutters to ensure air/gas mixture is correct.
- **Adjust** and clean pilot lights.
- **Check** and clean burner holes on gas broilers.
- **Have** a service rep check gas burners every six months.
- **Rearrange** the ceramic material in under-fired broilers once a month to assure even heat.
- **Check** ceramic and metal radian for deterioration. If blackened or cracked, replace.

E: Oven Operating Procedures Checklist:

- **Cook** foods during oven-warming period; only bakery goods need wait until the oven is at the correct temperature.
- **Begin** the day's baking or roasting with foods that require the lowest oven temperature. (Starting out at a high temperature and then letting the oven cool down wastes energy.)
- **Plan** baking and roasting so that foods requiring the same temperature are cooked at the same time.
- **Load** oven to capacity; in standard ovens, maintain a 2-inch clearance, for proper air circulation (forced-air convection ovens require less clearance).
- **Maintain** a baking and roasting schedule to ensure full use of oven capacity, and to help reduce operating hours.
- **Determine** the cooking capacity of all your ovens; always use the smallest or most efficient one available.
- **Use** a second oven only when cooking schedules overlap unavoidably.
- **Load** and unload ovens quickly, and don't open the door during operation. (Every second the oven door is open,

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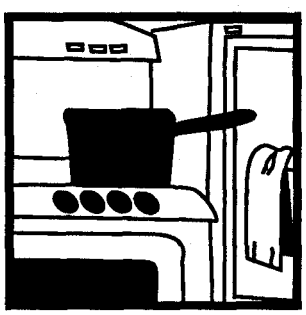

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the temperature drops about 10 degrees. It takes a lot of energy to bring the temperature back to where you need it.) Also, food cooks faster and loses less moisture if the oven door is kept closed.

- **Preheat** ovens for bakery goods only. When pre-heating, set the thermostat at the desired temperature; the oven won't heat any faster at a higher setting, and it wastes energy.
- **Clean** the interior oven walls and elements to achieve better heat transfer.
- **Vacuum** crumbs from oven burners each week; they absorb and waste energy.
- **Keep** the lower edge of the oven door free of food particles so it will seal properly. Air leaks are energy leaks.
- **Keep** microwave interiors clean of spills and food particles. Never clean microwaves with abrasives; they may damage the oven surface and reduce its efficiency.

F: Ovens Maintenance Checklist:

- **Check** gas pressure monthly to ensure correct pressure for complete combustion.
- **Have** a qualified service rep calibrate thermostats, inspect burners, door closings and insulation every few months.
- **Adjust** air/gas mixture and set pilot light to lowest possible flame at least annually.
- **Adjust** door hinges, gaskets, and moldings as needed for a tight fit.
- **For** maximum energy efficiency and correct cooking temperatures, calibrate oven thermostats every month. You may want or need a service rep to do this.
- **Check** the flue for proper draft and remove any obstructions.
- **Use** an efficient exhaust canopy which uses the correct mixture of exhaust and make-up air.
- **Position** ovens properly under exhaust canopies.
- **Have** a service rep check microwave ovens regularly for radiation leaks. Have the safety interlock, magnetron and timer checked annually.
- **Clean** fan blades on convection ovens according to manufacturer's instructions (dirt restricts the amount of air delivered); and have the motor checked annually.

G: Ranges – Operating Procedures Checklist:

- **Cover** pots and pans whenever possible, to reduce cooking time and energy.
- **Use** black or dull-finished pots; they absorb heat better than shiny pots. (No, this does not mean, "don't clean them!")
- **Save** gas by grouping pots and pans closely on solid top ranges and lighting only those

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burners needed.

- **Use** flat-bottom utensils on solid top ranges. Almost any type of pot or pan can be used on an open top gas range, because the flame shapes itself to the pan.
- **When** using a gas range for full heat conditions, the top of the flame should just touch the bottom of the pan or kettle.
- **Lower** heat to simmer as soon as liquids begin to boil. Water and water-based liquids boil at 100 deg. C (212 deg. F); turning heat higher doesn't cook food faster, it just wastes energy.
- **Cook** at the lowest temperature that gives satisfactory results.
- **Turn** off the range when it isn't needed.

H: Ranges – Maintenance Checklist:

* * * * * * * * * * * * * * *

- **Check** gas burners periodically; if the flame is yellow or uneven, clean burners with a wire brush and make sure holes are clear. If trouble persists, have service rep adjust gas/air mixture.
- **Keep** burner valve handles lubricated with a high-temperature valve grease designed for this purpose. Your service rep can do this during regular maintenance checks.
- **Adjust** and clean pilot lights.
- **Inspect** automatic burner lighters and safety controls.
- **Check** thermostats for accuracy, and calibrate if necessary.
- **To** clean burners and coils on open top ranges, remove encrusted matter from cool heating elements, then soak them in water and a good grease solvent. Burners should be boiled in a solution of salt, washing soda, or non-phosphate detergent.
- **With** closed top ranges, lift or remove the hood periodically to be certain burners are functioning properly.
- **To** clean closed top ranges, rub vigorously with heavy burlap or a wire brush after the top surface has cooled somewhat. Always remove cooked food lodged under burners, lid rings, or plates.

I: Steam Cooking – Operating Procedures Checklist:

* * * * * * * * * * * * * * *

- **Fill** cooking vessels according to manufacturer's recommendations, to capacity, if possible. The amount of steam used is almost the same whether cooking a small or large amount of food.
- **Turn** off the steam unless actually cooking. Pre-heat times are short, so the equipment should not be kept running.
- **Use** a steamer to start cooking food whenever possible; and finish cooking in the conventional manner.
- **Thaw** frozen food in steam vessels rather than in boiling water. Thaw racks of frozen food in volume; Space food to permit steam to circulate around

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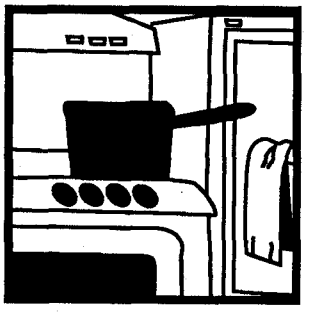

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each item. Food should be fully cooked immediately after being thawed.
- **Clouds** of steam indicate unnecessarily high temperatures.

Dial temperature down to reduce both the amount of energy required to operate the steam table and the load on your heating, ventilating and air conditioning system.

J: Steam Cooking – Maintenance Procedures Checklist:

- **Establish** a firm schedule for cleaning steam cooking equipment; always use a non-toxic cleaner.
- **Flush** boilers at least weekly.
- **Remove** all deposits such as rust, lime, film and scale from the water jacket and outside of container.
- **Repair** all steam leaks, no matter how small.
- **Inspect** all steam traps for steam leakage.
- **Keep** all seals clean and tight to prevent steam leakage into kitchen.
- **Inspect** the insulation on steam lines for damage. Light-gauge sheet metal may be used to protect insulation where steam lines are exposed to damage. If damaged, replace insulation promptly.
- **Regularly** check thermostats for accuracy and calibrate if necessary.

K: Dishwashers – Operating Procedures Checklist:

- **Don't** turn on dishwasher till it's fully loaded; it uses the same amount of energy and hot water full or empty.
- **When** main dishwashing rush is over, turn off booster heaters and accumulate dishes until next rush period.
- **Turn** water heater down to 24 deg. C (75 deg. F) when kitchen closes, and turn back up two hours (or warm-up time required by your particular unit) before opening.
- **Check** rinse water regularly for excessive temperature.
- **Check** that the power rinse is turning off automatically when the tray goes through the machine.
- **Use** a wetting agent instead of a power dryer.

L: Dishwashers – Maintenance Procedures Checklist:

- **Check** insulation of water lines in recirculation loop.
- **If** there is no automatic fill with shut-off, provide squeeze-type valve to avoid wasting water by overfilling.
- **Inspect** the feed and drain valves and pumps weekly for water leakage.
- **Remove** lime deposits from

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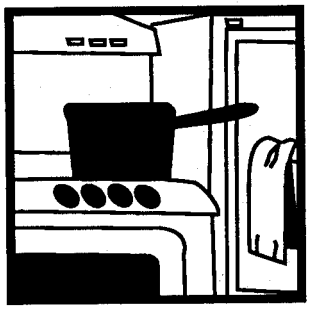

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spray nozzles; ream nozzles with a wire when white deposits become visible at the openings.
- **Remove** lime deposits from tanks and heater coils.
- **Lubricate** speed reducer on conveyor-type washers regularly.
- **Ensure** that the power rinse turns off automatically.
- **Set** flow controls for proper amount of rinse water.
- **Adjust** power dryer to deliver heated air just long enough to barely dry dishes.
- **Drain** and flush hot water heater at least every six months.
- **Check** accuracy of thermometer and recalibrate if necessary.
- **Make** regular checks of rinse water to avoid excessive temperatures.
- **Install** pressure-reducing valves to control water pressure for rinsing.

M: Refrigerators & Freezers – Operating Procedures:

- **Thaw** frozen foods in the refrigerator whenever possible; the thawing food cools the surrounding air, and the refrigerator operates more efficiently and needs less power.
- **Don't** place hot food in a cooling unit, but let it cool (in accordance with safe food handling practices) before refrigerating or freezing.
- **Plan** ahead so that anyone entering a walk-in unit or opening refrigerators or freezers can pick-up or replace several items at one time. Frequent and lengthy door openings waste energy.
- **Use** trays or mobile racks to reduce the time refrigerators and freezer doors need to be open.
- **Place** frequently used items at front of each unit to reduce the length of time the doors are open.
- **Clearly** label stored items; tape a diagram showing location of items to the outside of refrigerator and freezer doors.
- **Avoid** using walk-in coolers for items such as individual salads, which require frequent door openings.
- **Turn** off the lights when leaving walk-in coolers. Lights produce unwanted heat as well as wasting energy.
- **Install** exterior signal light switches in walk-in units to warn if lights are left on.
- **Don't** place items in front of refrigeration coils in a way which restricts airflow.
- **Be** sure items do not jam against closing doors; they could damage door gaskets and cause leaks.
- **Defrost** freezers frequently; ice buildup should never exceed 1/8" on walls and shelves.
- **Consolidate** food where possible to reduce the number of refrigerators and freezers in use. Full units use energy more efficiently than partially full ones.
- **Schedule** food deliveries where possible to avoid either

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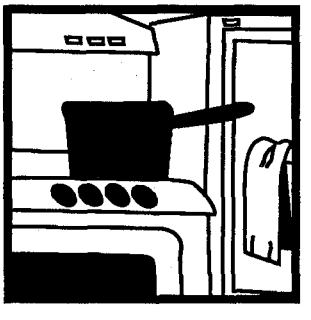

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overloading or under-using refrigeration facilities.

- **Store** foods requiring refrigeration or freezing promptly; re-cooling foods wastes energy, and may affect their quality.
- **Close** ice-maker storage bins after each use.
- **Don't** store anything within 4 feet of the refrigerator compressor.
- **Cover** all liquids stored in the refrigerator; moisture from uncovered liquid raises the temperature inside the refrigerator, causing it to work harder and waste energy.

N: Refrigerators & Freezers – Maintenance Checklist:

- **Maintain** proper tension on refrigerator compressor belts; replace any that are worn or damaged.
- **Inspect** and service all electric motors, fans and compressors on a regular basis.
- **Keep** all door gaskets, seals and hinges in good condition. Try the dollar bill test: Close the door on a bill. If it falls to the floor, the gasket needs replacing. (No! A "loonie" won't do!)
- **Lubricate** latches and hinges with food grade oil.
- **Check** thermostats for proper calibration.
- **Feel** the outside walls of refrigerators and freezers for cold spots; they indicate insulation failure.
- **Check** compressor for leaks and level of refrigerant.
- **Check** refrigerators for loss of temperature control and short cycling problems. If the unit is not operating properly, check the refrigerant level.
- **Keep** the refrigerator blower coil free of ice build-up as well as dirt, dust and grease.
- **Brush** the condenser.
- **Have** a service rep adjust the freezer defrost cycle so it will defrost during off-peak hours.
- **Level** these units periodically. Doors should fit correctly and close automatically from an open position.
- **Install** warning lights to indicate when light is on in walk-in units.

O: Lighting Checklist:

- **Keep** fixtures, bulbs, ceilings, walls and windows clean; dirty fixtures or walls, can reduce lighting efficiency by as much as 50%. To prove a point, measure the footcandles of a fixture with a light meter before and after cleaning.
- **Ask** the people working in each area to help decide on satisfactory light levels; each individual's light requirements vary depending on age and physical condition. If lighting is inadequate, productivity will suffer.

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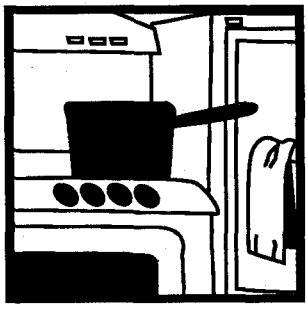

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- **Position** light switches so they're convenient and visible; employees are more apt to cooperate in energy conservation if it's easy.
- **Install** additional switches in areas that don't always require full lighting, so lights not being used can be turned off.
- **Use** stickers on light switches to remind staff to 'switch-off' when leaving a room.
- **Replace** resistance dimmer switches with solid state dimmers to control lighting.
- **Rearrange** work stations if possible to make use of shared common lighting.
- **Consider** installing 'task lighting' for employee work stations.
- **Ensure** your maintenance department does the following –

- ➧ check automatic lighting controls every day;
- ➧ clean windows, skylights every 3 months or as required;
- ➧ clean lamps, fixtures, every 6 months or as required;
- ➧ clean ceilings and walls.

- **Replace** incandescent lighting with fluorescents wherever feasible.
- **Where** fluorescents are already in use, consider the use of lower wattage 'watt-saver' or 'watt-miser' tubes, which use less energy with only a minor reduction in light output. Use natural light, except when it interferes with temperature control.
- **Use** the minimum amount of light needed in your work area, and turn lights off when you're leaving the room for 15 minutes or more.

P: Water Checklist:

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- **Drain** and flush hot water tanks at least every six months to prevent scale build-up and deposits which reduce heating efficiency.
- **Service** gas or oil burners regularly; check all frequently.
- **Examine** the possibilities of solar water heating; water pre-heated by solar energy requires less energy in other forms to raise the temperature to the desired levels. Solar heating installations pay themselves down in about five years, after which they supply 'free' hot water with minimum maintenance.

Q: Water – Maintenance Checklist:

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- **Repair** leaks in water piping system.
- **Repair** or replace leaky faucets, toilets, pump glands and valves.
- **Clean** and recondition hot water temperature mixing valves at least annually.
- **Check** insulation on hot water pipes and storage tanks frequently.
- **Flush** hot water tanks every six months, more frequently if water is very hard, to remove solids and sludge.

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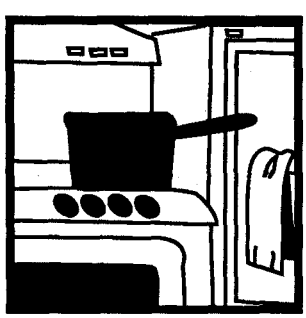

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- **Remove** exterior scale buildup from electric hot water heater coils at least annually.
- **With** immersion type hot water heaters installed into the boiler shell, remove and clean scale from interior and exterior coil surfaces.
- **Check** water storage tank temperature controls every six months.
- Test hot water controls and adjust if necessary.
- **Check** the steam trap on steam hot water heaters; if steam is passing through the trap, repair or replace.

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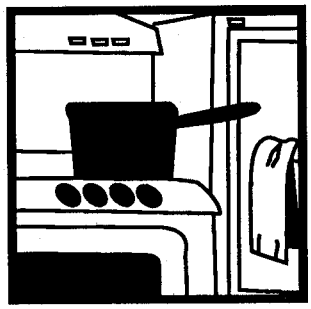


Greening the grounds, naturally:
Mostly, we tend to treat our outdoor grounds and gardens as we do our indoor flower pots: pump in chemical fertilizers to get quick results or showy blossoms, but fail to nourish the soil in terms of its long-term health. In time, our grounds and gardens become as dependent on their 'chemical fix' as any human addict.

A Simple Solution: Composting
Consider what we throw away as waste. Every year, the average Canadian family throws out:

- as much iron as is contained in 500 eggs;
- as much protein as is provided by 60 steaks;
- and vitamins equal to 95 glasses of orange juice;

all this just in discarded potato peelings!

We can eat all that good stuff; or we can put it in our soup stocks; or we can return it to nature by composting it and getting all those otherwise wasted nutrients back in next year's summer vegetables.

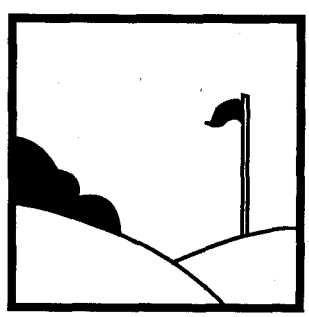
If you use compost, you needn't use artificial fertilizers ever again; because, like them, compost supplies the three main nutrients needed for plant growth – nitrogen, phosphorous and potassium.

However, unlike commercial fertilizers, composting supplies its nutrients in a natural 'trickle release' system; plants aren't 'burned' by too much fertilizer, too fast; nor is the bulk of the fertilizer, as with many commercial products, flushed into the water table by rain and garden watering.

Composting dramatically improves the structure of the soil, its drainage, and its aeration. Every year that you compost, the soil becomes darker, richer, easier to work, and more free of pests.

Composting can actually protect plants from heavy metals in the soil and air. Well-rotted compost 'binds' and collects lead and aluminum in the soil, and helps prevent their being taken up by garden produce. This is not a minor benefit!

For detailed information on how-to compost, call your local provincial or federal Department of Agriculture office or your



nearest university; or consult the Green Contacts List; or buy:

The Rodale Guide to Composting
published by Rodale Press, Inc.
33 East Minor Street
Emmaus, Pennsylvania, U.S.A. 18049

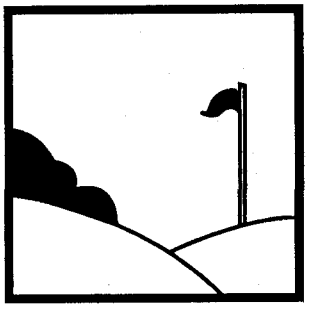
(P.S. Rodale also publishes a superb monthly magazine called Organic Gardening.)

Products to Supplement Composting:

- **Composted** manure, blood meal, bone meal, fish emulsion and seaweed are all good for gardens and lawns.
- **Loblaws,** with the endorsement of Pollution Probe, markets Nature's Choice 100% Natural Source Fertilizer, for lawns and gardens, as well as several other environmentally friendly garden products.
- **The** Safer Company markets several organic plant foods, primarily for indoor plants.
- **The** Wen-Hal Company markets everything from composted sheep manure (great for strawberries) to black earth and potting soil, under the trade name Organix.
- **The** So-Green Corporation, which also uses the trademark names 'Lawn Pro' and 'Nature's Garden', concentrates on natural and organic fertilizers. Their lime, bone meal and blood meal are natural, as is their 'High Organic Lawn Pro' fertilizer.
- **C-I-L,** in common with most gardening suppliers, markets an apparently chemical-free bone meal. C-I-L's 'Fortified Organic' fertilizer also looks okay.
- **Canadian** Organic Growers has a source list of organic fertilizers, natural pest controls, trade associations of organic food producers and distributors, and a considerable research library.

About Lawns:

- **If** you've no shortage of water, soak lawns once every week to ten days with a solid watering of from 2 to 4 hours. It's enough if, after you finish watering, it slurps when you walk on it.
- **If** water is in short supply, install a drip irrigation system. They can be expensive, and need annual maintenance – but they save a lot of time, are very efficient, pay for themselves eventually in water savings, and are terrific in rain-short areas.
- **Mulching;** sprinkle lawn surfaces with water-retaining substances such as peat moss or compost;
- **Aerating;** punch holes in the lawn and let oxygen into the soil.
- **Mowing:** Always cut grass 2" to 3" high; it will shade and kill most weeds.
- **Weeding:** what's so bad about a few weeds in the lawn. If you



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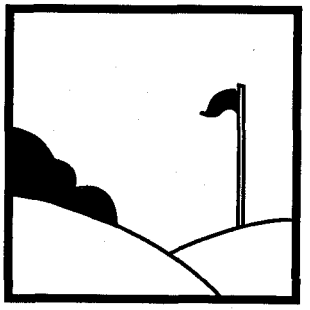
really find dandelions unattractive, dig them out. Clover is pretty. And the greater the diversity, the healthier the soil and the better the ecological balance.

Watering Gardens During Really Dry Spells:

- **Sprinkle** plants several times each summer, to wash-off smog and traffic grime, which interfere with photosynthesis and reduces crop yields.
- **Use** the "clay pot" system (used in China for over 2,000 years) for precious plants and shrubs.
  ➧ Dig a hole beside each tree or shrub to be irrigated (or every 6 to 10 feet along a row of plants;
  ➧ Place an unglazed porous earthenware pot in each hole (old flowerpots are good). To test for porousity, stand them in water for a while; if they become moist inside, they're okay.
  ➧ Plug or caulk any drainage holes.
  ➧ Fill pots with water, and cover to prevent evaporation. The water will slowly seep into the soil. (To channel water to plant roots more quickly, thread a "wick" of old cloth through the drainhole and lay its end alongside the plant's roots.)
  ➧ P.S. The Chinese fortified the soil around the pots with manure.
  ➧ Refill pots with water every 4 to 8 days.

Chemical Pesticides: a BIG NO-NO!

- **We** have no data at all on the potential toxicology of 38% of the pesticides in current use in Canada; and no understanding of what happens when they combine in our environment with each other or with other pollutants.
- **We** have enough data on one-tenth of current pesticides to assess their health hazards. Several are known to contain likely cancer-causing agents.
- **One** extremely common weed killer, 2,4 - D, has recently been identified as the possible cause of a particular form of cancer – "non-Hodgkins lymphoma", a disease which has doubled in Canadian cases diagnosed since 1950. 2,4-D is the most popular poison-of-choice to kill weeds in parks, on golf courses, and on suburban lawns. To its everlasting credit, Toronto stopped using 2,4-D in its parks in 1980. Whatever else you may choose to do or not do, don't buy or use 2,4-D!
- **60%** to 90% of pesticides by volume miss the target entirely, and go into our air or our water table and poison many plants, animals and insects we want to keep alive.
- **Only** 0.1 % of insects in the garden are "pests"; many of the rest "work" on our behalf at no pay. Eg: worms aerate our soil; ladybugs eat aphids.



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- **Consider** stocking your garden with natural killer insects such as the praying mantis, a voracious eater of mosquitoes and other insects. You can also buy insects that gobble up whiteflies, spider mites, aphids, thrips, or whatever. Write to:
Pat Coristine,
Better Yield Insects,
P.O. Box 3451
Tecumseh Station
Windsor, Ontario,
N8N 3C4
Phone: 519-727-6108

Old-Fashioned and 'Guaranteed' Insect Remedies:

- **Slugs** love to congregate under a board on the ground. Leave some pieces of wood overnight in the garden; every morning, give the shrubs a funereal bath in hot soapy water.
- **Snails** congregate in cool, shady places. Put an overturned clay pot in the shade; snails will climb its sides and bunk in tiers. Gather them in the early evening for fresh escargots – if you're feeling adventurous – or for a memorial service.
- **Slugs** and snails are also partial to warm beer. Place a shallow dish of it in the garden; watch them die happily.
- **Insects** can often be hosed off sturdy plants; or wiped off with warm, soapy water. (If you use the latter, rinse the leaves with the hose afterwards.)

Some 'Least Dangerous & Last Resort' Pesticides:
If biological and ecological balance fail – if compost, mulch, birds and insects, benign bacteria, and fervent prayer don't ward-off the pests in your garden – here are some least-dangerous and last-resort ways to get rid of the "foul-ies" at the bottom of your garden.

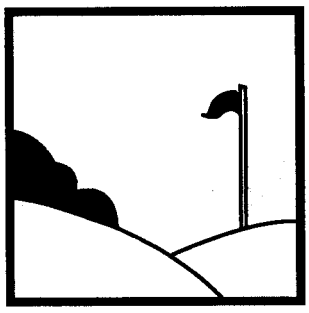
- BT: The safest and most effective pesticide is chemically named "Bacillus thuringiensis" – "BT" to its friends.

  ⏵ BT is sold under the following trade names, among others: "Botanix", "Dipel", "Envirobac" and "Thuricide".

  ⏵ C-I-L markets Thuricide in a container labelled: "Organic Insect Liquid Killer".

  ⏵ BT kills cabbage worms, cutworms, gypsy moths, any forms of caterpillar (including tent caterpillars and nascent butterflies), potato beetles, black fly and mosquito larvae.

  ⏵ Apply BT directly to the plant; for cutworms, to the soil. It breaks down in sunlight, so apply in the evening. It washes away; so repeat applications if it rains.



- "Diatomaceous Earth" massacres earwigs, silverfish, ants and cockroaches.

  ➧ DE consists of the sharp splintery remains of crushed wee coral-like creatures, which punch holes in the waxy shells of insects so they die of dehydration. DE kills all insects which encounter its barbed personality.

  ➧ DE brand names: in Quebec - "Insectigone", made by Chemfree Environment, Ltd.; elsewhere in Canada - "Fossil Flower", distributed under the "Green Cross" trademark, by a Ciba-Geigy firm. (N.B. Many other "Green Cross" products are based-on 2,4-D, so the labels: a "green cross" on the package does not necessarily mean the contents are organic or non-poisonous.)

- "Rotenone" and "Pyrethrum" are two broad spectrum insecticides (i.e., they kill lots of things) which are extracted from plants, aren't known or suspected to be carcinogenic, and are relatively non-poisonous to mammals (ie: pets and kids).

  ➧ Both Rotenone and Pyrethrum dispatch any cold-blooded beasts, including frogs and fish, so don't use them near waterways.

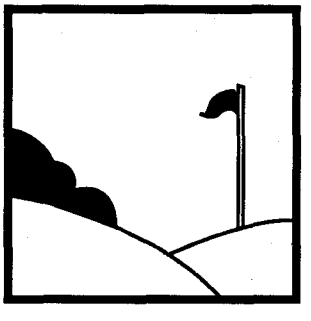
  ➧ Brand names for Rotenone: "Atox","Rotenone", and "Deritox".

- "Roach and Crawling Insect Killer" is a dust containing both Diatomaceous Earth and Pyrethrum. It's distributed by Safer Garden Products, a Canadian company which markets a wide range of herbicides, pesticides and fertilizers through health food and specialty stores, hardware stores and several chains, including Canadian Tire, Zellers, Loblaws and Woolco. For a catalogue, write:
  Safer Ltd.
  Unit 1, 455 Milner Avenue
  Scarborough, Ontario
  M1B 2K4
  Phone: 416-291-8150

- "Dormant Oil Spray", used by commercial orchards, suffocates mites, scales and other insects if applied to fruit trees, before budding.

- "Tanglefoot", well-named, is painted on trees and protects them from caterpillars, ants, canker worms, etc. It's a gluey substance which shrinks as it dries and can damage tender trees. To avoid

"Here, have some nice warm beer."
- says **gardener to slugs**



strangling the tree, first paint a swatch of white latex around the trunk; then paint Tanglefoot on top of the latex. Crazy Glue it ain't, but ants will think it is.

Make Your Own Natural Pesticides:

- Chop rhubarb leaves and brew them in boiling water. These leaves, in common with the leaves of oleander, contain oxalic acid, a poison to humans and insects alike. (N.B. If you make this recipe, label it 'POISON' and store it in a safe place.)

- A natural pesticide spray: burr up some garlic and green onion tops in your blender or food processor; strain and mix with soapy water; pour into an old pump spray container.

Remember: The best protective measures are, still and always:
Cultivation • Weeding • Composting • Mulching

Develop a Natural Wild Garden.
Create a fully-rounded garden natural wild garden to attract the birds and insects you need to keep pests down, and to supply them with the sanctuary they need.

Select an un-needed space and seed it with a mix of perennials such as daisies, corn flowers, poppies, chamomile, columbines and astors; then let it go wild (that's the whole point).

Once established, your natural wild garden will re-seed itself year after year; you won't need to mow it; and it will need only minimal cultivation and tending.

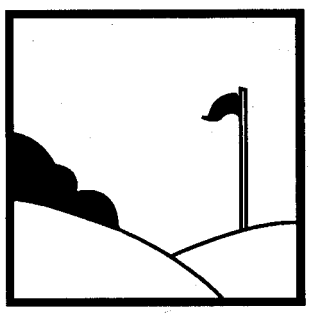
For more information on how to make your gardens as environmentally friendly as possible, buy:
How To Get Your Lawn and Garden Off Drugs
published in Canada by Friends of the Earth.
You can buy it for $12.95 at some bookstores, Loblaws, or directly from Friends of the Earth. Their address is:

Friends of the Earth
Suite 701
251 Laurier Avenue
Ottawa K1P 5J6
Phone: 613-230-3352

Discouraging birds: (If you must!)
Mary Perlmutter of Canadian Organic Growers had this to say:

"Birds are a wonderful and extremely beneficial part of our ecosystem. They eat their weight in insects, every day."

There are a zillion home recipes to discourage birds, from



scarecrows to hanging foil pie plates, streamers, and wind chimes in the garden. Here are three more possibilities:

- Cover what you want to protect (berry bushes, etc) with netting with a 1 cm. weave.

- Buy a fake owl from your gardening centre for about $19.95; perch it on a conspicuous branch; and move it every few days.

- Best of all, don't discourage the birds – encourage them! (Toss them bread scraps the year 'round.)

Plant More Trees:
Trees are far more than just another pretty face. Trees produce oxygen; and the more trees we all nurture, the healthier our planet.

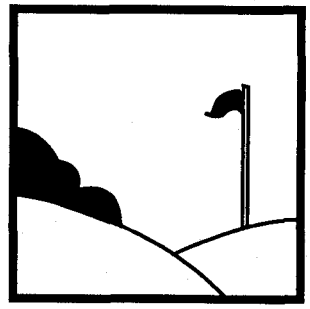
Trees also provide a shady spot on scorching days, and shelter for birds which eat the insects we'd as soon do without.

Don't Burn Garden Trash:
Even if your local laws permit bonfires, don't do it.
- You're wasting valuable composting and mulching material, and robbing the grounds of priceless humus.

- Ordinary garden bonfire smoke contains 350 times as many parts per million of cancer-causing benzopyrenes as cigarette smoke. Think of everyone downwind of your Hallowe'en bonfire.

Major Goals for Grounds and Golf Courses Departments:

- **Compost** or mulch all possible yard waste and cuttings.
- **Use** chemical-free, organic insecticides.
- **Eliminate** needless and wasteful packaging on products coming to your department.
- **Reduce** water consumption don't wash off driveways, etc., sweep them clean. Washing them down with filtered, purified, chlorinated water is about as sensible as washing your car with champagne.
- **Get** rid of all toxic materials in your inventory; don't buy or use them in future.
- **Create** landscaping to attract the birds and beneficial insects which dine on pests from aphids to mosquitoes.
- **Recycle** all your cardboard, glass, plastic and metal containers.
- **Use** solar outdoor lighting where possible.

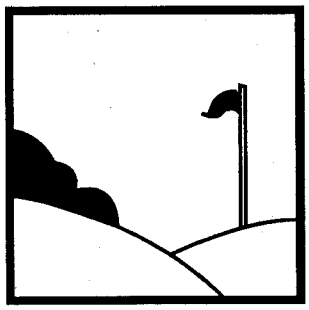


Grounds Maintenance Checklist:

- **Plant** grass all around buildings to help keep them cooler in summer; grass absorbs the sun's heat, rather than reflecting it onto buildings as asphalt and concrete do.
- **Where** possible, keep parking lots well away from building, for the same reason.
- **Plant** low growing shrubs in front of large windows; they have the same cooling benefit as grass.
- **Grow** climbing vines on building walls (particularly west walls); they absorb the sun's rays and provide some insulation against the transfer of heat through the wall.
- **Deciduous** trees planted between your building and the path of the sun offer shade in the summer; let sun through in the winter.
- **All** plants, even grass, act as natural "air scrubbers", absorbing exhaust gases from vehicles and building exhaust fans, and producing oxygen.
- **Have** experts from a local nursery advise on trees, shrubs and plants suitable for your location, and help you to choose those which require little care and will thrive on the water they receive naturally.

Swimming Pool Maintenance Checklist:

- **Don't** operate your pool pump 24 hours a day unless local regulations demand it. Continuous energy requires more energy and increases the rate of evaporation. (A pool 36' x 18' can lose over 2,000 gallons of expensively treated and filtered water monthly, through evaporation.)
- **Don't** leave your pool uncovered when not in use; it's heating the entire neighbourhood. Covering your pool saves heat, reduces evaporation. (and water and chemical costs).
- **Efficient** pool covers include foam plastic blankets and air-cell type plastic sheeting.
- **Reduce** chemical costs by adding disinfectant in the early morning or late afternoon while the filter is operating, to avoid excessive burn-off from the sun.
- **Check** out solar heating to help heat your pool. Many styles of solar pool heaters are available, ranging from free-standing to roof-mounted. Almost all existing pools can be adapted to use a solar heater.
- **Other** pool-heating energy possibilities include using heat pumps, or re-using heat from the central air conditioning system, to heat pool water.
- **Have** a thermal consultant examine any heat sources which could be recycled and thereby reduce your pool operating costs.



(cont'd)

- **Don't** use your heater when the pool's not in use – an automatic timer is essential.
- **When** the pool is not in use, leave on only the minimum lights necessary for safety and security.
- **Use** the smallest pump possible to operate the pool vacuum to avoid losing excessive water.
- **Keep** pool deck area clean and plantings trimmed to avoid debris in pool. Needless cleaning and filtering waste energy.

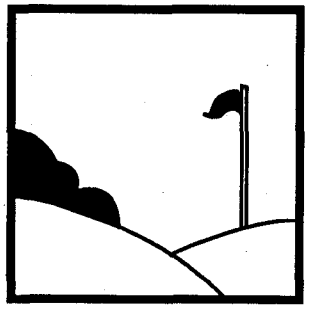
Grounds Management Checklist:

- **Install** timers to control operation of outdoor lighting, illuminated signs, decorative fountains, swimming pool pump (where permitted by local regulations), and swimming pool lights and heaters.
- **Check** out solar-powered lights for grounds lighting.
- **Locate** parking lots on the cool sides of buildings, if possible; the asphalt, and glass and metal of cars reflect sunlight on to your building.
- **Use** pool covers that are easy to handle; the simpler they are, the more likely they'll be used regularly.
- **Don't** keep the pool open any longer during the season than is reasonable and energy-cost-efficient.

Grounds Maintenance Checklist:

- **Turn** off lawn mowers and other energy using equipment when not moving. Idling engines pollute, and waste fuel.
- **Keep** the outsides of room air conditioners free of anything that might obstruct free air flow, including shrubbery.

And remember: talk with your environment committee, and with your Purchasing, Waste Disposal and Plant Management colleagues; you'll need their help to meet CPH&R's green targets, just as they need yours.



V. ROOMS DIVISION

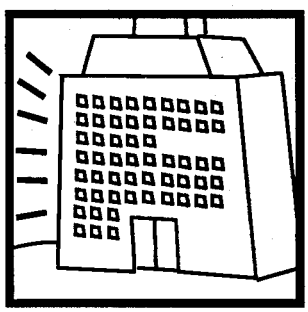
Room Division's ability meet its Green Partnership goals and responsibilities is affected by every other CPH&R Department. Equally, every other Department needs the encouragement, help and support of Plant Management to meet their green goals.

Study the manual carefully; and implement as many of its suggestions or ideas as make sense in your operation. The Repairs and Renovations Department check lists have special relevance to energy savings, and could save you annual energy costs in the high five figures (or more).

Your single greatest tasks is to make it easy for other Departmental personnel to obtain your support, information and cooperation. Work closely with your environment committee; and solicit suggestions from every department. As we all know, the 'hands-on' people are always the first to see what's most needed, and what can best be done.

Discuss the detailed recommendations which follow with your colleagues. See which can be phased in most quickly, and assign monitoring responsibilities to department heads and their green partners. Remember – the more energy you save, the higher your profit margins.

ROOMS DIVISION
HANDS-ON GREEN MANAGEMENT



Guest Relations/Infomation Tent Cards – Checklist:

Identify where Information Tent Cards are needed; ensure that they're available, replaced as needed, and checked daily by service staff. For example:

- **Room** cards asking guests to turn-off lights and radios and TVs when not in use, to report dripping taps or faulty plugs, to avoid leaving windows open, etc.
- **Room** cards explaining newly retrofitted fluorescent bulbs and the supply of recycled facial tissue; (it's vital that guests understand why we are doing these things, and the environmental benefits they provide.
- **Bathroom** card explaining water-saving shower heads, aerator taps, recycled toilet tissue and potpourri in place of chemical deodorizers.
- **Amenities** basket card describing the GEMS program, etc.
- **Room** card or sticker for the Blue Box, describing the recycling plan and the staff's voluntary participation in the extra duties of sorting and collecting recyclable items.

Other Guest Room Information Pieces:

- **Guest** room stationery imprinted with a message, such as:
  This is recycled paper
  I'm a CPH&R Green Partner
- **Room** service menu messages explaining why wasteful single-serving sugar, cream, spreads and condiments are no longer used on room service trays and tables.
- **Inserts** in appropriate sections of the guest room information folders describing and explaining the CPH&R Green Partnership Program as it affects the swimming pool, golf course, gardens, room thermostats, etc.
- **A** name and telephone number for the hotel environment committee, for any guests wanting more information.
- **A** list of CPH&R green products available in the news-stand.
- **Table** tent cards or Wine Card/Menu inserts describing the selection of organic beers and wines being offered.

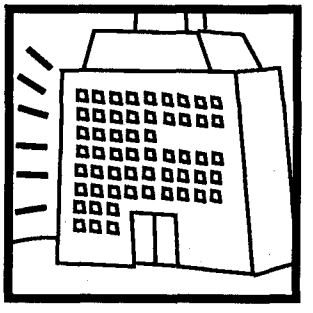
"It's a beaut-ee-full world." - says **guest who loves conservation measures**

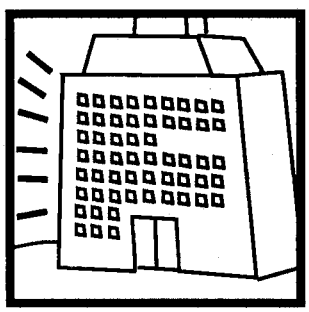
Front Office & Public Areas Checklist:

- **Conduct** an energy audit to identify areas of energy waste; then correct them.
- **Turn** off lights that aren't in use. A ballroom with 15 chandeliers burning 4 unnecessary hours a day (@ 5 cents per KwH) wastes about $2,000 per year.
- **Serve** ice water to guests cheerfully, but only on request. Place a tent card on tables to explain this fact and explain that a glass of unwanted ice water wastes:
  - 8 oz. of treated water in the glass,
  - the water in the ice,
  - the energy used to make the ice,
  - 16 oz. of hot water @ 180 deg. F. to wash the glass,
  - glass storage and breakage,
  - labour costs for busboys and dishwashers!

  Food service operations which have implemented this policy find the demand for drinking water reduced by about 50% per year, which adds up to substantial savings on energy consumption and costs, over the year.
- **A** 5' x 10' lobby window with deteriorating caulking between the window frames and the walls can leak more than 43 cu. ft. of outside air per minute, for a loss of about $134 per window, per year.
- **A** large function room can be heated or cooled in an hour and a half; so don't turn on equipment till it's needed.
- **Set** up a Weather Board to guide employees in setting cooling and heating equipment in offices and public areas.
  - Black: (range 13 to 27 deg. C) (55 to 80 deg. F): Equipment not turned on.
  - Blue: (range 27 deg. C (80 deg.F) and up: Set AC to 'low cool'.
  - Red: (range 13 deg. C (55 deg. F) and below: Turn units to 'low heat'.

ROOMS DIVISION
HANDS-ON GREEN MANAGEMENT





Front Office & Public Areas Checklist: (cont'd)

- **Do** cleaning during daylight hours if possible, so cleaning staff can take advantage of natural lighting.
- **Wash** walls and ceilings on a regular schedule.
- **Dust** light bulbs and fixtures frequently; dusty fixtures waste 1/3rd of all energy they use, and give 33% less light.
- **Redecorate** in light colours, to reflect the light.
- **Install** solar film on lobby and/or dining room windows to reduce heat transference through large windows.
- **Install** outdoor awnings to screen direct sunlight.
- **Keep** curtains and shades closed in all unoccupied rooms.
- **Leave** storm windows on year 'round.
- **Colour** code individual switches in multiple switch installations to identify which switches control what lights; and which lights to turn on to suit different needs.
- **Install** separate switches in large dining and other rooms so unused sections can be turned off or dimmed, when practical.
- **Use** translucent lampshades which permit light to pass through (if this doesn't conflict with your atmosphere and decor objectives). You'll find you can light areas with fewer or smaller sized lamps.
- **In** high-ceilinged rooms, replace ceiling-height fixtures with hanging lamps to bring light closer to the areas needing illumination.
- **Install** solid-state dimmer switches whenever possible; dimmers save energy, make bulbs last longer; and give better lighting/mood control.
- **Lower** the lights in your lobby, lounge areas and hallways during daylight and late night hours.
- **Install** larger, more efficient lighting where practical. One 100w lamp produces more light than two 60w lamps, and saves 20% in energy costs.
- **Develop** a front desk room plan showing the order in which rooms should be assigned. This helps to group guests and functions in rooms serviced by the same equipment.
- **Fill** lower rooms first, if possible (because heat rises).
- **If** occupancy is down, close entire floors or wings; turn off lights; set thermostats on Low.
- **Arrange** working areas so that office staff working in slack times such as the overnight period are grouped in the same general area. This saves on lighting and heating (or cooling) large spaces for just a few people.
- **Shut** down some elevators and escalators during slow times.
- **Install** time clocks to cycle saunas off and on.
- **Turn** off ornamental fountains at night.
- **Reduce** hot water temperature in public washrooms; and install flow restrictors and self-closing faucets.
- **Reduce** peak electricity demand by staggering start-up times of individual heating,

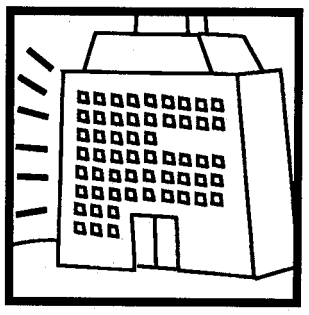
(cont'd)
ventilating and cooling units.
- **Hold** regular staff training and refresher workshops on energy conservation; you'll help reduce energy dramatically.

Front Office & Public Areas Operating Procedures Checklist:

- **Turn** off lights when not in use and during daylight hours wherever possible.
- **Keep** all windows and outside doors closed when heating or air conditioning equipment is on.
- **During** air conditioning season, try to use heat-producing office equipment (such as photocopiers) early in the day.
- **Close** the dampers on any unused fireplaces to prevent room heat loss.
- **If** adequate natural light is available, open draperies and raise shades during set-up and tear-down of function rooms; and close drapes and shades when room is vacated or tear-down is completed.
- **Set-up** and turn on sound system as close to start of each function as practicle; allow ample time to check system out; and shut off and store equipment immediately after function ends.
- **Avoid** unnecessary energy consumption in function-room food service facilities. Ensure that refrigeration units are not left running with little or no food in them. Consolidate minor leftovers; and turn off any units which are not needed.
- **Close** dining area drapes when the sun is on windows during the cooling season; open them during the heating season.
- **Turn** off coffee warmers which are not being used.
- **Follow** Weather Board instructions for operating air conditioning and heating equipment.
- **Report** any electrical or plumbing deficiencies (such as a leaking tap) as soon as they are observed.
- **Remove** obstructions that restrict free flow of air through heating and cooling units (books or magazines stacked on top of units waste energy by making fan coil or self-contained units work harder than necessary).
- **If** anything is not being used, turn it off.

Office & Public Areas Maintenance Checklist:

- **Check** and repair door closing mechanisms to ensure doors are closing snugly.
- **Clean** and replace heating/cooling units filters every 3 months.
- **Clean** heating, cooling and condenser coils regularly.
- **Repair** dripping faucets, and toilets which run continuously.



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(To test toilet tanks for leaks: have housekeeping staff put a few drops of vegetable colouring into the tanks. If the colour appears in the toilet bowls without flushing, check balls and gaskets for leaks.)

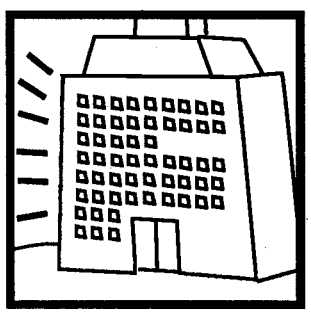
- **Check** and repair caulking and sealing on all permanently closed doors and windows;
- check weatherstripping on all other doors and windows.
- **Check** all wall sockets, particularly those used for heavy loads, and replace as required.
- **Install** or remove exterior covers on window-mounted air conditioners on an established schedule.

Task Lighting Checklist:

- **Install** task lighting wherever practical to save energy costs. For example:
  - guest rooms require from 40 to 70 foot candles in the reading/desk area, but only 10 to 20 in the general area;
  - specific desk lighting will satisfy guests' needs while keeping the rest of the room at a pleasantly lower light level.
  - the same holds true throughout your establishment.
- **Analyze** outside lighting, and control it with time clocks or photo-cell units. (If you're using clocks, adjust them frequently to coincide with seasonal changes in natural light).

Lighting Management Checklist:

- **Provide** all employees with daily/weekly checklists covering their specific work areas.
- **Ask** the workers in each area to help decide on proper light levels. The light requirements of individuals vary depending on age and physical condition; productivity suffers if light is inadequate.
- **Place** switches where they're convenient and visible; employees are more apt to cooperate in energy conservation if it's easy.
- **Install** multiple switches in areas that don't always require full lighting, so that only those lights which are needed are on.
- **Install** twist-on or door jamb switches for lights in closets, storerooms, closets, walk-in coolers, etc..
- **Use** stickers on light switches to remind staff and guests to 'switch-off' when leaving a room.
- **Replace** resistance dimmer switches with solid state dimmers to control lighting in dining rooms, function rooms and guest rooms.
- **Standardize** lamps throughout your establishment as much as possible to eliminate oversize re-lamping and reduce inventory.
- **Rearrange** work stations if possible to make use of shared lighting.
- **Consider** installing 'task lighting' for employee work stations.



Water Management Checklist:

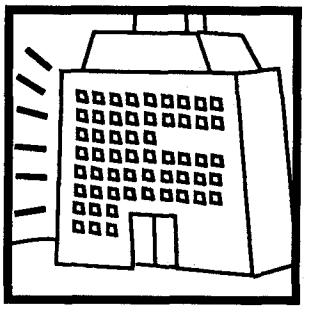
Properties with a laundry, pool, restaurant(s), landscaping and a large public area space use on average from 120 to 200 gallons of water per guest per day.

- **Have** water-use consultants prepare a report on effective ways to save water, and costs and benefits involved.
- **Consider** installing water-saving toilet dams.
- **Retrofit** pressure flush valves on toilets and urinals, where practical. Simple to install, they require almost no maintenance and reduce water consumption by up to 50%.
- **When** remodeling or constructing new bathrooms, specify water-saving toilets.
- **Flow** restrictors on hot water taps in busy public washrooms can reduce faucet flow from 6 gallons a minute to 2 gallons a minute. (Some spray-type faucets use about 90% less water than normal faucets.)
- **Consider** photoelectric-cell-activated faucets which start when hands are placed beneath them and shut off when hands are removed. Initially expensive, they can pay back their cost in 2 years.
- **Water-saving** showerheads will reduce the flow to about 2 - 3 gallons per minute with no discernible difference in quality.
- **Drain** and flush hot water tanks at least every six months to prevent scale build-up and deposits which reduce heating efficiency.
- **Service** hot water gas or oil burners regularly.
- **Check** all thermostats frequently.
- **Check** out solar water heating practicality and costs. Generally, solar heating installations pay themselves down in about five years, after which they supply 'free' hot water with minimum maintenance.
- **Self-contained** point-of-use instant electric water heater – mount directly above or below the basin and eliminate heat loss from storage or hot water supply lines. Ideal in public washrooms and remote locations where hot water need is light.

Transportation Operations Checklist:

- **To** conserve water, wash vehicles with a bucket of warm, soapy water and a good sponge – not with a constantly-running hose dumping hundreds of gallons of costly filtered water.
- **Before** purchasing new vehicles, check the Transport Canada Fuel Consumption Guide, available by law at all auto, van and truck dealers. Or write to:

  Transport Canada,
  Public Affairs Branch,
  Ottawa, KIA 0N5.



Management Operations Checklist:

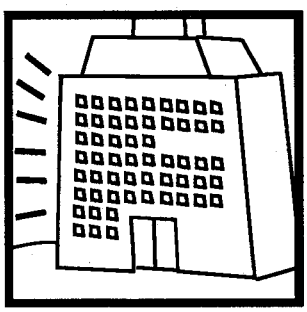
- **Impress** on drivers the importance of saving fuel: driving at 90kph uses about 20% less fuel than at 110 kph; jackrabbit starts, abrupt stops or any engine idling all waste fuel.
- **Encourage** company car pools (particularly if employees take company cars home at night). Reserve the most convenient parking spaces for pool cars.
- **Provide** secure, sheltered and convenient bicycle parking spaces for employees; and offer incentives to bikers.
- **Schedule** car/truck travel for non-rush hour periods as much as possible; encourage drivers to seek out routes with a minimum number of stop signs and traffic lights.
- **Investigate** the possibility of converting some vehicles to propane.
- **Air** conditioners reduce a car's fuel efficiency, even when not in use.
- **A** diesel engine requires less maintenance, gets better mileage, and lasts longer than a gasoline engine.
- **A** V-8 engine uses about 20% more fuel than a 4-cylinder engine.
- **For** highway driving, standard transmission vehicles get about 11% better mileage than automatics.
- **Radial** tires will improve gas mileage by about 5% over bias ply tires.

Transportation Operating Procedures Checklist:

- **Don't** speed; it wastes fuel.
- **Anticipate** stops: gear down, or ease up on the accelerator; maintain steady speed.
- **Slow** down on hills; don't accelerate down the other side.
- **Never** rest your foot on the brake.
- **Don't** allow the engine to idle. Most cars, even in cold weather, only need 30 seconds to warm up before you can begin driving slowly.
- **Remove** unnecessary heavy items from the trunk (such as snow tires in summer); 100 lb. of unnecessary weight can reduce gas mileage by 5%.
- **Fill** gas tank slightly less than full to avoid fuel overflow, fuel waste and air pollution.
- **Report** and repair any malfunctions immediately.
- **Instead** of driving, fax or phone wherever possible.

Transportation Maintenance Procedures Checklist:

- **Keep** tires inflated to correct pressure – soft tires can reduce mileage by 5% - 10%.
- **Clean** and/or replace carburetor, air cleaner and oil filter as necessary.
- **Ensure** that the choke is operating properly; a slow-acting or sticking choke wastes fuel.



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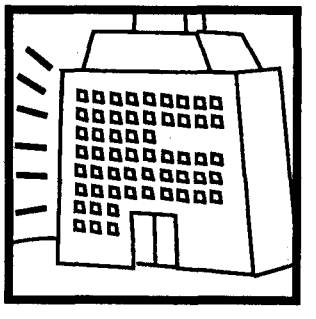
- **Clean,** check and gap spark plugs.
- **Check** ignition timing.
- **Clean** distributor cap, adjust or replace condensors and points.
- **Check** and adjust wheel alignment.
- **Each** spring and fall do a thorough inspection and complete tune-up.

Power Utility Rebates & Discounts Checklist:

- **The** energy saving programs and rebates offered by provincial utility companies vary widely.
- **The** best power utility energy conservation projects offer free energy audits, discounted hydro rates to hotels which follow energy conservation practices, even subsidies.
- **Cash** grants are sometimes available to help save energy by installing fluorescent lights, more efficient heating systems, insulation, water saving shower heads, etc.

If there are no programs in your area, encourage other businesses to help support the demand for such programs. Hydro utilities save money through energy-conservation rebates; and often only need reminding of what's being done in other jurisdictions, and with what positive effects, to initiate programs of their own.

Numbers to call for information in your area are in the Green Contacts List.



VI. STORES & PURCHASING

The responsibilities and initiatives of Stores/Purchasing are fundamental to the entire CPH&R GREEN PLAN. Every other department will and must rely on your committment and your success to help them achieve our green targets.

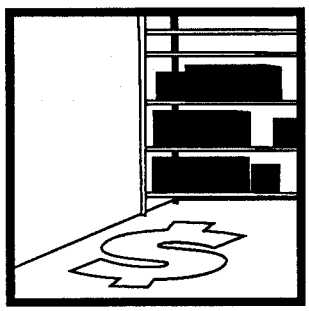
Remember – your Department has enormous potential leverage with all of CPH&R's suppliers (we've all witnessed how much clout a single class of Grade Five students can have with a giant corporation like MacDonalds!)

Stores/Purchasing General Checklist:

A random sampling of your various goals includes the following:

- **Buy** in bulk wherever possible.
- **Insist** on minimal packaging from all suppliers.
- **Press** all suppliers to use returnable and re-usable packaging, particularly cardboard cartons and wooden crates.
- **Stop** buying any disposable items.
- **Buy** unbleached and recycled paper products.
- **If** you must buy batteries, buy only the rechargeable kind.
- **Seek** out solar-powered products, from calculators to outdoor lights for guest paths in the grounds. (There's even a solar-powered refrigerator available; see the Green Contacts List.)
- **Buy** only solid state dimmers for all lighting installations.
- **Don't** buy any toxic chemicals, especially for use in groundskeeping.
- **Don't** buy phosphate detergents or cleansers.
- **Demand** evidence of environmental claims from every supplier. (Claiming that a product or package is recyclable is meaningless if there's no local program to recycle them.)
- **Purchase** and offer cotton diapers to your guests for their use while in the hotel; or use a local diaper service.
- **Stop** buying chemical deodorizers or (blue) toilet tank cleansers (that blue stuff is mostly vegetable colouring.)
- **Subscribe** to some of the best environment magazines, such as "Garbage", "Harrowsmith", "Buzzworm" etc. Their ads are a goldmine of information on the newest and best environment-friendly products and processes.

STORES & PURCHASING
GREEN PURCHASING POWER



You'll need to work closely with Plant Management to discuss their green purchasing needs in areas ranging from plumbing, heating and lighting to appliances and heavy equipment, including vehicles. Your colleagues in every Department will have suggestions regarding green products for their needs. Meet with them individually, and in your environment committee.

VII. HOUSEKEEPING

Housekeeping, with its intimate daily contact with all our guests, is at the leading edge of all CPH&R Green Partnership initiatives and activities. As a result, Housekeeping has a special and critical function – that of letting our guests know what we are doing, and why we are doing it.

The aim of any green program must be effective control without guest discomfort or inconvenience. You certainly won't expect your guests to take cold showers or try to read by the light of a 25w bulb.

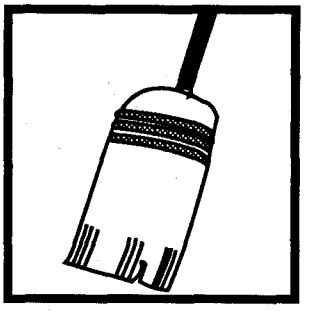
Remember: guests can't become part of your program till they know how they can help. You'll find the majority of them will appreciate being told how to help conserve energy.

Housekeeping General Activities Checklist:

Help save at least 20% on total room energy costs just by implementing no-cost or low-cost conservation measures. Since 1975, energy costs per room have increased by about 10% per annum; total revenues generated have increased only about 7% per annum. The energy we save makes a big difference.

- **Eliminate** the use of all aerosols.
- **Collect** all used soaps, shampoos etc. for the GEMS program.
- **Turn** off all lights, radios and tvs when you leave each guest room.
- **Draw** drapes or blinds when the room is empty (but open them when the daylight is adequate to light the room for cleaning). Turn down thermostats when rooms are empty.
- **Check** all plumbing fixtures and report any leaks, dripping faucets, or sink and bathtub stoppers which don't work or don't fit properly.
- **Check** room wastebaskets for recyclable materials; put bottles, jars, tins and newspapers into recycling bins.
- **Install** a recycling bag on housekeeping carts to hold the contents of guest room blue boxes and recyclable materials.
- **Check** electrical sockets and appliances; report any faults.
- **Use** cleaning cloths rather than paper towels.
- **Use** only non-toxic cleansers. (Check the Green Contacts List for environmentally-friendly commercial cleaning products.)

HOUSEKEEPING
A 20% ENERGY SAVINGS



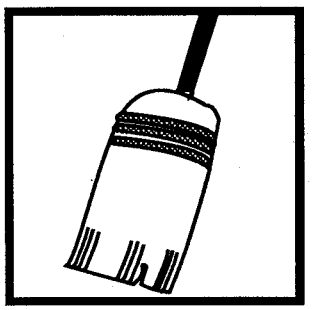
Housekeeping Management Checklist:

- **Install** timer switches for lights in low-use areas such as maids' closets; and for bathroom exhaust fans and heat lamps.
- **Establish** and police a regular schedule for cleaning lighting fixtures. Fewer and/or smaller lamps will often do just as good a job if they're kept clean.
- **Establish** a regular schedule for cleaning walls and ceilings.
- **Reduce** domestic water temperature to 120 deg. F at water heater.
- **Use** tent cards and decals in guest rooms to offer specific suggestions for guests. For example:
  - Turn everything off when the room is unoccupied;
  - Don't open windows;
  - If you're not using it, turn it off.

Housekeeping Operating Procedures Checklist:

- **Turn** off television sets and radios when rooms are being made up and when guests are not in rooms.
- **Reduce** thermostat to prescribed minimums (55 deg. F in unoccupied rooms, 68 deg. F in occupied rooms) as soon as you enter the room.
- **If** room is being heated or cooled, close any open doors or windows unless special ventilation is required.
- **Unless** moisture is a problem, do not operate fans, heat lamps, or other electric heaters during cleaning.
- **Use** only appliances that are in good working order.
- **Report** any electrical or plumbing deficiencies (such as a leaking tap).
- **Set** refrigerators in vacant rooms on low if a new guest is expected; otherwise, disconnect and leave door ajar.
- **Ensure** that rugs, draperies, or furniture do not obstruct heating or cooling vents.
- **After** making up guest rooms, close draperies and shades to prevent loss of heated or cooled air.
- **Before** leaving guest room, ensure that faucets and toilets are not running.
- **Turn** off all lights when leaving unoccupied guest rooms, maids' closets, linen rooms and storage rooms.

HOUSEKEEPING
A 20% ENERGY SAVINGS



You'll need a lot of help. Talk with your environment committee, and with your green partners in Purchasing, Repairs and Renovations and Plant Management. Ask your environment committee to provide you with information on CPH&R's green goals to pass on to your guests.

VIII. REPAIRS & RENOVATIONS

The daily activities of Repairs & Renovations will play a pivotal role in implementation of CPH&R Green Partnership targets in every department of the hotel. Seek the help and advice of your environment committee and your green partners, particularly those in Housekeeping, Purchasing and Plant Management.

Your most crucial responsibility will be to advise the Plant Management Department, directly, and through the environment committee, of areas where energy savings are possible with improved equipment, installations and maintenance procedures.

Tasks of Special Importance:

In the course of your day-to-day work, your department will have to deal with hundreds of tasks, from the mundane to the monumental. A selection of such tasks follows:

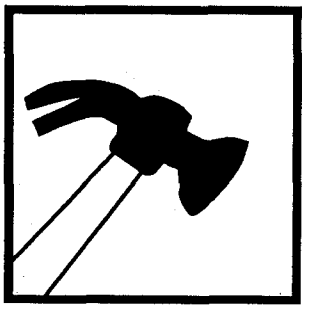
- **Locate** and repair any and all plumbing leaks or faults.
- **Locate** and repair any electrical faults.
- **Retrofit** water-saving toilet dams, faucet aerators and shower heads.
- **Check** thermostat settings and insulation of all water heaters.
- **Check** insulation of all hot water pipes.
- **Check** for and repair any steam leaks.
- **Isolate** and shut-down steam lines in unused areas or buildings.
- **Inspect** and upgrade all caulking and weather-stripping.
- **Make** periodic checks to locate and replace any wet insulation.
- **Clean** all air conditioning equipment equipment and filters regularly, and ensure that no outdoor obstructions (such as shrubs) reduce their efficiency.
- **Ensure** that heating sources aren't blocked by furniture.
- **Install** timers and solid state dimmers wherever practical.
- **Retrofit** fluorescents in place of high-energy incandescents.

Heat Loss Checklists

Heat loss = wasted energy;
Wasted energy = needless energy generated and money wasted;
Needless energy generated = pollution (greenhouse gas & acid rain).

Many of the ways you can reduce heat loss from your buildings cost you little or almost nothing; other items will require some investment, budgeting, and discussion with Plant Management.

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



In every case, you'll save far more over the lifetime of these projects than you've invested.

A- Weatherstripping & Caulking:

Apply weatherstripping where two surfaces meet and move relative to each other; e.g. doors. Apply caulking where two surfaces meet but don't move; eg:

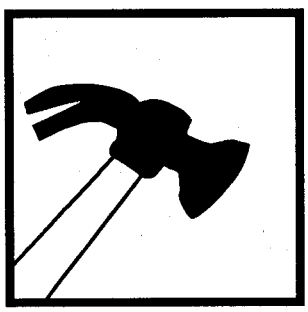
- **Around** every window
- **In** gaps underneath baseboards
- **Around** wall receptacles
- **Wherever** plumbing and wiring enter the building
- **Any** cracks on the inside surface of walls and ceiling
- **Gaps** around chimney dampers; openings where pipes, exhaust fans or ducts are cut through the attic floor.

Openings too large to be plugged with caulking should be stuffed with insulation. Roof openings or stacks no longer in use should be thoroughly sealed and insulated.
Studies indicate that the proper use of insulation can generate savings in heating costs of as much as 90% for roofs, 60% for walls, and 70% for floors.

B – Windows:

- **If** existing windows are single glass but are in good condition, the installation of separate storm windows can reduce heat loss by 50%.
- **If** existing windows are snug-fitting and well-caulked, each square foot of window still loses as much as 7 times the amount of heat lost per square foot of floor; 5 times as much as per square foot of wall; and 4 times as much as per square foot of ceiling.
- **If** your existing windows are in poor condition, complete replacement with thermalized windows may make economic sense. In each case, the life-cycle benefits must be balanced against the initial cost.
- **Most** establishments with separate storm windows now leave them in place year 'round, to reduce heat loss in winter and heat gain during the hot airconditioning weather.
- **When** analyzing your windows, don't overlook the frames. Aluminum conducts heat and cold through the walls of your building entirely too efficiently (touch the bare handle of an aluminum pot on the stove!); so it's essential to insulate aluminum window frames.
- **Every** foot of insulation pays for itself many times over in reduced heat loss.
- **Most** *new* aluminum windows have built-in insulators or 'thermal breaks'.

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



C - Doors:

- **Doors** are large heat wasters.
- **Consider** building a vestibule or entry-way around or inside all main entrances and exits, if feasible.
- **Set** outer and inner doors far enough apart that each one closes before the other is opened.
- **An** alternative to vestibules is to install revolving doors.
- **All** doors should be fitted with automatic closers.

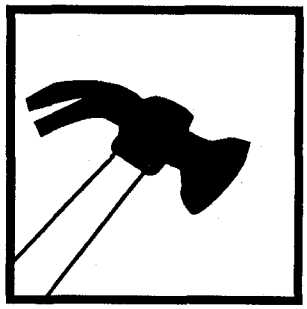
Heat Loss Management Checklist:

- **Have** Maintenance set up a system to check caulking and weatherstripping annually.
- **Check** existing insulation and install additional materials as necessary, especially in ceilings and floors over open outside areas.
- **Ensure** adequate ventilation in attic.
- **If** windows are single-glazed, install storm windows, or replace old windows, depending on condition.
- **Have** a qualified roofing contractor inspect your roof and assess the quality of existing materials, for repair or replacement, as necessary.
- **Install** automatic closers on all exterior doors.
- **Install** vestibules or revolving doors at all major entrances and exits.
- **Consider** installing solar or reflective film on existing large windows.
- **If** you have sufficient land around your building(s), consider hiring a landscape architect. Deciduous trees planted by west windows offer cooling shade in summer; earth berms help buffer the prevailing wind; both relatively cost relatively little compared to the energy they can save.
- **Install** awnings on west windows to control hot summer sun.
- **Ask** all hotel green partners to report cracks and drafts in windows, walls etc.

Heat Loss Maintenance Checklist:

- **Check** all windows for breaks or cracks; replace immediately.
- **Check** the roof for any openings (eg. skylights) no longer used and caulk, insulate and seal.
- **Check** the caulking annually, before winter, in:
  - windows;
  - gaps underneath baseboards;
  - around wall receptacles;
  - openings where plumbing and wiring enter building;
  - any cracks on inside surface of walls and ceilings;
  - inside corners and gaps

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



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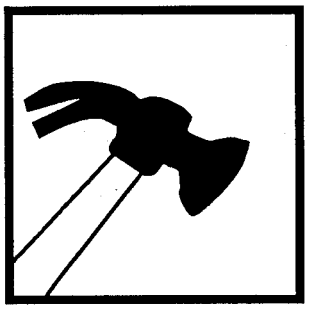
where walls and ceilings meet;
- gaps around chimney dampers.

- **Weatherstrip** the following annually, before winter:
  - all doors, especially the threshold;
  - all operable windows.
- **Insulate** all areas too large to be filled with caulking.
- **Locate** and replace any wet insulation; be sure to fix the leak or problem causing the moisture before repairing it.
- **Ensure** that doors and windows all close completely; repair any that are difficult to close.

Heating, Ventilating & Air Conditioning (HVAC):

- **Obtain** operating manuals for every piece of equipment and use them to get the equipment or system into peak form. (Improperly tuned equipment uses an average of 20% more power to produce the same output as well tuned equipment.)
- **Cleaning** equipment can produce amazing energy consumption reductions. Examples of low-cost remedies:
  - Dirty connections on guest room fan-coil units consume about 2w each daily; with 6 connections per unit, dirty connections can cost a 100-room property about $525 annually.
  - A 1-ton cooling unit with a plugged filter and dirty coils must operate for an hour and twenty-five minutes (rather than an hour), to produce 1 ton of cooling. The energy used by 100 such units, operating 5 hours per day for a 100-day cooling season, can add up to about $3,025 per season in wasted energy.
- **Condenser** coils for air conditioning and refrigeration equipment are often located on the roof. Direct sunlight and solar head decrease their effectiveness; a simple sun shield will greatly reduce this problem.
- **Ceiling** fans pull warm air down from the ceiling to provide a comfortable floor-to-ceiling temperature during the heating season, and constant air circulation during the summer. Relatively inexpensive to buy and operate, they can enhance the decor.
- **Many** ventilation fans operate unnecessarily 24 hours a day. Practical low-cost alternatives include:
  - Heat-sensing thermostats to turn fans in storage and equipment rooms on and off;
  - Carbon monoxide sensors to control exhaust fans in parking garages;
  - Controlling guest bathroom fans by the light switch.
- **Examine** the distribution system of any steam boiler(s) on your property for undersized pipe runs, insufficient pipe insulation or steam leaks. Remove any steam lines that are no longer used; and install valves to isolate areas that use intermittent or seasonal steam so steam will be delivered only when needed.
- **Don't** underestimate and



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ignore steam leaks as an energy conservation measure. An example:

- A 1/8" hole in a 15 psig line will lose over 13,500 lb. of steam per month, and waste about $1,080 per year;
- The same size hole in a 100 psig line will lose 52,000 lb. per month, and waste about $4,200 per year. (Now imagine what steam leaks are costing your operation.)
- **All** HVAC system pipes should be insulated; heating ducts passing through unheated areas should be sealed and insulated.
- **Damaged** or wet insulation should be replaced promptly.

HVAC Management Checklist:

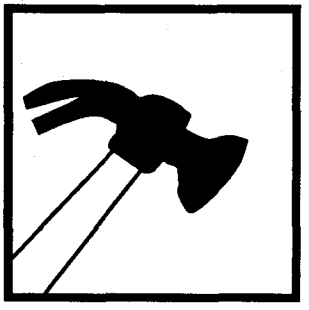
- **Train** your staff to report overheated or over-cooled rooms rather than opening windows.
- **Instruct** staff to avoid placing furniture or any other obstruction in front of heating or cooling vents.
- **Initiate** and maintain a preventive maintenance program for your HVAC system (and all other energy-using equipment on premises).
- **In** late winter have your maintenance department do a thorough inspection of all heating equipment, valves and controls, while the system is still operating under heavy conditions. Deficiencies in performance will be easy to discover; and repairs can be made during summer down-time.
- **Have** separate controls installed for heating or cooling in vestibules or entrances; (they don't have to be at the same comfort level as interior rooms).
- **Install** heat deflectors over vents to help air circulation.
- **Consider** installing supplementary heating in rooms where heating requirements may cause other rooms to be overheated.
- **Never** locate compressors near heating units.

HVAC – Operating Procedures Checklist:

A - Central Heating/Air Conditioning Systems:

- **Raise** the temperature of water leaving the chiller as the air conditioning load is reduced.
- **Produce** chilled water at the highest temperature possible for the equipment using the chilled water.
- **Shut** down the condenser water pump and chilled water pump when a chiller is out of service.
- **Shut** off pre-heat coil in multi-zone units during cooling season.
- **Use** outdoor air for cooling,

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



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whenever possible.
- **Reduce** intake of outdoor air to minimum allowed by codes when it must be heated or cooled.

B - Central Boiler Plants:

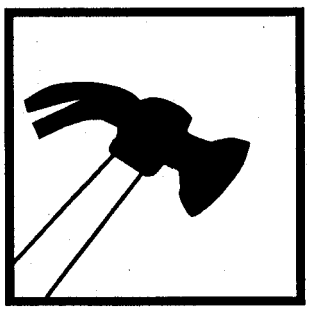
- **During** heating season, if one boiler will carry the load, shut down other boilers: 1 boiler operating at 80% capacity is 7% more efficient than two at 40% capacity.
- **Set** pressure on steam boilers as low as possible to achieve required output; reduce steam pressure when high pressure is not needed after a certain hour, such as when the laundry shuts down. (Also consider installing timer switches.)
- **Excessive** boiler blowdown drains hot water needlessly; establish a blowdown schedule and follow it.
- **Return** steam condensate to the feed water tank for reuse.
- **Install** a thermometer in the flue outlet; and maintain stack temperature according to manufacturer's directions.
- **Check** chimney frequently for visible smoke, which indicates inefficient combustion.
- **Check** fuel oil pumps regularly to maintain correct oil pressure and flow to burners.

HVAC – Maintenance Checklist:

A - Heating/Air Conditioning & Central Systems:

- **Clean** or change all filters monthly, or according to manufacturer's directions.
- **Clean** and straighten condensing coil fins on both interior and exterior sides.
- **Check** fan blades for alignment and cleanliness, and oil all fans. Remove squirrel cage fans for proper cleaning.
- **Check** all drains in self-contained units. If the drain for the condensate from the coil becomes clogged, proper drainage cannot take place.
- **Check** refrigerant system for gas charge.
- **Seal** any casing leaks.
- **Check** belts for wear and tension, replace when necessary.
- **Clean** all tubes and connections of fan-coil units.
- **Lubricate** motors and compressors following manufacturer's recommendations.
- **Lubricate** motor bearings; check for excessive noise or vibration; and replace worn bearings.
- **Check** controls and adjust as necessary to prevent short cycling or continuous compressor operation.
- **Check** all dampers and linkage for proper operation, ensuring there is no leakage when in closed position.
- **Keep** all screens on inlet ducts

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



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clean and free of debris.

- **Keep** outdoor portions of cooling systems clear of plants, vines and other obstructions to air flow. Eliminate any condition that would cause warm air to circulate back into the air conditioner.
- **Clean** and check all ductwork systems for air leakage and damaged insulation, and repair as required.
- **Check** canvas for flexible duct connections at fan/blower air handling units; replace promptly, as required.
- **Check** and replace insulation as necessary on all pipes and vents where thermal control is important.
- **On** fresh air intake, replace screens that have grids smaller than 1/2" square; they obstruct the fresh air flow.
- **Check** size and speed of exhaust fans and limit them to actual need.
- **Check** and calibrate thermostats semi-annually.
- **Relocate** any room thermostats that are positioned where they can be affected by the sun, cold windows or walls, or any factors other than ambient room temperature.

"Calibrate, calibrate, calibrate."
- says **one pro to another**

B - Central Boiler Plants:

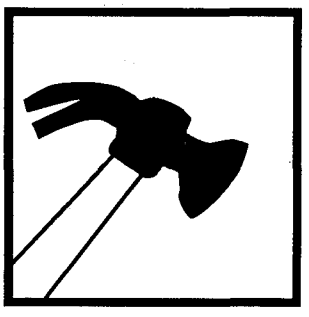
- **Inspect** and clean strainers on hot water, steam and condensate lines.
- **Inspect** boilers regularly; remove deposits of soot, scale or slag by scraping, brushing or vacuuming.
- **Inspect** combustion chamber refractory for deterioration, cracks and leaks; and repair immediately.
- **Check** steam traps for leakage; repair or replace as needed.
- **Check** packing glands, valves and joints for leaks; repair as necessary.
- **Check** condensate tank vents for a visible plume of steam; it indicates blowing steam traps that should be repaired.
- **Check** operation of pressure-reducing and regulating valves; adjust, repair or replace as needed.
- **Check** gas burners and set for correct gas flow; remove any mineral or corrosion build-up on burners and burner parts.

Lighting Levels Chart:

The following chart shows suggested light levels for various areas in hotel and food service establishments; and can help you decide what areas may have too little or too much light.

AREA		FOOT CANDLES
Entrance foyer		30
Corridors, elevators, stairs		20
Front Office		50
Lobby	- general	10-20
	- reading	40-70
Offices		70-100

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE

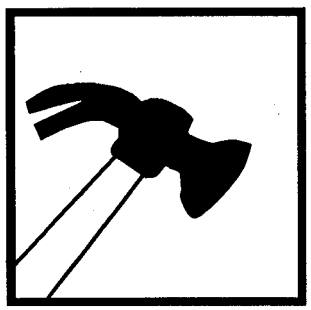


AREA (cont'd)		FOOT CANDLES (cont'd)
Dining areas	- cashier	50
	- intimate atmosphere	3-10
	- quick service type	50
Kitchen	- preparation area	70
	- clean-up area	30-50
Guest rooms	- general	10-20
	- bathroom mirror	50
	- reading/desk areas	40-70
Laundries	- general	30
	- sorting, ironing	50-70
Exterior	- entrance	5
	- surroundings	1
	- parking lots	1-2

Lighting Checklist:

- **Check** local codes regarding lighting safety regulations for work areas, passageways and stairwells.
- **Before** changing lighting, remember dirty fixtures or walls, can reduce lighting efficiency 1/3rd or more. Check cleanliness of fixtures, bulbs, ceilings, walls, windows. To prove a point, measure the footcandles of a fixture with a light meter before and after cleaning.
- **Lamps** lose efficiency with age, but still consume the same amount of energy. 'Group re-lamp' when lamps reach approximately 70% cent of their rated life expectancy, at which point the value of the lamps is less than the money you can save by installing new lamps. An example:
  - **A** worker replacing a single, burned-out lamp takes about 30 minutes to get a ladder and new lamp, go to the location, possibly move furniture, open the luminaire, replace the lamp, and eventually return the ladder. At $8 an hour labour costs plus 30% in overhead, your cost to change 1 lamp is about $5.20. Replacing 200 lamps one at a time will cost $1,040.
  - **Replacing** lamps in groups takes an average of only 3 minutes per lamp. You can replace 200 lamps for $104.
  - **Potential** savings in labour to group replace: $936.
- **When** purchasing new fixtures, specify ventilated fixtures. Fixtures with closed tops collect interior dirt quickly, and their efficiency can drop as much as 38% in 12 months, compared to only 6% in ventilated fixtures.
- **Invest** in solid state dimmer switches both to vary the amount of light (and energy) you use, and also to prolong the life of your lamps. (Replace any resistor-type dimmer switches; they don't decrease the amount of wattage used, but just stop the power before it

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



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reaches the lamp)
- **Replace** incandescent fixtures where practical with smaller wattage fluorescents, and reduce electrical bills substantially. An example follows.

ELECTRICAL SAVINGS EXAMPLE

A resort operator replaced 2-lamp 60w incandescent fixtures in 100 hallway/stairwell locations with 15w fluorescent fixtures, for a reduction of 105w per fixture; Both sets of lamps burned 24 hours a day, every day, for a total of 8,760 hours per year per lamp;

8,760 hours per year per lamp x 105 watts per hour x 100 fixtures = 91,980,000 watts per year;
91,980,000 = 91,980 KwH/year x 5 cents/kwh = $4,599/year
or a saving of **$45.99 per fixture per year.**

N.B. the cost of electricity is expected to increase at the rate of 20 per cent per year for the forseeable future.

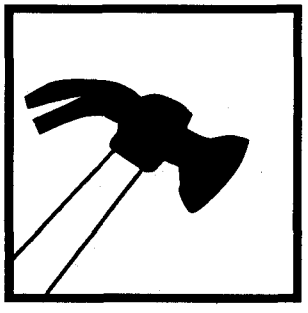
Guest Room Energy Management Checklist:

- **Stop** leaking taps: 1 drip per second from a leaking hot water faucet sends 175 gallons of hot water down the drain every month. Multiplied by every tap in a 100-room hotel, drips can add up to 583 gallons of hot water wasted daily.
- **The** instant-on feature on television sets consumes energy continuously, (about 6 watts per hour). With 100 rooms, this can add up to about $220 per year; an expense you can avoid simply by disconnecting the instant-on feature.
- **If** every guest room in a 100-room hotel leaves a window open 'just a crack', it costs about $16.50 per hour in wasted energy.
- **A** good water-saving shower head will reduce the standard flow of 6-12 gallons per minute to 2 gallons per minute without interfering with guest comfort. 100 water-saving shower heads will save over 2500 gallons of hot water per day, based on one 10-minute shower each!

Guest Rooms Maintenance Procedures Checklist:

- **Disconnect** 'instant-on' feature from TV sets.
- **Verify** accuracy of room thermostat.
- **Clean** or replace all filters on a scheduled basis.
- **Clean** all fan blades, lubricate all fan bearings and motor

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



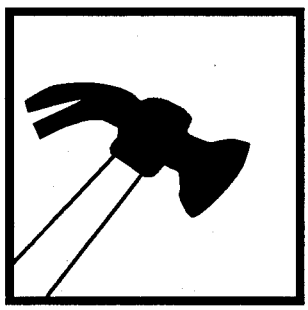
(cont'd)
bearings as required.

- **Install** or remove exterior covers on window-mounted air conditioners on an established schedule.
- **Verify** on a regular basis that all sockets, wiring and plugs on radios and TVs are in good order.
- **Verify** the condition of wall sockets – particularly those used for heavy loads such as vacuum cleaners.
- **Verify** and correct, if necessary, caulking and sealing on all permanently closed doors and windows. Check weather stripping on operable units.
- **Affix** required energy conservation stickers, messages or instructions.
- **Make** sure any air conditioning or refrigerator evaporator coils are clean, that defrost mechanisms are working properly, and that all drip pans are clean and drains unclogged.
- **Thermostats** adjusted by guests are frequently abused; check them annually for operation and calibration; verify that contacts are clean and unpitted.

Water Maintenance Checklist:

- **Repair** leaks in water piping system.
- **Repair** or replace leaky faucets, toilets, pump glands and valves.
- **Clean** and recondition hot water temperature mixing valves at least annually.
- **Check** insulation on hot water pipes and storage tanks frequently.
- **Flush** hot water tanks every six months (more frequently if water is very hard), to remove solids and sludge which have settled in bottom of tanks.
- **Remove** exterior scale buildup from electric hot water heater coils at least annually.
- **With** immersion type hot water heaters installed into the boiler shell, remove and clean scale from interior and exterior coil surfaces.
- **Check** temperature controls on water storage tanks every six months.
- **Check** all sink and bathtub stoppers that don't seal properly, and repair or replace as required.
- **Test** hot water controls, and adjust if necessary.
- **Check** the steam trap on steam hot water heaters. If steam is passing through the trap, repair or replace.

REPAIRS & RENOVATIONS
EVERY STEP MAKES A DIFFERENCE



IX. **FOOD SERVICES**

Because everything you do, and everything you produce is under the daily inspection of every guest, you are very much in the front lines of the CPH&R GREEN PROGRAM. Ask for help and advice from your environment committee as well as from your green partners in Purchasing, in Plant Management, in Repairs and Renovations and in Housekeeping and Kitchens.

The environment committee will help you with answers and materials for guests who will want to know what CPH&R is doing, and why we are doing it.

Food Services Management/Maintenance Checklist:

- **Eliminate** the use of any disposable items, from plastic cutlery to paper napkins or place mats.
- **Eliminate** all single-serving condiments – sugar, creamers, butter, jams or jellies, salt, pepper, ketchup, mustard, relish or vinegar.
- **Eliminate** aerosol products; use pump dispensers wherever practical. (Eg: switch from aerosol-propelled "plastic" whipped cream to the real thing; it takes longer, but Mother Nature will be grateful, and so will your guests.)
- **Recycle** tins, bottles, jars and paper products.
- **Order** in bulk wherever possible.
- **Refuse** excess packaging on produce.
- **Turn** off all equipment and lighting when it's not in use.
- **Keep** all kitchen surfaces and lighting fixtures clean.
- **Check** equipment, plumbing and electrical outlets regularly for faults; have them repaired or replaced immediately.
- **Install** aerators on all faucets.
- **Offer** "real ale", free of chemical additives, in your restaurants and bars.

For information on organic food products, also check in our Green Contacts List.

For data on food, packaging and beverages:
The Packaging Association of Canada
111 Merton Street, Ste. 201
Toronto, Ontario
M4S 3A7
Phone: 416-485-7812
A coalition of packaging companies (CEO is Alan M. Robinson)

FOOD SERVICES
ON THE FRONT LINE

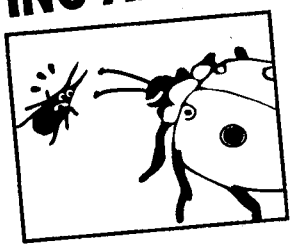
Canadian Pacific Hotels & Resorts
ACCOMMODATING THE ENVIRONMENT...
THE GREENING OF CANADA'S LARGEST HOTEL COMPANY

SUCCESS STORIES

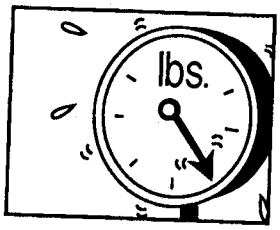
Great Canadian Hotels with Great Environmental Ideas

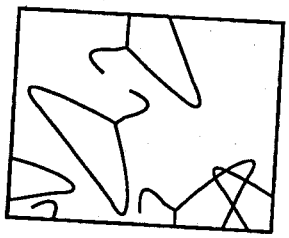
featuring...

LIVE LADY BUGS EATING APHIDS



1.25 MILLION POUNDS of STEAM (TRAPPED!)





The RETURN of 1,500 COAT HANGERS

Within the context of an ambitious chain-wide program, many individual hotels in the Canadian Pacific Hotels & Resorts group have come up with exceptionally creative or unusual ways to become more nature-friendly. While every one of CPH&R's 26 hotels in Canada has started an environmental program, here are a few highlights from some of the greenest hotels in the chain. If you've ever wondered what happens to that little bar of soap after you check out of your hotel room, read on...

SUCCESS STORIES

SUCCESS STORIES

CHATEAU WHISTLER RESORT

Whistler, British Columbia – Chateau Whistler Resort is one of Canadian Pacific Hotels & Resorts' top environmental stars: in fact, this hotel won the chain's first annual Hotel Environmental Achievement Award.

Examining the hotel's departments, the reasons are clear. When it comes to waste reduction, Chateau Whistler Resort goes all the way: for instance, all paper products in the hotel are reused and recycled. Post-it notes are no longer ordered — scrap paper is being used instead. The servers in Whistler's restaurants use notepads made from leftover scrap paper. Instead of using a fax cover sheet once and throwing it out, both sides are used, and then the sheet is recycled. With the help of one of Whistler's suppliers, all paper coming into the hotel is brought down to a recycling depot in Vancouver. Blue bins are situated around the hotel and will shortly be installed in all guest rooms.

To reduce the need for paper for internal communications, Whistler is moving to an electronic mail system incorporating a scanner. Housekeeping staff have also been active in waste reduction, and take materials that cannot be recycled in Whistler down to Vancouver on their own time. Wire hangers from dry cleaning are re-used, leftover soap from guest rooms is being redistributed to charity, used amenity bottles are being emptied and recycled.

Chateau Whistler's kitchens have won acclaim for their use of organic meats and produce, grown without the use of harmful pesticides and herbicides. The kitchen has been telling its suppliers that it wants less packaging, and returns crates and boxes to suppliers for re-use. For its own part, Chateau Whistler does not use excess packaging, styrofoam cups or disposable decorations such as paper doilies.

The resort is active in the areas of water and energy conservation, too: through British Columbia's Power Smart program, Chateau Whistler has converted all of its 24-hour lighting to energy-efficient bulbs. All water taps are equipped with low-flow valves.

The environment around the hotel is protected, too: instead of using commercial pesticide on its rose bushes, Whistler uses lady bugs, which are equally effective in controlling aphids and similar pests. Chateau Whistler Resort also has the hotel chain's only known reforestation program: Christmas trees used in the hotel over the holiday season are presented in pots, and in the summer, are re-planted locally.

SKYDOME HOTEL

Toronto, Ontario – SkyDome Hotel was the first hotel in the chain to start a guest room blue box program, a program which helped inspire Canadian Pacific Hotels & Resorts to make this a chain-wide

project. In 1990, blue boxes were placed in all suites, stadium-view rooms and skyboxes, with a letter from the General Manager encouraging guests to use them. City of Toronto's Public Works and Environment Department even provided a number of blue boxes to the hotel free of charge. The campaign swiftly proved to be an enormous success: responses from guests were unanimously positive, and the participation level was high. In 1991, housekeeping collected 12,120 beer bottles, 36,564 beer cans and 21,040 soft drink cans, from just 70 rooms and suites. By the end of January, 1992, all rooms and suites were equipped with blue boxes.

Recycling is also happening in offices throughout the hotel: in fact, in 1991, enough paper was recycled to save 200 trees. Old newspapers are collected from guest rooms and recycled. Newspapers are no longer delivered to rooms in plastic bags.

The hotel environmental committee also helped launch a soap recycling program: used bars of guest room soap are collected in plastic pails by room attendants and deposited at the end of each day in a central reservoir. Once a quantity of soap is collected, it is sent to a charitable organization. Amenity bottles are also collected for recycling.

Half-used rolls of toilet paper and facial tissue boxes not suitable to be left in guest rooms are collected and used in staff facilities and offices.

Coat hangers are returned to the dry cleaners for reuse, reusable wicker laundry/valet baskets are now used instead of cardboard for packaging guest laundry, and any other cardboard boxes coming into the hotel are either used to package and mail lost and found articles for guests, or taken to a compactor in the Dome.

Empty toxic waste containers (paint tins, etc.) are deposited into a separate container for hazardous waste at the Dome. Used photocopier cartridges are sent back to Xerox for recycling.

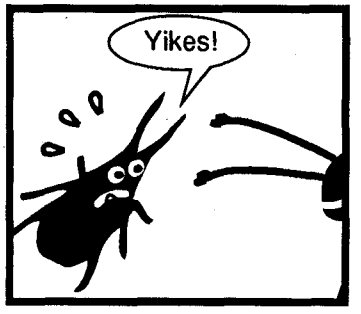
Styrofoam cups are no longer available in the staff cafeteria: instead, each employee is given a reusable plastic mug for the their own use, compliments of the hotel environmental committee.

A full internal communications programme ensures that employees within the hotel are kept up to date on the green plan. A column has been set aside in the hotel's monthly in-house publication for use by the environment committee. All new employees are given information on the green program, and a reusable mug as a welcome present from the committee. They are also given a tour of all recycling areas within the hotel and the Dome.

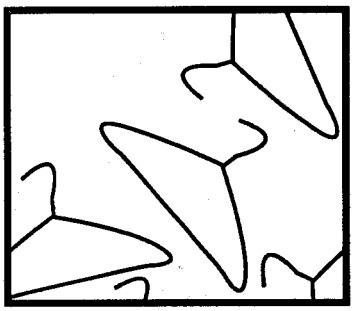
Rob Lusink, Assistant Executive Housekeeper at SkyDome Hotel, was the winner of CPH&R's first annual Individual Environmental Achievement Award.

BANFF SPRINGS HOTEL

Banff, Alberta – Through recycling and the use of a new compacter, Banff Springs has reduced the volume of waste sent to landfill to



SUCCESS STORIES



SUCCESS STORIES

one eighth of the old volume. The hotel now makes only one daily trip to the garbage transfer station, saving on labour and gasoline.
All refundable beer, pop and wine containers are being collected, sorted and returned for refunds.
Non-refundable cans are being collected both within the hotel and in staff accommodations, and shredded in the hotel's new Rabco recycling machine. Every month, over 1,000 pounds of cans are recovered in this way, and sent to a recycling plant in Calgary.
Between 80 and 85% of all recyclable paper is being sorted at the hotel prior to being transported to a paper depot in Banff.
Cardboard is being shredded and shipped to a recycling depot in Calgary. The quantities are significant—over 3,000 pounds of cardboard every month.
In the category of organic waste, used grease is collected from kitchen waste and shipped to Alberta Processing for recycling.
Motor oil collected from hotel vehicles is shipped to Hub Oil to be re-refined.
Used soap and shampoo from guest rooms is shipped to the Salvation Army in Calgary. Coat hangers are collected from guest rooms and staff accommodations and returned to the uniform room for re-use. The uniform room now returns 1,000 to 1,500 coat hangers to the laundry every month.
One unexpected benefit of the extensive recycling program at Banff Springs is that paying attention to what is being thrown out means many valuable items which once would have accidentally gone to landfill are now being recovered. Over a two-month period in 1991, the recycling and sanitation department rescued 310 pieces of silverware, 70 pieces of china and glassware, 30 pieces of hotel linen, 350 coat hangers, 450 bars of soap and ten 45-gallon drums of recyclable cans and bottles.

L'HÔTEL

Toronto, Ontario – Early in 1991, L'Hôtel started to recycle paper, cardboard, kitchen fats, scrap metal and glass, resulting in a waste reduction that saved the hotel over $5,000 in garbage pick-up costs that year. Additionally, L'Hôtel has come up with many creative ways to reduce waste at source: guest room laundry bags (formerly plastic and disposable) are now made from retired bed sheets, and are reusable. Fruit baskets and gifts are no longer wrapped in cellophane, and newspapers are no longer delivered in plastic bags. In January of 1992, L'Hôtel began recycling newspaper and cans (aluminum and steel).
Sometimes small changes result in considerable savings: by discontinuing the use of styrofoam cups and individual creamers in the staff restaurant, Friendly's, L'Hôtel is saving $3,450 annually.
Perhaps the most striking example of L'Hôtel's environmental program success is in the area of energy conservation. With the involvement of Ontario Hydro, L'Hôtel switched its 40-W fluorescent tubes to 34-W tubes, an investment of $10,000 which paid off swiftly: the first year energy

saving was over $25,000, and to top it off, L'Hôtel qualified for an Ontario Hydro conservation rebate of $1,900!

L'Hôtel is on the cutting edge of energy conservation techniques: in 1991 they installed a building management computer and installed timers on all lighting circuits. During off-peak periods, entire guest rooms can be closed to all the shut-down of energy-gobbling boilers. 1991's gas bill was down $8,300. Additionally, water-saving showerheads have been installed in all Entrée Gold guest rooms, a replacement program which will be continued throughout the hotel.

THE QUEEN ELIZABETH

Montreal, Quebec – One of the people who knows most about the green program at the Queen Elizabeth Hotel is Father Lanthier, Director of the Centre Missionaire Sainte-Therèse in Montreal. Father Lanthier's mission takes soap and shampoo which have been recovered from guest rooms, and ships them to third world countries where they are much in need. The mission also takes the hotel's 2,500 old telephone books (white and yellow pages) for recycling.

Within the hotel, the collection of recyclables is handled by Jean Belley, Assistant Director of Security. In addition to the soap and phone book collection, Jean picks up cardboard, paper and accumulated aluminum cans from guest floors and arranges to have them picked up by recycling companies.

HOTEL NEWFOUNDLAND

St. John's, Newfoundland – The team at Hotel Newfoundland had large hurdles to leap when they started an environmental program in 1991: located on Canada's easternmost province, a ten-hour ferry ride from the mainland, Hotel Newfoundland had to manage without the support of recycling programs existing in other areas of Canada. Through a number of creative steps, the hotel has made great strides.

Jim Thorne, Supervisor of Purchasing and Materials for the hotel, set up a program with a local wine supply store. The hotel sends its glass and plastic bottles (over 70 cases a month!) to the store, which recycles them to its customers, who make home-made wine.

Kitchen fat is recycled, and warm grey water is used to pre-heat incoming boiler water in the laundry.

Every month, over 600 pounds of newspaper, computer paper and other paper is sent to Nova Recycling, who report that Hotel Newfoundland is the second-largest source of recyclables in the province.

In 1990, Hotel Newfoundland used 62,000 styrofoam cups. In 1991, that number was cut to 27,000, and this year, the hotel is not using any

"The savings with the three R's have been considerable!" - say **staff mathematicians**

SUCCESS STORIES

"Get back, steam!"
- say **members of engineering department**

styrofoam cups at all.
In under a year, Hotel Newfoundland has become an environmental leader in the province, and is inspiring other Newfoundland businesses to get active in this area.

LE CHÂTEAU MONTEBELLO

Montebello, Quebec – It is hard not be conscious of the environment at Le Château Montebello: this peaceful resort, constructed entirely of logs, lies at the heart of a thickly wooded 65,000-acre estate on the banks of the Ottawa River. Within the hotel, a number of environmental measures have been introduced over the past year in the areas of recycling, energy conservation and waste reduction.
Drycleaned shirts are no longer wrapped in plastic, and hangers are returned to the drycleaners. Paper doilies in function rooms have been replaced with linen napkins. Aluminum tins are recycled locally, and soap is sent to Ottawa for recycling there.
Instead of keeping all kitchen ovens on during working hours, the hotel now turns on only the ovens required, based on the day's hotel occupancy. A particularly interesting project undertaken at this hotel is the construction of a compost site which is to fertilize the hotel's own herb garden. Natural fish fertilizer is used on the golf course, and in the summer of 1992, the golf course is experimenting with patches of wildflowers to replace some bedding plants. The idea is to eliminate the need to mow these areas, while creating a natural and aesthetically-pleasing landscape.

HOTEL VANCOUVER

Vancouver, British Columbia – Hotel Vancouver has one of the chain's most extensive recycling programs, covering fine paper, newspaper, cardboard, glass, computer printer ribbons, coat hangers, plastic, tin and aluminum cans. The hotel's garbage dropped by 101,610 pounds in 1991, compared to the previous year.
The hotel is also among the chain's most energy efficient, and has recently installed a Burke computer system, which monitors and controls motors and lighting throughout the hotel. Vacant guest rooms are kept at 65 degrees Fahrenheit, flow-restrictors in showers and sinks have cut hot water waste substantially, and lights are turned off in all vacant areas. In total, Hotel Vancouver saved so much energy that in May of 1991, the hotel received a $19,000 rebate cheque from the province's PowerSmart conservation program.
One of the hotel's most successful environmental moves took place in the hotel laundry. The engineering department installed 82 steam guards in the laundry, and in just three weeks had already saved 1.25 million pounds of steam. The cost of doing laundry at the hotel has dropped from 4.1 cents a pound

SUCCESS STORIES

prior to the installation to 1.9 cents a pound.
Damaged linens are recovered and not thrown out: old towels and facecloths are used as rags, old sheets are sold to staff, and old tablecloths are cut down and made into napkins.
The hotel's restaurants often feature organic fruits, vegetables and meat products, and when tuna is on the menu, you can be sure that it's dolphin-friendly.

HOTEL MACDONALD

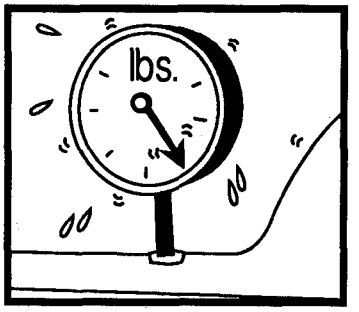
Edmonton, Alberta – Since Hotel Macdonald opened in May of 1991, it has made rapid strides towards becoming a nature-friendly hotel. The Macdonald has already surpassed the chain's target of a 50% reduction in waste volume: waste output has dropped from four bins per day to less than two bins. This has enabled to hotel to escape the impact of a $1,000 per month increase in landfill and pick-up charges.
Cardboard, paper and plastics are recycled. The hotel has never used individual creamers or disposable cups, and is phasing out condiment and sugar packets. Blue boxes for recyclables are in place in all guest rooms and meeting rooms.
Incandescent bulbs are being replaced with compact fluorescents; showerheads and taps are being fitted with flow restrictors, and hot water tanks are set at reasonable temperatures of 130 - 140 F, depending on whether the water is for guest rooms or kitchen and laundry use.

HOTEL BEAUSÉJOUR

Moncton, New Brunswick – The green program at Hotel Beauséjour has been led by Dawn Smith, the hotel's Assistant Executive Housekeeper. Well before the chain-wide program began, Dawn rallied her "troops" to save and bundle newspapers, and collect aluminum cans. With limited recycling facilities in the city, Dawn would take loads of newspapers in her own Chevette to a recycling company outside Moncton. She was also instrumental in ensuring that items no longer of use to the hotel (old mattresses, sheets, etc.) are donated to local charitable organizations. Dawn also encourages her colleagues to take home unused guest room amenities, to ensure they don't go to waste.

CHÂTEAU LAURIER

Ottawa, Ontario – Château Laurier was one of the first hotels in the Canadian Pacific Hotels & Resorts group to install blue boxes for recyclables in all guest rooms. The multi-material recycling program at this hotel is one of the best in the chain, and hotel departments have worked together closely to ensure that it runs smoothly. One of the



SUCCESS STORIES

housemen in the hotel even translated the training information on recycling into Cantonese, for the benefit of his Cantonese-speaking co-workers.
In 1992, the hotel is retro-fitting its public and guest room lighting to low energy bulbs as well as doing a complete retrofit of its steam system.
Château Laurier sends its used guest room soap and shampoo to the local Salvation Army.

CHATEAU AIRPORT

Calgary, Alberta – Located at Calgary International Airport, Chateau Airport is one of the more modern hotels in the Canadian Pacific Hotels & Resorts group. An aggressive environmental program has greened virtually all departments of this hotel, exceeding the chain's environmental guidelines in many areas.
An energy management system controls fans, heating and cooling systems in meeting rooms, and motion detectors switch off the lights in the public rest rooms when they are not in use.
Chateau Airport's recycling program covers coat hangers, paper, newsprint, cardboard, cans and bottles. Additionally, used guest soap is sent to the Salvation Army, doilies and creamers are no longer used in the hotel's restaurants, and aerosol cans have been discontinued. Unclaimed "lost and found" clothing items are sent to shelters, along with partly-used bottles of shampoo and conditioner from guest rooms.
Dry cleaning and laundry bags are now made of cloth and are re-usable, and the staff locker rooms now have cloth towels instead of paper towels.

LE CHÂTEAU FRONTENAC

Quebec City, Quebec – Le Château Frontenac is one of the most beautiful historic buildings in the city of Quebec, and thanks to the efficient work of the hotel's environmental committee, it is swiftly becoming one of the most nature-friendly buildings in the city as well.
Hotel staff in all departments work together to collect used cardboard boxes. Every month, two metric tons of cardboard are sold to a local recycler for $60 per ton. The money is divided between the hotel social committee and a local charity, Reves d'enfants (Children's Wish) which raises funds for terminally ill children.
Working with the City of Quebec, the hotel also recycles paper, glass, plastic and scrap metal.
Le Château Frontenac is no longer ordering aerosols, saran wrap, plastic bags for newspapers, or toxic varnishes. The hotel has started phasing in energy-efficient light bulbs. Lights are switched off and heating is reduced in any guest rooms, meeting rooms and reception areas which are not in use.
Water-saving showerheads have

SUCCESS STORIES

been installed in all guest rooms, and the insulation of hot water and steam pipes is nearing completion.

THE EMPRESS

Victoria, British Columbia – When the historic Empress Hotel was closed for a six-month restoration in 1989, higher standards of environmental protection were introduced in many areas with a changeover of equipment or facilities. Since that time, the hotel has continued to develop environmentally, by introducing recycling and conservation programs.

The Empress estimates that 20 to 25% of its solid waste is cardboard, and has launched a program to bale and recycle all of this material. After investing in a cardboard baler, the hotel invited its neighbour, the Victoria Conference centre to divert its own cardboard waste as well.

On guest floors, newspapers are collected by housekeeping staff and sent to recycling depots. An average of one ton of newsprint is recovered every month.

The hotel estimates that the installation of the LANmark computerized reservations system (also installed at most other CPH&R hotels) saves them over 3,000 sheets of paper every month, because reports can be sent on computer disks, instead of computer paper.

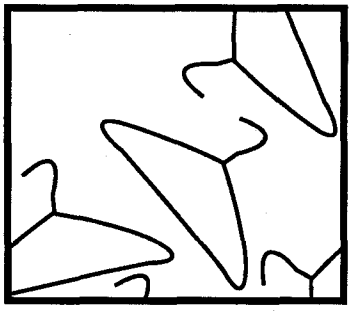
In the hotel offices, bond paper and computer paper is collected and brought to a central recycling station. Following a posted rotating schedule, office staff (including the General Manager!) take turns carrying the paper down to the collection point.

ROYAL YORK

Toronto, Ontario – The stately Royal York has been recognized by Meetings and Incentive Travel magazine as "Toronto's most advanced hotel" on the environmental front. The achievements of this 1400-room hotel are certainly remarkable: since 1989, the Royal York has cut its waste output in half, launched ambitious conservation programs and introduced extensive recycling programs.

Some of the hotel's environmental projects have been high-tech, like the installation of occupancy sensors in guest rooms which automatically adjust the temperature to a pre-set level whenever a room is empty. Guests can control the temperature themselves when they are in the room.

Many of the hotel's environmental programs are old-fashioned common sense: for example, when guest room towels and sheets are damaged, they are cut up and used as rags. For many years, the Royal York has been involved with Second Harvest, a Toronto organization which collects food and redistributes it to relief agencies in the city. After the breakfast rush is over, muffins, croissants, danishes and other baked goods are picked up from the hotel and delivered



SUCCESS STORIES

while still fresh.
The hotel has recycling programs for aluminum, glass, cardboard, newsprint, fine paper, hand soap and plastic pails. Organic waste in the kitchen is reduced and compressed through a Hobart Press waste disposal system. Through the Hobart system and the hotel's recycling programs, waste output has dropped so much that the hotel no longer needs to use its on-site incinerator.
Additionally, as waste disposal costs in Toronto have risen, the cost savings of the waste reduction program have become evident. Joan Sproul, comptroller for the Royal York, estimates that in 1991 the hotel saved $260,000 in waste removal costs over the year as a direct result of the environmental measures the hotel has taken. Savings have appeared in other areas, too: a $25,000 program of replacing leaky steam traps and fixing leaks brought steam consumption levels down from 160 million to 130 million pounds per year. Annual cost savings are estimated at over $200,000.
There are over 30 thousand light bulbs in the Royal York Hotel. As part of the environmental program, the hotel is now starting to convert these bulbs over to more energy-efficient alternatives: depending on the site, either lower-wattage incandescent or compact fluorescent bulbs are being used.
The hotel is also keeping the ozone layer in mind: not only have aerosols been eliminated from use, the hotel has also installed a freon management system to recapture old freon gas when chillers are being repaired by the air conditioning department.
In the fall of 1992, the Royal York is installing blue boxes in every guest room, joining Canadian Pacific Hotels & Resorts across the country in inviting guests to pitch in for the environment while they're on the road.

If you have any questions about the environmental program of Canadian Pacific Hotels & Resorts, or about any of these hotel case studies, please call ***Ann Checkley****, Director of Communications and Environmental Affairs for Canadian Pacific Hotels & Resorts at (416) 367-7101, or write to her at Canadian Pacific Hotels & Resorts, One University Avenue, Suite 1400, Toronto, Canada M5J 2P1.*

SUCCESS STORIES

GREEN CONTACTS

GREEN CONTACTS

4

I. **Introduction** 1
II. **Environmental Groups** 2
III. **Waste Disposal & Audit Systems** 2
IV. **Recycling** 3
V. **Recycled Paper** 6
VI. **Energy Conservation** 8
VII. **Energy Saving Fluorescents** 9
VIII. **Solar Energy** 9
IX. **Water Saving Fixtures** 9
X. **Paints & Varnishes** 10
XI. **Cleaning Products** 10
XII. **All About Organic** 11

Note: addresses and telephone numbers are in a constant state of change. As you come across any incorrect or out-of-date information in these Green Contact lists, or information that you believe should be included here, please forward it to us for inclusion in the next edition of the Green Contacts which we'll be sending to you in a few months.

I. INTRODUCTION:

On the following pages, you'll find a detailed Green Contacts List of many organizations which can help provide answers and information to your environmental questions and concerns.

Most of these organizations are consumer-oriented, citizen-action and/or research groups; others are lobbyist groups for government or industry lobbyists; the tone of the mail they send you will quickly tell you which are which.

If you write any of them, you'll get lots of mail (ask them to send it on recycled paper!) More than likely, you'll also receive some invitations-to-join and requests-to-contribute. That's okay, too. You probably *should* belong to some of your choice – it's another way of being effective. It might also be a good idea to join one or more of the 'defence' organizations.

II. CANADIAN ENVIRONMENTAL GROUPS

There are more than 2,000 environmental groups in Canada. While we can't list them all here, The Canadian Environmental Network has taken on the enormous job of collating addresses and coordinating research between these groups. For details about environmental organizations in your area, please contact:

Canadian Environmental Network
Suite 701
251 Laurier Avenue West
Ottawa, Ont.
K1P 5J6
Phone: 613-563-2078

III. WASTE DISPOSAL & AUDIT SYSTEMS

A) NATIONAL WASTE DISPOSAL SYSTEMS:

LAIDLAW WASTE SYSTEMS
Toronto area hotels call:
1126 Fewster Drive,
Mississauga, Ont. L4W 2A4
(416) 624-8353
Mgr. Dan Blair

Ottawa area, and Montebello
70 Bentley Ave.,
Nepean, Ont.
(613) 224-4463
Mgr. Sylvio Richard

Deerhurst call:
P.O. Box 1205
Barrie, Ont.
(705) 726-5529
Mgr. Paul Harris

Montreal area and the Maritimes call:
3035 rue Jarry est,
Montreal, P.Q.
(514) 374-3881
Mgr. Ronald Auclair

Alberta hotels call:
P.O.Box 12006,
7940-25 St.,
Edmonton, Alta. T5J 3L2
(403) 440-1700

8426 Shepard Road S.E.
Calgary, Alta. T2C 1R6
(403) 270-6000
Mgr. Brian McCool

British Columbia hotels call:
2057 Mills Road,
Victoria, B.C. V8L 3S1
(604) 656-0951
Mgr. Dean Woods.

B) CANADIAN PROVINCIAL WASTE EXCHANGES:

British Columbia Waste Exchange,
(Tim Reeve), Suite 102,
1525, West 8th Ave.,
Vancouver, B.C. V6J 1T5
(604) 731-7222

Alberta Waste Materials Exchange
Alberta Research Council
(William C. Kay),
P.O.Box 8330, Station F,
Edmonton, Alta. T6H 5X2
(403) 450-5408

Ontario Waste Exchange
(Linda Varangu/Mary Jane Hanley)
ORTECH International,
2395 Speakman Dr.,
Mississauga, Ont.
L5K 1B3
(416) 822-4111 Ext. 512/358
Fax: (416) 823-1446

Canadian Chemical Exchange
(Phillippe LaRoche),
P.O. Box 1135,
Ste-Adele, Que.
J0R 1L0
(514) 229-6511

C) USED MOTOR OILS

For information on where to dispose of used motor oil and purchase recycled motor oil, contact the following:

National
Petroleum Marketers Association of Canada
438 Briar Hill Ave.
Toronto, Ont.
M5N 1M7
Phone: 416-485-1826

Alberta
Canadian Petroleum Association
1500-633 Sixth Ave. S.W.
Calgary, Alta.
T2P 2Y5
Phone: 403-269-6721

British Columbia
British Columbia Petroleum Association
1004 - Capilano 100
100 Park Royal
West Vancouver, B.C.
V7T 1A2
Phone: 604-926-7431

Nova Scotia
Atlantic Petroleum Association - Marketing
6 Glenn Court
Dartmouth, N.S.
B2W 1M4
Phone: 902-435-5337

Quebec
Quebec Petroleum Association - Marketing
1253 McGill College Ave., Ste. 845
Montreal, P.Q.
H3B 2Y5
Phone: 514-875-4340

Ontario & Quebec
Oil Canada Limited
Toronto, Ont.: 416-462-6111
London Ont.: 519-762-2847
Montreal, P.Q.: 514-254-3549
Toll-Free National Telephone Number: 1-800-268-6744

D) KITCHEN OIL & GREASE:

ORENCO (Ontario Rendering Co. Ltd.)
P.O. Box 8270,
880, Highway 5 W.,
Dundas, Ont. L9H 5G1
(416) 825-0280
Toll-free: 1-800-263-0302
In other provinces, check the yellow pages for renderers.

E) WASTE AUDIT SPECIALISTS

M.C.C. Industrial Services Ltd.
(416) 826-6800.
Manager: Bruce Towner.

IV. RECYCLING

A) USEFUL NATIONAL & PROVINCIAL CONTACTS

Recycling Council of British Columbia,
2150 Maple St.,
Vancouver, B.C. V6J 3T3
(604) 731-7222 Contact: Judy Toth
(604) 736-8636 (Greater Vancouver Area Information Service)
RCBC is an umbrella organization uniting many recycling groups. Their mandate is to promote effective and responsible waste management practices.

Municipal Solid & Bio-Medical Waste Branch,
Environmental Protection Division,
Ministry of the Environment,
810 Blanchard St.,
Victoria, B.C. V8V 1X5
(604) 387-9974 Director: Ron Driedger.

Policy & Program Development,
Government Management Services,
2nd Floor, 4000 Seymour Place,
Victoria, B.C. V8X 4Y3
(604) 389-3375

Paper Chase Recycling
11941-73rd St.,
Edmonton, Alta. T5B 1Z7
(403) 477-9391

Recycling Council of Alberta,
Director: Dr. Cornelius Guenter
(403) 471-0071
RCA is a volunteer organization promoting increased recycling.

GREEN CONTACTS

Environmental Council of Alberta,
8th Floor, Weber Centre,
555 Calgary Trail Southbound NW,
Edmonton, Alta. T6H 5P9
(403) 427-5792
ECA is a public advisory committee on waste reduction.

Alberta Environment - Waste & Chemicals Division
Recycling Branch (southern Alberta),
P.O.Box 101, 2938 11th St., N.W.,
Calgary, Alta. T2E 7L7
(403) 297-5923

Alberta Environment - Waste & Chemicals Division
Recycling Branch (northern Alberta)
9820 106th St., 5th Floor,
Edmonton, Alta. T5K 2J6
(403) 427-5838

Recycling Council of Ontario,
489 College St., Suite 504,
Toronto, Ont. M6G 1A5
(416) 960-0938 (Toronto area)
1-800-263-2849 (Ontario-wide toll-free number)
(416) 960-1025 (business line)
RCO is a non-profit corporation which broadly represents government, industry, environmental and community organizations and individuals; and is instrumental in advancing reduction, re-use and recycling initiatives in Ontario.

Fonds Quebecois de recuperation
407, blvd. St. Laurent, Suite 500,
Montreal, P.Q. H2Y 2Y5
(514) 874-3701
FQR administers the deposits on all returnable beer & soft drink cans and bottles in the province.

Ministere de l'Environment du Quebec,
Direction de la Recuperation et du Recyclage,
2360 chemin Ste-Foy, ler etage,
Ste-Foy, P.Q. G1V 4H2
(418) 643-4115

Dept. of Recycling. Ministry of the Environment,
3900 Marly St.,
Ste-Foy, P.Q. G1X 4E4
(418) 644-3376

Quebec Public Interest Research Group (QPIRG)
McGill University,
3620 University St.,
Pavillion Eaton,
Local 505,
Montreal, P.Q. H3A 2B2
(514) 398-7432
This university-based organization is involved in a wide range of environmental issues including waste management.

Ecology Action Centre,
3115 Vieth St.,
Halifax, N.S. B3K 3G9
(902) 454-7828
The largest environmental group in Nova Scotia, EAC is involved in education, advocacy and action for environmental protection and preservation.

The Clean Nova Scotia Foundation,
P.O. Box 2528,
Station M,
Halifax, N.S. B3J 3N5
(902) 424-5245 (Contact: John Thorpe)
A non-profit society dedicated to a "litter-free province", they develop litter prevention programs and promote recycling.

Nova Scotia Dept. of the Environment,
P.O. Box 2107,
Halifax, N.S. B3J 3B7
(902) 424-5300 Contact: Mike LeBlanc

Conservation Council of New Brunswick,
180 John St.,
Fredericton, N.B. E3B 4A9
(506) 458-8747 Contact: Janice Harvey

New Brunswick Dept. of the Environment,
Operations Branch,
364 Argyle Place,
P.O. Box 6000,
Fredericton, N.B. E3B 5H1
(506) 453-2861 Contact: Janet Parkhill

P.E.I. Dept. of the Environment,
Information and Assessment
Coordinator, Recycling,
P.O. Box 2000,
Charlottetown, P.E.I. C1A 7N8
(902) 368-5024

Dept. of Environment and Land,
P.O. Box 8700,
St. John's, Nfld. A1B 4J6
(709) 576-5793 Contact: Carl Strong.

Nova Recycling,
P.O.Box 5128,
St. John's, Nfld. A1C 5V6
(709) 579-7466

B) RECYCLING ALUMINIUM CANS

Vancouver, B.C. (604) 525-7722, Jim Dickson.
This office covers Alberta and British Columbia.

Ontario:
Toll free 1-800-268-7403
Toronto area: 458-1121
Speak with Blair Barber or Anup Shah.

Quebec, (514) 848-1591, Micheline Delisle.
This office covers Quebec and the Atlantic Provinces.

C) RECYCLING LASER PRINTER CARTRIDGES

LaserNetwork addresses across Canada:

<u>British Columbia:</u>

Fraser Valley Laser
5-19747 Telegraph Trail,
Langley, B.C. V3A 4P8
(Chris Falardeau)
(604) 888-7192

Vista Marketing,
11-12171 Bridgeport Road,
Richmond, B.C. V5V 1J4j
(Claude Diedrick)
(604) 273-5446

Laserquik
421A Powell St.,
Victoria, B.C. V8V2J3
(Willis Turner)
(604) 384-7322

<u>Alberta:</u>

Toner Cartridge Recharge,
9992-29th Ave.,
Edmonton, Alb. T6N 1A2
(Darcy Berreth)
(403) 450-9923

Approved Laser Recharge
7344 18th Ave.,
Edmonton, Alb. T6K 2B4
(Dalbert Patterson)
(403) 461-5315)

<u>Ontario:</u>

Lasersave (Head Office)
785 Pacific Road,
Unit 1,
Oakville, Ont. L6L 6M3
(Chris Stoate)
(416) 847-5990

Laserfill Cartridge Corp.
14, Colonnade Road,
Suite 250,
Nepean, Ont. K2E 7M6
(Sean Beresford)
(613) 723-3455

Transformation Technology
150 Edward St.,
Cornwall, Ont. K6H 4T9
(Thomas Boros)
(613) 936-9160

Kartridge King,
108 Marshall St.,
Barrie, Ont. L4N 4L5
(Dennis Doering)
(705) 739-9583

<u>Quebec:</u>

Century Laser, Inc.,
9408 Viau Blvd., #206,
St. Leonard, PQ. H1R 3K7
(Rick Rossi)
(514) 327-3459

Estampes Capitales,
1707 Boul. Rive-Sud,
C.P. 2066, St. Romuald, P.Q.
G6W 5M3
(Yves Choiniere)
(418) 839-1182

Laser KGC ENR
1635 Boul. de la rive sud,
St. Romuald, P.Q. G6W 5M6
(Conrad Bolduc)
(418) 839-2516

New Brunswick:

Laser Fill
91, Regent St.,
Fredericton, N.B. E3B 3W3
(Morley Reid)
(506) 455-5676

Laser Tech Enterprises,
RR #7,
Belmont,
St. John, N.B. E2L 3W7
(Tom Simpson)
(506) 738-8885

Prince Edward Island:

Printer Recharge
35 Fairview Drive,
Charlottetown, P.E.I. C1A 6H2
(Case Van Hemert)
(902) 892-9604

Nova Scotia:

Laserworks Computer Service Corp.,
19, Mosher Drive,
Dartmouth, N.S. B3B 1E5
(John Woodford)
(902) 468-5430

Rhand Laser Fill
1206 Montague Road,
Suite 5,
Box A Comp 5,
Waverly, N.S. B0N 2S0
(Del Pancura)
(902) 435 1416

Newfoundland:
Laser Services Ltd.,
74 O'Leary Ave.,
St. John's, Nfld. A1B 2C7
(Neil Tricco)
(709) 722-3400

Independent Laser Printer Cartridge Recyclers, Toronto area:

Tomlin Laser Recharge
2721 Victoria Park Ave.,
Toronto, Ont.
543-8745

Toner Charge Inc.,
49 Spadina Ave., Suite 304,
Toronto, Ont.
599-5872

Venture Marketing,
14 Cayuga Ave.,
Toronto, Ont.
760-8387

V. RECYCLED FINE PAPERS

A) SOURCES FOR RECYCLED FINE PAPERS, COMPUTER PAPER & STATIONERY:

In Canada:
The Paper Source
Fallbrook, Ont.
K0G 1A0
Phone: 613-267-7191
(They'll mail you a catalogue, with paper samples. N.B. Most of their paper stock comes from the U. S.)

Wyant & Co. Ltd.,
Lachine, Que.
Toll-free 1-800-361-7691

Buntin Reid Paper
1330 Courtney Park Drive
Mississauga, Ont.
L5T 1K5
Phone: 416-670-1351
Fax: 416-670-6088

United States:

Earth Care Product Company
325 Beach Lane
Harbor Springs
Michigan, U.S.A. 49740
Phone: 616-526-7003

Recycling Image
Haselberger & Associates
392 West County Road D
New Brighton, Minnesota
U.S.A. 55113
Phone: 612-636-9452

Conservatree Paper Company
2107 Van Ness Avenue
San Francisco, California
U.S.A. 94109
Phone: 415-673-8662
(This company supplies much of the recycled paper used in Canada.)

Community Recycling
720 North Market Street
Champaign, Illinois
U.S.A. 61820
Phone: 217-351-4584

B) FINE CANADIAN PAPERS CONTAINING SOME RECYCLED PAPER

Here are some types of fine Canadian-made paper, noting the proportion of recycled paper* in each.

* Figures provided are a "guideline" to the proportion of recycled material in these paper products; proportions may vary from batch to batch, and cannot be guaranteed to be absolutely accurate.

Fraser Inc.
Thorold, Ont.
Phone: 416-227-5271
N.B. At the time of writing, Fraser is the only Canadian mill making paper from post-consumer (i.e. used) paper which has been de-inked and recycled. Proportions may seem small, but they are a lot more impressive than using none at all.

Type of Paper	% of Recycled Fibre
Premium Xerographic (Focus 4000)	Up to 10%
Fracopi	Up to 20%
Register Paper	20 to 40%
Litho	Up to 25%

Roland Inc.
Fine Papers Division
120 Eglinton Avenue East
Toronto, Ont.
M4P 1E2
Phone: 416-487-4521
Roland does *not* de-ink used paper, nor buy or use de-inked paper. Listed below are those of its products with an average content of 15% or better of recycled fibre.

	% of Recycled Fibre		
Type of Paper	High	Low	Avg.
Concorde Offset Hi-Bulk	50%	15%	18%
Concorde Opaque	42%	15%	18%
Concorde Offset	40%	14%	18%
Concorde Bond	40%	10%	16%
Repro Plus	38%	10%	15%
LT2000	38%	10%	15%

Domtar Fine Papers Ltd.
10 Gurney Crescent
Toronto, Ont.
Phone: 416-781-2431
As with most paper companies, Domtar recycles a good deal of its mill waste and scrap paper, and its percentages of recycled/reclaimed waste fibre content are largely from those sources. (N.B. *Almost all 'new' paper contains around 10% reclaimed mill waste, sometimes much more.*)
We're listing only Domtar products containing 50% or higher reclaimed/recycled fibre content; plus 2 lines of recycled envelope stock, the only such envelopes we found.
(N.B. You can now buy unbleached envelopes - a great environmental improvement over bleached paper, which creates major water pollution problems from the chlorine and other chemical by-products used and produced in the bleaching process.)

Type of paper	% Recycled Fibre
Royal Record Bond	***100%****
Krypton Parchment and Linen Laid	***100%****
Bellfast Bond & Ledger	70%
Autograph Mimeograph	60%
Construction Paper	60%
Hawk & Oriole Bristols	55%

Type of paper	% Recycled Fibre
Register	55%
School Poster Paper	55%
Beaver Bristol	55%
Mayfair Cover	50%
Velvalur Book & Litho	50%
Donvale & Empire Rope Covers	50%
Carbonizing	50%
Envelope Stock (white)	20%
Envelope Stock (brown)	30%

*Contains recycled waste paper (not paper and fibre reclaimed during the milling process).

You can buy some of the above papers by brand name; or order them directly from from the only other major Canadian distributor specializing in handling recycled paper products:

Buntin Reid Paper
1330 Courtney Park Drive
Mississauga, Ont.
L5T 1K5
Phone: 416-670-1351
Fax: 416-670-6088
(Buntin Reid is a division of Domtar.)

VI. ENERGY CONSERVATION

A) ENERGY CONSERVATION CONTACTS

Newfoundland - Newfoundland Light and Power:
Tony Nugenk. 709-737-5763
(They have no program for commercial establishments at the moment.)

P.E.I. - Maritime Electric.
Mr. Gilles Jubainville.
902-566-1599 Ext. 184.
A program for commercial customers is to begin in the fall of 1991. No details as yet.

N.S. - Nova Scotia Light and Power.
Mr. David Stewart
902-428-6221
No commercial program at the moment.

N.B. - New Brunswick Power
Mr. Michael Clowater
506-466-3440
No commercial program at the moment.

P.Q. - Quebec Hydro
M. Gilles Mienier
514-289-2211
They expect to have a program beginning in September, 1991.

Ontario - Ontario Hydro
Mr. Greg Clark
416-590-4580
Ontario offers a variety of options covering motors/lighting/heating, - even shower heads. Explore.

Alberta - Power Smart Program Supervisor
Bill Leach
403-267-7345,
(Mr. Leach will advise on rebates available.)

Transalta Energy Management, Commercial
Gordon Anderson
403-267-7404,
(Call Mr. Anderson to arrange an audit for electricity conservation.)

Alberta Energy, Energy Conservation Branch
Mr. Les Sledan
403-427-5200
(Alberta Energy has an 'Energy Bus' which travels the province doing complete energy audits, including gas and water usage.)

B.C. - Power Smart Program (B.C. Hydro)
Mr. Arthur Geiki
604-663-2386
(B.C. Hydro's "Power Smart Programme" is intended to encourage energy conservation - call to see what help is available.)

B) HOW TO REDUCE PEAK DEMAND POWER CHARGES:

Let's assume you're a hotel kitchen, and:

- you have a chiller, a fryer and a

broiler which you need ready by 7:00 a.m.;
- each takes 3 times as much energy to get started as it does to run;
- each has a ten-minute start-up time.

By staggering their start-up times, you will reduce your peak demand.
Chiller: 80 KW rating. Turn it on at 6.30 a.m. From 6.30 to 6.40 operating at 240 KW.
Fryer: 40 KW rating. Turn it on at 6.40 a.m. From 6.40 to 6.50 operating at 120 KW.
Broiler: 20 KW rating. Turn it on at 6.50 a.m. From 6.50 to 7.00 operating at 60 KW.
If you turn all three on at once, (the usual practice) your peak demand (from 6.50 to 7.00) would be
240 + 120 + 60 = 420 KW.
With staggered start-up times, peak demands are:
6.30 to 6.40 - 240 KW
6.40 to 6.50 -
80 KW + 120 KW = 200 KW
6.50 to 7.00 -
80 KW + 40 KW + 60 KW = 180 KW

VII. SOLAR ENERGY

Canadian Solar Industries Association
67A Sparks Street
Ottawa, Ont.
K1P 5A5
Phone: 613-237-7000

Solar Energy Society of Canada Inc.
135 York Street, Suite 206
Ottawa, Ont.
K1N 5T4
Phone: 613-236-4594

VIII. ENERGY SAVING FLUORESCENT BULBS & FIXTURES

Major Canadian manufacturers of energy-efficient fluorescent bulbs and fixtures include:

Canadian General Electric
165 Dufferin Street
Toronto, Ont. M6K 1Y9
Phone: 416-530-2700

GTE Sylvania Canada Limited
35 Vulcan Street
Rexdale, Ont. M9W 1L3
Phone: 416-247-6168

OSRAM Canada Limited
1180 Courtney Park Drive
Mississauga, Ont. L5T 1P2
Phone: 416-673-1996

Philips Electronics Limited
601 Milner Avenue
Scarborough, Ont. M1B 1M8
Phone: 416-292-5161

Thorn EMI
1400 Meyerside Drive
Mississauga, Ont. L5T 1H2
Phone: 416-677-4248

IX. WATER-SAVING FIXTURES

A) LOW-FLOW WATER-SAVING SHOWER HEADS

Ecological Water Products
Ilderton, Ont.
Brand name: Nova

Transcontinental Energy Saving Products
Burlington, Ont.
Brand name: Showermate

Niagara Products
(distributed in Canada by **20/20 Technologies,** Victoria, B.C.)
Brand name: Niagara Shower Head

Symmons
(distributed in Canada as **R.G. Robbins,** Downsview, Ont.)
Brand name: Clearflow

Jenkinson and Company,
Toronto, Ont.
Brand name: Bubblestream

GREEN CONTACTS

B) LOW-FLUSH WATER-SAVING TOILETS*

*All C.S.A.-approved.

Crane Canada Inc.,
Montreal, P.Q.
Brand name: Radcliffe (model 3-147)

Waltec Bathware,
Cornwall, Ont.
Brand names: Trent (model 101); Welland (model 501)

American Standard
Toronto, Ont.
Brand name: *Plebe Water Saver* (model AF-2132-WS)

Sanitation Equipment Ltd.
35 Citron Court,
Concord, Ont.
L4K 2S7
Brand name: 303 Royal Flush-o-matic
(N.B. This toilet *uses only l liter per flush.)*

C) PHOTO-ELECTRIC-CELL ACTIVATED PLUMBING

Suppliers include:
Cambridge Brass,
140 Orion Place,
Cambridge, Ont.
Tel: 453-0849

Sloane Manufacturing
D.M.P.
- an imported line of plumbing supplies with a variety of styles.

X. PAINTS AND WOOD FINISHES

Here are some sources of environmentally-friendly paints and wood finishes:

DeGroot's Only Organic
1267 Weston Road,
Toronto, Ont.
M6M 4R2
(416) 242-2642
Brand names: Crystal Shield, Crystal Aire

Lowans & Stephan Environmental Products & Services,
R.R.1,
Caledon East, Ont.
L0N 1E0
(519) 941-6499

Smith's Pharmacy
3477 Yonge St.,
Toronto, Ont. M4N 2N3
(416) 488-2600
Brand names: Crystal Shield, Crystal Aire, F-Sorb Paint

Teekah Inc.,
5015 Yonge St.,
Toronto, Ont. M2N 5P1
(416) 229-4199
Brand name: Auro. (Plus full range of natural products for floors, walls, furniture protection.)

XI. ENVIRONMENTALLY FRIENDLY CLEANING PRODUCTS

A) NO-PHOSPHATE AUTOMATIC DISHWASHER DETERGENTS

- President's Choice Green Automatic Dishwasher Detergent
- The Soap Factory - Dish-o-Matic
- Prime Pacific - Bio-dish

B) HIGH-PHOSPHATE AUTOMATIC DISHWASHER DETERGENTS

Electrosol	18%
Calgonite	19%
Steinberg	27%
Provigo	27%
Cascade	28%
Metro	28%
Pharmaprix	28%
All	30%
Sunlight	31%

C) HOME-MADE AUTOMATIC DISHWASHER RECIPE

- Combine equal parts of borax and washing soda.
- Increase the soda for hard water.

D) SOURCES FOR OTHER ENVIRONMENTALLY FRIENDLY CLEANING PRODUCTS

- **Nature Clean** by Truly Natural Products
- **Infinity** by Jedmon Products, Toronto
- **The Soap Factory**, St. Catherines, Ont.
- **Double Team** products from the U.S.
- **Auro** from West Germany
- **Cooperative la Balance** from Montreal
- **Ecover** from Belgium
- **"Murphy's"** cleaning products and soaps are natural products that contain no harmful chemicals and are extremely efficient.

XII. ALL ABOUT ORGANIC

A) ORGANIC ORGANIZATIONS ACROSS CANADA

O.F.P.A.N.A.
Organic Foods Production Association of North America
c/o: Ecological Agriculture Project
MacDonald College
Ste. Anne de Bellevue, P.Q.
H9X 1C0
(OFPANA is the 'mothership' of organic food producers; and your best national source of more detailed information.)

OCIA Ontario
c/o: Larry Lenhardt
Box 8000
Lindsay, Ont.
K9V 5E6
In Ontario, contact OCIA directly for the names of farmers, wholesalers and distributors which carry OCIA certified foods.

SOOPA, (Similkameen Okanagan Organic Producers Association)
c/o: Wayne Still
Box 577
Keremeos, B.C.
V0X IN0

Okanagan Organic Farm and Garden Club
852 Raymer Avenue
Kelowna, B.C.

Creston Valley Organic Producers
c/o Jennie Truscott
Vital Health Foods
Creston, B.C.
V0B IG0

Assoc. for Generative Agriculture
c/o Mary Fastbauer
Box 1601
Aldergrove, Britsh Columbia
V0X 1A0

Shuswap Thompson Organic Producers Assoc.
c/o Paula Rubinson
Box 219
Savona, B.C.
V0K 2J0

Metchosin Organic Producers Assoc.
c/o David Stott, R.R.2
961 Matheson Lake Road
Victoria, B.C.
V9B 5B4

Alliance of Co-operative Natural Food Distributors of Canada
c/o: Darcy Hamilton
150 - 2471 Simpson Road
Richmond, B.C.
V6X 2R2

B) ORGANIC CERTIFICATION ASSOCIATIONS

<u>Alberta</u>
SAA (Sustainable Agriculture Association)
c/o: Neall Coulson
P.O. Box 1063
Nanton, Alta.
T0L IR0

Biological Food Producers Association
c/o: Andy Weestra
General Delivery
Granum, Alta.
T0L 1A0

GREEN CONTACTS

Ontario

Canadian Organic Growers
P.O. Box 6408
Ottawa, Ont.
K2A 3Y4

Society for Bio-Dynamic Farming and Gardening in Ontario
c/o: Alex Murchison
8 Cheval Court
Richmond Hill, Ont.
L4E lH5

OCIA Ontario
c/o: Larry Lenhardt
Box 8000
Lindsay, Ont.
K9V 5E6

EFAO (Ecological Farmers Association of Ontario)
c/o: Ted Zettel
Chepstow, Ont.
N0G IK0

Agricultural Alternatives
Box 244
SFOAC, University Centre
University of Guelph
Guelph, Ont.
NIG 2Wl

Quebec

OFPANA (Organic Foods Production Assoc. of North America)
c/o: E.A.P. (Ecological Agriculture Project)
Box l9l
Macdonald College
2l-lll Lakeshore
Ste. l Anne de Bellevue, P.Q.
H9X lC0

REAP (Resource Efficient Agriculture Production)
c/o: Roger Samson
Box l25
Macdonald College
Ste. Anne de Bellevue, P.Q.
H8X lC0

MAB (Mouvement pour l'agriculture biologique)
C/O: Jean Boutet
4545, Ave. Pierre de Coubertin
C.P. l000, Succursale M
Montreal, P.Q.
HIV 3R2

Syndicat des agriculteurs et agricultrices biologiques du Quebec
555, Boul. Rolland Therien
Longueuil, P.Q.
J4H 3Y9

Les agriculteurs ecologiques de l'Estrie
c/o: Francine le May, C.P. 44
Lennoxville, P.Q.
JIM IZ3

Centre de developpement de l'agriobiologie
c/o: Jacques Petit
475 Notre Dame est
Victoriaville, P.Q.
G6P 4B3

OCIA Estrie
c/o: Russell Pocock
Ferme Sanders
475 Chemin Hyatt Mills
Compton, P.Q.
J0B 1L0

OCIA Quebec
c/o: Robert Beauchemin
la Meunerie Milanaise
30, Route 214
Milan, P.Q.
G0Y 1E0

Association de biodynamie du Quebec
c/o: Mercedes Gravel
93 de l'Aqueduc
St. Francois, P.Q.
G0R 2G0

Bio-trille (organic wine information)
4727 Rue St. Denis
Montreal, P.Q.
H2J 2LW

New Brunswick

OCIA New Brunswick
c/o: Speerville Mille
R.R. #5
Debec, N.B.
E0J 1J0

Prince Edward Island

Teressa Mellish
Sustainable Agriculture Program
Department of Agriculture
P.O. Box 1600
Charlottetown, P.E.I.
CIA 7N3

OCIA Prince Edward Island
c/o: Alister Dino
Avondale, P.E.I.
C0A 2E0

National Farmers Union
C/O: David Ling
R. R. #1
Winsloe, P.E.I.
C0A 2H0
Phone: 613-267-7191

C. INFORMATION ON COMPOSTING

Canadian Organic Growers:
Box 6408, Station J,
Ottawa, Ont. K2A 3Y6

Pollution Probe
12 Madison Avenue
Toronto, Ont.
M5R 2S1

Ontario Recycling Information Service
P.O. Box 310
Station P
Toronto, Ont.
M4S 2S8

Ecological Agricultural Staff
Box 225
Macdonald College
Ste. Anne de Bellevue, P.Q.
H9X 1C0

Canadian Organic Growers
Box 6408
Station J
Ottawa, Ont.
K2A 3Y6

The Recycling Council of Ontario has a booklet on composting which is highly recommended by Canadian Organic Growers. The booklet is called: *"BE GOOD TO YOUR COMPOST" - Your Guide To Backyard Composting.* For a free copy, write to:
The Recycling Council of Ontario
P.O. Box 310
Station P
Toronto, Ont.
M5S 2S8

The Metro Toronto Civic Garden Centre operates a "Master Gardener's Hot line" from noon until 3:00 p.m., Monday through Friday. They specialize in answering questions on home organic gardening. Their number is: 416-445-1552.

D. INFORMATION ON ORGANIC PRODUCE

Canadian Organic Growers
Box 6408, Station J
Ottawa, Ont.
K2A 3Y6

Conservation Council of New Brunswick
180 St. John Street
Fredericton, N.B.
E3B 4A9
Phone: 506-458-8747

Cooperative de Recherche et d'Information
C.P. 1047
Succarsale, C.
1213 rue Sainte-Catherine est
Montreal, P.Q.
H2L 2H2
Phone: 514-527-3621

Ecological Agricultural Staff
Box 225
Macdonald College
Ste. Anne de Bellevue, P.Q.
H9X 1C0

Federation des Societies de Conservation du Quebec
900 place d'Youville, Bureau 600
Quebec, P.Q.
G1R 3P7
Phone: 418-694-1887
P 5C5
Phone: 613-230-3352

GREEN CONTACTS

G.R.O.W.
c/o: National Farmers Union
7th Floor
222 Somerset Street West
Ottawa, Ont.
K2P 2G3

New Brunswick Wildlife Federation
190 Cameron Street
Moncton, N.B.
E1C 5Z2
Phone: 506-857-2056

Newfoundland and Labrador Wildlife Federation
15 Fairhaven Place
St. John's, Newfoundland
A1E 4S1
Phone: 709-737-7263

Northwest Territories Wildlife Federation
P.O. Box 495
Hay River, Northwest Territories
X0E 0R0
Phone: 403-874-6436

Nova Scotia Wildlife Federation
346 Mapleview Drive
North Sydney, N.S.
B2A 3K4
Phone: 902-794-2336

P.E.I. Wildlife Federation
P.O. Box 413
Souris, P.E.I.
C0A 2B0
Phone: 902-687-2382

Recreation, Parks and Wildlife Foundation
Harley Court Building
10045-111th Street, 7th Floor
Edmonton, Alberta
T5K 1K4
Phone: 403-482-6467

E) ORGANICALLY GROWN FOOD - A DEFINITION

Here is the OCIA Definition of Organic Food:
"Organic", "organically grown", "organically raised", "organically produced", and "certified organic" (or other variations using "organic") shall only apply to those food and health products which meet the following definition, as elaborated and specified by independent organic certification agency.

"Organic farming is a system of farm design and management practices that seeks to create ecosystems which achieve sustainable productivity through a diverse mix of mutually dependent life forms.

"Management practices which achieve this sustainable productivity and which provide weed and pest control and maintain soil productivity and tilth, include recycling plant and animal residues, crop selection and rotation, water management and tillage and cultivation. Soil fertility is maintained and enhanced by a system which optimizes soil biological activity as a means to provide nutrients for plant and animal life and conserve soil resources.

"In keeping with health and environmental considerations, pest and disease management is attained by encouraging a balanced host/predator relationship through augmentation of beneficial insect populations, biological and cultural controls and mechanical removal of pests and affected plant parts.

"Organic livestock is raised under conditions of minimal stress including reasonable freedom of movement, lack of crowding, and access to sunshine and fresh air. All grains, forages and protein supplements fed to animals must be organically-grown. Animal health must be maintained without antibiotics, synthetic growth promoters or similar drugs. Slaughtering and processing must be done under humane and sanitary conditions.

"Organic foods and their ingredients are processed, packaged, transported, and stored to retain maximum nutritional value. All packaging

must be non-reactive with the food contents or health products.

"If a production unit has been farmed conventionally, a minimum three-year transition period is required to achieve organic status. During the transition period from conventional to organic farming, the production unit must adhere to strict organic practices.

"All enterprises selling organic food and health products must maintain an accurate and comprehensive audit trail of production and handling. Records must be maintained for a period of three years for all products that are sold as organically-produced. This audit trail is further strengthened by independent third party verification of growing, processing, packaging, transportation, warehousing, and retailing procedures.

"Organic food production systems prohibit the use of highly-soluble or synthetically compounded mineral fertilizers, synthetically compounded pesticides, fungicides, herbicides, plant and animal growth regulators, antibiotics, hormones, preservatives, colouring or other artificial additives, ionizing irradiation, and recombinant genetic manipulation of plants or animals."

F). ORGANICALLY GROWN WINES

France:

Champagne & Methode Champenoise

Carte d'Or Champagne Jose Ardinat - A fine, characteristically dry champagne, fresh and light with a biscuity gooseberry flavour, well balanced and rounded.

Saumur Methode Champenoise Brut Gerard Leroux - A good yeast nose and gorgeous straw colour with tiny bubbles. This is dry, toasty and strong with a lovely, slightly bitter, finish.

Red Wines - Midi, Province & South

Domaine de Clairac Jougla Vin de Table - With a fruity nose, this is a well-balanced dry red.

Domaine de l'Ile, Vin de Pays de l'Aude - A southern wine from the midi region, this is a good red, from Carignan and Cinsault grapes, with a pleasant, fruity, dry flavour.

Bordeaux

Chateau du Moulin de Peyronin AC 1986 - A youthful purply colour, with a variety of smells - fig, blackcurrant, nutmeg. A good fruity flavour.

Chateau Renaissance AC 1986 - A medium red with a light nose and a hint of smokiness. A supple, balanced wine, full of warmth, with enough tannin to improve for many years.

Chateau de Prade Bordeaux Superieur AC 1985 - A lovely mature orangey colour with a concentrated ripe nose and superb texture, this is a particularly fine example of a Castillon.

Chateau Meric Graves AC 1985 - Has an enticing raspberry and blackcurrant bouquet with a touch of cloves in the finish.

Chateau Barrail des Graves St. Emilion AC 1986 - Matured in oak casks, this wine has a lovely woody flavour; it is fruity and delicious. Made from Cabernet Sauvignon and Merlot grapes.

Domaine St. Anne Entre-deux-mers AC 1986 - Slightly flat but yeasty smell led to a spritely, full-flavoured white wine with a good finish.

Rhone

Cave la Vigneronne Villedieu AC 1986 - The light, bright citrus flavours of this wine belies the 14% alcohol. Fruity, attractive and strong, good tannin.

Vignoble de la Jasse AC 1985 - A full bouquet with an attractive hint of oak. A well-balanced flavour and tannin make this a really excellent smooth rich wine.

Domaine St. Apolinaire AC Cotes du Rhone 1985 - One of the most disappointing of all organic wines. An almost rubbery medicinal taste.

Burgundy

Macon Alain Guillot AC 1986 - No sulphur used during vinification. A full dry wine from the Gamay grape, dark purple with lots of character.

Bourgogne Alain Guillot AC 1986 - A classic wine made from the Pinot Noir grape (the red wine grape of Burgundy). No sulphur used during vinification. This is a lovely complex and full-flavoured wine with a fragrant bouquet.

Beaujolais

Chateau de Boisfranc Beaujolais Superieur AC 1987 - No sulphur used in this vineyard or during vinification, and adds only 1 - 2 grammes per hectolitre when bottling, which is very low. The wine is very fruity and well rounded. Top quality Beaujolais.

White Wines:

Loire

Blanc de Blancs Guy Bossard - An excellent value wine, dry and refreshing but with a fullness of flavour that goes well with everything. Best-selling white organic wine in the U.K.

Gros Plant du Pays Nantais sur Lie Guy Bossard VDQS 1986 (Medaille d'Or) - Extra dry, superbly crisp, similar to a genuine Vinho Verde. Balances beautifully with strong-flavoured food, particularly fish.

Muscadet de Sevre et Maine sur Lie Guy Bossard AC 1986 - Pale yellow with a decided *petillance*, a dry grapey wine, with balanced fruit, clean lemons predominating. Truly outstanding.

Sancerre Christian et Nicole Dauny AC 1986 - Dry, elegant and exquisitely balanced with a lime and lychees bouquet and a good Sauvignon grapey flavour.

South of France

Mauzac Vin de Pays de l'Aude 1986 - Made from the lesser-known Mauzac grape (which forms the base of the famous sparkling wine, Blanquette de Limoux). This southern white is fresh and dry with a good fruity acidity and a pale greenish colour.

Limoux, Domaine de Clairac AC 1986 - Lovely fresh grapes in the bouquet lead to a mellow, well-balanced and not overly-dry flavour.

Chardonnay Vin de Pays de l'Aude 1986 - Excellent balance, elegant, full and buttery on the palate, with a good long finish. A classic grape variety, currently very fashionable.

Petillant de Raisin - A medium white with only 2 per cent alcohol, very fruity, good for staying sober!

Bordeaux

Chateau Ballue Mondon Sec AC 1986 (Medaille Bronze) - A full-flavoured Bordeaux white, a real classic of a wine, dry with a distinct gooseberry taste - very popular.

Chateau Ballue Mondon Moelleux AC 1985 - A light sweet dessert wine, delicious with fruits - pungent and aromatic.

Chateau Meric Graves Superieur AC 1986 - Crisp and fresh, good acidity, a wine with finesse, carefully blended from 50 per cent Semillon, 40 per cent Sauvignon and 10 per cent Muscadelle grapes. Superior in every way.

Chateau le Barradis Monbazillac AC 1985 - A beautiful golden-coloured wine with a strong Muscadelle flavour, made from Sauvignon Blanc, Semillon and Muscadelle grapes. This is top quality sweet Sauternes-type wine - rich and irresistible.

Burgundy
Bourgogne Rouge Alain Guillot AC 1986 - 100 per cent Chardonnay, superb almost bronze colour bursting with character and individuality. No sulphur is used during the vinification, and the cork is dipped in wax to seal the wine from the air and prevent oxidization.

Alsace
Sylvaner Pierre Frick AC 1986 - Fragrant and fruity, yet still clean and dry, this wine is easy drinking, suitable for all occasions.

Klevner Cuvee Speciale Pierre Frick AC 1985 - A top quality, reserve wine made without adding sugar to increase alcohol, it displays an excellent honeyed, fruity, fresh and alive flavour with a long finish.

Gewurztraminer Pierre Frick AC 1986 - A classic and distinctive grape, the Gewurztraminer is the best known wine of Alsace, spicy and aromatic on the nose, full and tangy on the palate with a powerful finish.

Rose Wines
Ros* d'Anjou Gerard Leroux AC 1986 -A beautiful straw pink colour made from the Gros Lot grape, which is particular to the Loire valley. This wine has a medium dry nose with a fresh and surprisingly fruity flavour.

Domaine de Clairac Jubio Ros* - A youthful wine, dry and light with a delicate fruit.

Spain:
Red Wines
Biovin Valdepenas DOC 1986 - A light dry red, very fruity and all too quaffable.

Italy:
Red Wines:
Chianti DOCG Roberto Drighi 1986 - A bright, clear ruby red colour, medium body, fresh and fruity with zest, this is an excellent blend of San Giovese, Canaiolo, Trebbiano and Malvasia grapes.

Valpolicella DOC Classico Superiore 1985 - A pale red with an almost nutty nose, it is smooth but fresh with a typical bitter almond finish.

White Wines:
San Vito Verdiglio Roberto Drighi 1986 - Made from 100 per cent Verdicchio grapes, this wine has a light straw colour, is dry but soft and harmoniously balanced - delicious.

San Vito Bianco Toscano Roberto Drighi 1986 - A subtle yet fresh bouquet leads to a wine that is vivid and clean with a good flavour. Made from Trebbiano and Malvasia grapes, it is a beautiful colour with golden hints.

Soave DOC Classico 1986 Guerrieri-Rizzardi - A clean light nose, delicate depth and lots of flavour with a good acidity and fruit.

England:
Organic Apple Wine - Avalon Vineyard - Made from dessert apples and Bramleys, this is crisp and refreshing, amazingly reminiscent of grape wine, strong but light and delicious.

California:
Frey Vineyards
14000 Tomki Rd.
Redwood Valley, California
95470
Phone: 707-485-5177
Frey wines include French colombard, grey riesling, sauvignon blanc, chardonnay, pinot noir, zinfandel and cabernet sauvignon.

New York State:
Four Chimneys Farm Winery,
R.D.#1,Hall Rd.
Himrod-on-Seneca, New York
14842
Phone: 607-243-7502

G). A SAMPLING OF CANADA'S MICRO-BREWERIES

Prince Edward Island:
Red Rock Lager
Island Breweries
P.O.Box 1177
Charlottetown, P.E.I.
Phone: 902-566-4200

New Brunswick:
Hanshaus Bavarian Lager, O'Brunswick Malt Liquor
Bavarian Specialties
P.O.Box 7101
Riverview, N.B.
E1B 1V0
Phone: 506-858-0660

Nova Scotia:
Highland Classic Ale
Highland Breweries
P.O.Box 1471
Sydney, N.S.
D1P 6R7
Phone: 902-562-5775

Quebec:
Belle Gueule
Les Brasseurs G.M.T.
5710 Rue Garnier
Montreal, P.Q.
H2G 2Z7
Phone: 514-274-4941

Boreale Ale
Les Brasseurs du Nord
Suite 3, 18 Kennedy
St. Jerome, P.Q.
J7Y 4B4
Phone: 514-438-9060

Ontario:
Brick Premium Lager, Red Baron Beer, Spring Bock, Anniversary Bock
Brick Brewing Co.
181 King St. S.
Waterloo, Ont.
N2J 1P7
Phone: 519-576-9100

Ale
Castle Brewing Ltd.
90 King St. E.
Thornbury, Ont.
N0H 2P0
Phone: 519-599-3003

Best Bitter, Ale, Pale Ale, Imperial Stout, Natural Gold
Connors Brewing Enterprise Ltd.
1335 Lawrence Ave., E.
Don Mills, Ont.
M3A 1L6
Phone: 416-449-6101

Premium Lager
Creemore Springs Brewery
P.O.Box 369
Creemore, Ont.
Phone: 705-466-2531

Renegade, Renegade Silver, Renegade Amber
G.A.Miller Brewery Corporation
1090 Lithium Drive
Thunder Bay, Ont.
P7C 5W2
Phone: 807-345-8220

Unicorn Ale, Great Lakes
Great Lakes Brewing Co.
155 Clark Blvd.
Brampton, Ont.
L6T 4G6
Phone: 416-451-0073

Halton Premium Lager
Halton County Brewery
3425 Harvester Road
Burlington, Ont.
L7N 3N8
Phone: 416-333-3980

Bytown Premium Lager, Christmas Bock, Spring Bock
Ottawa Valley Brewing
20 B&C Enterprise Ave.
Ottawa Valley Ale, Nepean, Ont.
K2G 0A9
Phone: 613-225-8494

Sculler Premium Lager
Sculler Brewing Co.
227 Bunting Road
St Catherines, Ont.
Phone: 416-641-2337

Challenger Pale Ale, Newmarket Brown Ale
Simcoe Brewing Co.
1111 Gorham St.
Newmarket., Ont.
L3Y 7V1

(cont'd)
Phone: 416-853-2337

Sleeman's Cream Ale
Sleeman Brewing & Malting Co. Ltd.
551 Clair Road W.
Guelph, Ont.
N1H 6H9
Phone: 519-822-1834

Upper Canada Lager, Upper Canada Ale, True Light, True Bock,Rebellion Malt Liquor
Upper Canada Brewing Co.
2 Atlantic Ave.
Toronto, Ont.
M6K 1X8
Phone: 416-534-9281

County Ale, Arkell Best Bitter, Iron Duke Malt Liquor, Special Pale
Wellington County Brewery
950 Woodlawn Road
Guelph, Ont.
N1K 1B8
Phone: 519-837-2337

Heritage Lager
Wheatley Brewery
5, Fraser Road, RR 1
Wheatley, Ont.
N0P 2P0
Phone: 519-825-7200

German Style Lager
York Brewing Co.
Unit 123, 7956 Torbram Rd
Brampton, Ont.
L6T 4M1
Phone: 416-458-0122

Alberta:
Big Rock Bitter, Cock O'The Rock, Porter, Traditional Ale, Big Rock, McNally's Extra Ale, Pale Ale
Big Rock Brewery
6403 35th St. S.E.
Calgary, Alta.
Y2C 1N2
Phone: 403-279-2917

Appaloosa Lager, Wild Cougar Malt Liquor
Nanton Interbrew, (now known as Calgary Interbrew),
Box 1041
Nanton, Alta.
Phone: 403-264-7718

Real Ale
Strathcona Brewing Co.
Edmonton, Alta.
Phone: 403-465-0553

British Columbia:
Heritage Ale, Heritage Pilsner, Heritage Light Pilsner
Canadian Heritage Brewing
3131 Chatham
Richmond, Britsh Columbia
V7E 2Y4
Phone: 604-274-3269

Island Lager, Island Bock, IslandLight
Granville Island Brewery
1441 Cartright St.
Island Marzen
Vancouver, B.C.
V6H 3R7
Phone: 604-688-9927

Premium Lager, St. Patrick Stout, Old English Porter, Old Munich Wheat Beer
Okanagan Spring Brewery
2801 28A Ave.
Vernon, B.C.
V1T 1T5
Phone: 604-542-2337

Shaftebury Bitter, Shaftebury Cream Ale
Shaftebury Brewing Co.
1973 Pandora St.
Vancouver, B.C.
V5L 5B2
Phone: 604-255-4550

Orca Beer
Sunshine Coast Brewers Ltd.
1298 Wharf Ave.
Sechelt, B.C.
V0N 3A0
Phone: 604-885-7074

National Information on Micro-Breweries:
CAMRA (Campaign for Real Ale)
P.O. Box 2036, Station D
Ottawa, Ont.
K1P 5W3
Phone: 613-728-1351

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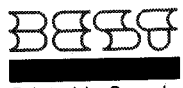
containing over 50%
recycled paper including
10% post-consumer fibre.



Printed in Canada

THE GREEN PARTNERSHIP GUIDE

is part of the comprehensive environmental program of Canada's largest hotel company, Canadian Pacific Hotels & Resorts. The handbook offers practical advice on environmental responsibility in a fun, readable format. Designed for easy use, this book will be of interest to hotels, institutions and restaurants which are actively seeking ways to "go green".

Warner Troyer (1932-1991) was one of Canada's most respected journalists and environmentalists. During his 40-year career in print and broadcast journalism, he championed the issue of environmental responsibility. With his wife Glenys Moss, Warner co-wrote the best-selling *Canadian Green Consumer Guide*, and *Preserving Our World*, based on the Brundtland Report. *The Green Partnership Guide* for Canadian Pacific Hotels & Resorts was Warner's last major project.

Cover concept by *Ivan Holmes Design* ; Illustration by Brock Irwin