

interior | exterior



**VANCOUVER**  
GREEN CAPITAL\*

# Salvage & Reuse

*green home renovation*

*healthy homes for a healthy environment*





# Green

## What is a Green Home Renovation?

It's an approach to home improvement with the goal of not only making your home look better, but work better—for both you and the environment. Want a healthier home? Lower utility bills? Reduced maintenance? A cleaner planet? A green renovation helps you realize a range of far-reaching benefits from a single smart design. With careful planning, you can create a home that combines beauty, efficiency, comfort and convenience with health and conservation

This guide focuses on reusing salvaged building materials. Salvage refers to the recovery of resources that may otherwise be destined for the landfill. By reuse, we mean just that—integrating salvaged materials into a renovation project.



Cover photo and above: Graham Winterbottom Photography

# Why

## Why Consider a Green Renovation?

### SAVE MONEY

When you incorporate salvaged materials into your project, they often cost less than new products, and last longer, too. This is especially the case when you are trying to match—or create a style reminiscent of—the period or quality of older homes. Another plus? When you choose salvaged materials over new, you reduce disposal costs and help our local economy by creating jobs for retailers specializing in these environmentally friendly services.

### MAKE A HEALTHIER HOME

By minimizing the scope of your renovation and reusing materials in place, you'll reduce the likelihood of your project releasing hazards into the home, such as lead paint dust or asbestos. When reusing materials, careful selection can avoid introducing additional hazards from materials finished with lead-based paint.

### REDUCE ECOLOGICAL IMPACT

In addition to lessening the burden on our landfills, reusing salvaged materials minimizes the demand for mining, tree harvesting, water, energy, and other natural resources, as well as toxic materials used to process, manufacture and transport new materials.

# Salvage & Reuse

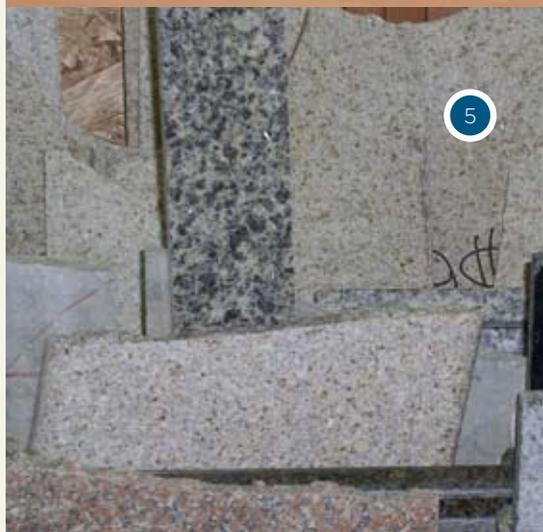
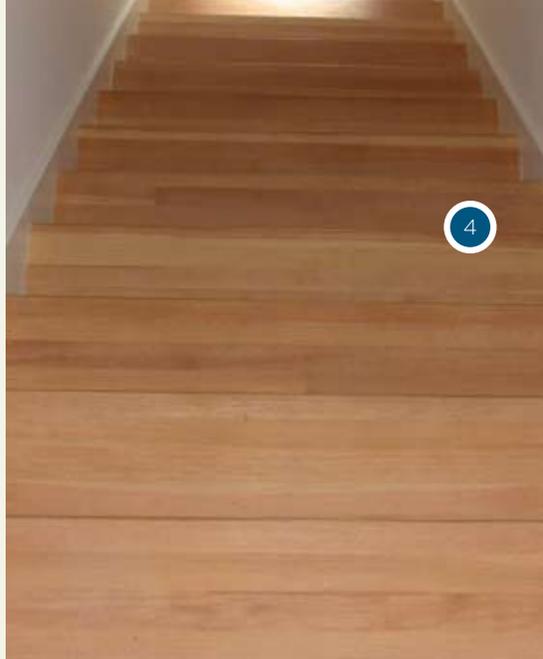
In 2007, about 3.6 million tonnes of solid waste was generated in Metro Vancouver. Though 55 per cent of this is currently diverted from landfill, the Demolition, Construction and Landclearing sector still sends about 375,000 tonnes to landfill, much of which consists of wood waste that could be otherwise diverted. By salvaging building materials, and recycling as much as we can of what's left over, we can reverse this trend.

Fortunately, more options exist for reusing and recycling used building materials today. A number of retail locations and online resources now accept and offer salvaged building materials—making it possible to not only minimize your renovation waste, but incorporate “new” recycled items into your project. You can find salvaged supplies for virtually every building material category, from flooring to fixtures. Especially in vintage homes, used building materials can temper the newness of a renovation while tying fresh elements to the existing home. When you walk through the aisles of a used-building-materials retailer, you take a tour of Vancouver's architectural history. Discover fixtures of a quality unobtainable today, often at a fraction of the cost of new—all, while benefiting our environment.



# Contents

- 1 Rethink Renovation**  
Use smart, up-front planning and research to get the most out of your renovation project.
- 3 Beyond Waste**  
Design waste out of your project and reuse salvaged materials with careful planning and creativity.
- 4 Salvage & Recycling**  
Organize a successful salvage plan to maximize reuse opportunities and minimize environmental impact.
- 5 Getting Organized**  
Plan ahead, remain flexible and open to new opportunities.
- 7 Reuse**  
Working salvaged building materials into your renovation can create a sense of history while saving money and the environment.
- 9 When Not to Reuse**  
Prioritize health, safety and resource efficiency, while informing yourself about potential reuse hazards.
- 11 Used Materials Index**  
Learn what items are best suited for reuse and recycling.
- 12 Resources**  
Find out where to get more information on safe and resource-efficient salvage and reuse materials.





*Creativity and planning  
are the keys to a  
successful project. Use  
the resources at the back  
of this guide to make  
your green renovating  
plans a reality.*

# Rethink Renovation

Like the rest of the green design process, reusing salvage materials necessitates more creativity than conventional garbage-generating renovations. When integrating used materials into your project, products and plans often continue to influence each other as the project progresses. Be prepared to modify your schedule if need be, and create flexible designs that leave room to utilize used materials or a newly found item.

Up-front planning minimizes waste. A space-efficient design can reduce or eliminate the need to add square footage or remove walls. A flexible floor plan allows your home to adapt to changing uses and needs, without costly modifications. When you choose quality products and enduring design, your project will be one you and your family can enjoy for years to come.

## Decide What You Want

The most effective projects begin when you thoroughly assess your wants and needs. By prioritizing goals, you can avoid confusing the ends with the means. For example, if your goal is to just add more square footage, you may end up with a bigger home—and costlier renovation—that still fails to address your space needs. However, if your goal is to create an efficient and effective use of space, you'll have the opportunity to do more with the square footage you already have.

Of course, careful planning is important for any renovation. The City of Vancouver offers a range of Green Home Renovation guides—like this one—to provide helpful information about materials and design considerations so you get the most out of your green renovation. Chances are, there's one to assist with your particular project. Other guides in the series include:

- Renovation Overview
- Kitchen
- Bath & Laundry
- Roofing
- Landscape Materials
- Painting & Finishes
- Lighting
- Green Home Buyers' Guide
- Do It Yourself Energy Audit
- Hiring a Pro

Available at [vancouver.ca/sustainability](http://vancouver.ca/sustainability).

## Expand Your Definition of Cost

Initial price gives only a peephole view of the true cost of a product or design. A higher purchase price can mean a better deal in the long run: you can actually reduce the cost of living in your home by choosing resource-efficient materials and designs (lowering monthly bills) and durable materials (requiring less frequent replacement). Focus on long-term savings, ease of maintenance and conservation, not just initial price. A low purchase price may simply mean a good deal—or it may signify a lack of quality or durability, or even that some environmental, health, or social costs are not included in the price tag.

When you choose professional-quality materials, finishes and hardware, you minimize waste down the road by delaying replacement. Warranty length is often a good indicator of quality. By reusing building materials, you also reduce environmental costs caused by new product manufacturing.

## Renovate Safely

First, identify health objectives for your new design, then determine what hazards may already exist in your home and those that could be created by the renovation process. For tips on staying safe as you remove materials from your home, see *Salvage & Recycling* on page 4.

When reusing materials, care must be taken to avoid introducing new hazards into your home. Pay particular attention to lead-based paint, lead fittings and solder on plumbing products, as well as asbestos in shingles, flooring, ductwork and some appliances. For details, see *When Not to Reuse* on page 9.

## Renovating to Sell?

Many people renovate prior to selling a home, thinking they'll make money. Ironically, most homeowners would be better off keeping their cash in the bank. According to *Renovation Magazine*, the average renovation project—even a kitchen or bath—typically returns 90 per cent or less on the original investment. Your house may garner a higher price, but not enough to offset the project costs. In other words, you may take on the work and expense of a renovation, only to lose money in the process.

Generally, you'll realize a better return on smaller, lower-cost projects. Do-it-yourself improvements can also increase your return on investment, but require time and skill to avoid "remuddling" your property. Also consider that any speculative renovation project may not match the new owner's tastes. This could result in further renovation, sooner rather than later—which ultimately wastes both money and resources. If you're intent on sprucing up your home before you sell, a new coat of paint may do the trick. The Green Home Renovation *Painting* guide offers tips on creating a healthy, environmentally friendly paint job.



*Universal Design creates flexible, easy-to-use spaces for people of all abilities, reducing the need for costly future modifications to the home as users' abilities change. The US National Kitchen and Bath Association maintains an excellent list of design and safety guidelines at [www.nkba.org/guidelines/bathroom](http://www.nkba.org/guidelines/bathroom) while the BC Building Code includes a set of Adaptable Housing Standards found at [www.housing.gov.bc.ca/building/adaptable\\_housing/summary.html](http://www.housing.gov.bc.ca/building/adaptable_housing/summary.html).*

# Beyond Waste

This guide focuses on salvaging materials *from* projects, and incorporating used materials *into* renovation projects. There are, however, many ways to design waste *out* of a project. The following table lists strategies for reducing renovation waste. Keep in mind that there is often no single “right” decision to minimize your project’s environmental impact. But with research, planning and creativity, you can take advantage of waste prevention opportunities that might be missed in a conventional renovation.

## **manage project scope**

- Focus on meeting the largest number of your goals with the fewest modifications to your current space. This will cost less, reduce disruption, and use fewer resources.
- Consider a not-so-big approach to home improvement. An increasingly common goal with green renovation is to stay within a house’s original footprint to save money and outdoor space.
- Use materials efficiently (such as placing wall studs at 24-inch (60 cm) intervals rather than every 16 inches (40cm), utilizing thinner plywood/wallboard or narrower molding, etc.), while ensuring quality construction, safety, and durability.

## **maximize flexibility and space efficiency**

- Design spaces that can adapt with minimal modification as users’ needs and abilities change, including integrating Universal Design (for more, see Kitchen or Bath & Laundry Green Home Renovation guides).
- Create multi-purpose spaces, such as a room that can be used for entertainment, a home office, and library rather than three rooms devoted solely to each purpose.
- Analyze how and with what frequency you use your current space. Consider whether seldom-used spaces can be reassigned to accommodate more frequent activities, or combined with more popular spaces.

## **create enduring design**

- Research designs appropriate for your home’s vintage, and preserve still-functioning elements that match the period—such as a pedestal sink in a Craftsman home.
- Unfortunately, dated designs are often torn out well before they’re worn out. Focus on designs that maintain and enhance your home’s style. Often, older magazines and design books highlight colours and finishes that can withstand the test of time—if design schemes from 10-20 years ago still look fresh today, capitalize on their timeless quality in your project.

## **design for deconstruction**

- Opt for simple designs with fewer elements; these are easier to take apart and reuse.
- When possible, use nails and screws rather than adhesives.
- Use a limited palette of materials to make future salvage more worthwhile (larger quantities of a single material are more marketable than small amounts).
- Choose materials that can easily be reused or recycled into a new product.



# Salvage & Recycling

Yes, hauling your renovation waste to the recycling and disposal station can seem like the easiest option. But many items may be useful to someone else, or even reused on your own project. By planning your activities and carefully removing materials to retain their value (*deconstructing* rather than demolishing), you can increase the likelihood of a future life for these materials, beyond the landfill. A little sweat equity can go a long way toward reducing your disposal expenses. If you can reuse materials on your own project, you will save money by not having to buy new. In some cases, you can also make money by selling your unwanted building materials, such as old hardware or a pedestal sink.

For optimum results, take the following steps to manage renovation project materials:

1. reuse in place (leaving material as-is, repairing, refinishing, or re-facing, etc.)
2. salvage and reuse (on the project, in the home, sell, donate, or trade),
3. recycling, and
4. proper disposal of what's left.

Nearly all projects involve a bit of each. The green goal is to get as much of your materials into the top categories, while minimizing the amount that ends up at the landfill.

*The Hiring a Pro Green*

*Home Renovation*

*Guide provides tips on*

*hiring a contractor.*

*Photo, top left: reused lumber by GreenLeaf Construction.  
Photo, right: stair treads from old bleacher seats by Ted Granger, Architect.*

*Consider deconstruction services. This process carefully dismantles materials for reuse and recycling, keeping up to 90 per cent of materials out of the landfill. Make sure your contractor has a construction waste management plan. Visit the Metro Vancouver BuildSmart website ([www.metrovancouver.org/buildsmart](http://www.metrovancouver.org/buildsmart)) and download the Demolition, Land Clearing and Construction (DLC) Waste Management Toolkit.*



## Getting Organized

Organization is the key to successful salvage, so formulating a plan makes sense. This plan will make salvage easier, help reduce the health effects on your family, and minimize environmental impact.

### 1. Compile a materials list.

Walk through your project, and create a list of all the materials that have reuse and recycling potential. Refer to the table on page 11 (*Used Materials Index*) for help determining whether items you are removing are recyclable or desirable for reuse. While making your list, consider repairing or reusing some materials in place, such as gypsum wallboard.

### 2. Find salvage and recycling options.

There are numerous outlets for reusable and recyclable materials: used building materials retailers, online exchanges, classified ads, and recycling companies. Metro Vancouver's BuildSmart program provides guides, best practices and a list of salvaged building materials suppliers at [www.metrovancouver.org/buildsmart](http://www.metrovancouver.org/buildsmart). Consider giving away those materials not valuable enough for resale; Habitat for Humanity's Restore accepts donations. The Recycling Council of BC established a free province wide reuse and recycling service in 1985; the RCBC Materials Exchange (MEX) program is a completely self-served web-based program comprised of Residential Reuses Programs and the BC Industrial Materials Exchange. Visit [www.bc.reuses.com](http://www.bc.reuses.com).

Remember to call companies before arriving with a load; many reuse businesses have limited space and changing lists of materials they accept. Depending on the material, you may receive a small amount of cash, in-store credit, or the material may be considered a "donation," meaning you can get rid of it for free (and some stores can offer a tax credit for materials). If they won't take a material, you can still post it on online exchanges, such as [www.craigslist.ca](http://www.craigslist.ca) or classified ads. Recycling operations are usually more flexible, but may charge a fee.

### 3. Develop a health and safety plan.

Make your objectives for dust and fume containment, as well as cleanup procedures, clear with contractors, friends, and family—before work begins. One

often overlooked hazard involves lead dust—a serious indoor health risk, especially in households with children or expectant mothers. Homes built before 1960 contain paints with the highest concentration of lead; all homes built before 1978 almost certainly contain some amount of lead paint. Create a strategy to protect the rest of the home from dust and debris hazards. If necessary, use tape and plastic to seal heating vents in and near work areas. Asbestos also poses a renovation hazard in older homes. For cautions about lead-based paint, asbestos, and other renovation hazards you may find the following resources useful:

- Health Canada's It's your health series provides reliable, easy-to-understand articles on asbestos, lead, mould, indoor air quality. [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)
- Aeries Indoor Air Quality Resource Centre provides information on building materials and their associated impacts. One section is dedicated to information for preventing IAQ problems in residential buildings, including control of pollutants and their source, ventilation and filtration, and education of occupants. [www.aeries.org](http://www.aeries.org)
- CMHC's Indoor Air Quality series, [www.cmhc-schl.gc.ca/en/co/maho/yohoyohe/inaiqu/index.cfm](http://www.cmhc-schl.gc.ca/en/co/maho/yohoyohe/inaiqu/index.cfm)

The services of an experienced environmental consultant may be required for a comprehensive assessment of potential hazardous materials prior to start of renovation. If removing walls or wallboard, always shut off the electricity to that portion of the house. Also consider the safety of the tools you use, and the manner in which you will remove materials. Nails, glass, and sharp metal pose common hazards on a construction site. Reduce the risk of a painful puncture or snag by removing nails from lumber, molding, and cabinetry as you go.

#### 4. Remove materials.

The key to successful salvage? Careful removal. Keeping materials intact and unbroken maximizes the likelihood of reuse, and retains their value. Another tip: bundle multiples of a particular material. Make a call to a used building materials store before you start; just tell them what you're trying to remove and they can often recommend the best tools for the job. The right tools help immeasurably. Save money by renting or borrowing tools you're unlikely to use frequently. A utility knife usually works well for freeing materials that have been painted together (such as cabinetry and drywall, molding and baseboard, light fixture and ceiling). Small and large pry bars are proven essentials for removing molding, cabinetry, and anything that's been nailed down.

#### 5. Define a storage area.

Keep materials tidy and safe in a protected storage area. Ideally, you want to set aside space for organizing your materials by type and destination: salvage, recycling, and disposal. Keep items—especially those slated for salvage and recycling—protected and dry. Our rainy Northwest climate can quickly turn reusable materials into garbage. Store materials destined for recycling in piles according to how the recycling service accepts them. Recyclable materials that are contaminated (containing materials other than recyclable material) may be rejected and end up as garbage.

#### 6. Arrange for hauling.

Many opt to self-haul. You can borrow a truck, or rent one on an hourly basis from hardware stores, rental agencies, or member-based programs like Vancouver's Cooperative Auto Network. Use extra caution if you hire a private company to haul materials—some part-time operations are unfamiliar with recycling and reuse options, or worse, illegally dump materials you believe are being properly transported. To avoid this, work only with permitted and licensed hauling companies that agree to take no more than half of their fee up front, with the remainder paid after you receive official receipts from the destinations you specified. Beware the "great deal"—it usually proves too good to be true, and could be a sign that the hauling service is improperly disposing of materials. Some salvage retailers will arrange for pickup from your home, depending on your home's location and the value and quantity of materials at a job site.



*Reusing building materials not only benefits the environment and your pocketbook, it also supports local businesses and helps create jobs.*



## Reuse

Reuse puts all those building materials saved from the landfill into new projects. Often, used items serve the same purpose as before (e.g., the reused flooring in the photo above), with little or no reprocessing, making them environmentally superior to recycled. Another plus: used items are almost always utilized right here in our region—so very little energy is expended, or pollution created, to transport them. Incorporating used materials into your project takes more time and creativity than buying new, off-the-shelf items—but it pays dividends aesthetically, economically, and ecologically.

Used building materials are available from many sources, including building salvage stores, online exchanges, classified ads, and demolition sales. Check out the Metro Vancouver Recycles database at [www.metrovancouverrecycles.org](http://www.metrovancouverrecycles.org) or call the Recycling Hotline at 604-732-9253 or visit [vancouver.reuses.com](http://vancouver.reuses.com).

*Photo: Robert Harrison Architects. Salvaged flooring: The ReStore.*

## Tips For Incorporating Used Materials Into Your Project:

- Plan ahead. Give yourself time to find used products that meet your needs. Start looking early, and carry a list of the design elements you'd like to come from salvaged materials. Also keep specific measurements (of cabinetry, countertops, ceiling heights, wall and floor lengths, etc.) handy so you can determine whether salvaged elements will fit in your space. Shopping for used building materials is a form of treasure hunting: it's the "early and often" salvage-seeker who finds the best stuff. Make sure you have sufficient and proper storage for your found materials. Moisture and cold, over time, can destroy your new treasure before you get the chance to use it, or necessitate costly refinishing or repair.
- Be creative. Think outside the box when it comes to using salvaged materials, because someone else's trash could become your treasure. Could those old wooden bleacher seats become bookshelves or stair treads? Could that slate chalkboard be reborn as a kitchen counter or shower walls? Adventurous materials decisions can add character and a sense of history to your new space.
- Show flexibility. Searching for a single, specific item may take a lot of time and be frustrating. You should love what you select, but keep your options open. Be willing to let go of one idea if another opportunity arises. Instead of creating a design and then hunting for the materials to make it work, why not let your discovery be your starting point? If you come across a beautiful salvaged piece (such as vintage laboratory cabinets, a Craftsman-style fireplace mantle, or a pre-cut marble countertop), consider building part or all of your design around this unexpected treasure.
- Prioritize health, safety, and efficiency. It's not always good to reuse. Avoid materials that may introduce hazards into your home such as lead, asbestos, or unsafe electrical products. Consider too, whether a product you select will negatively affect your home's efficiency (such as single-pane windows). For more, see *When Not to Reuse* on page 9.

## Working With Design Professionals

Incorporating used materials into a project is a specific skill, new to many design professionals. If you're using an architect or interior designer on your project and wish to incorporate used building materials, look to the *Hiring a Pro* guide in the Green Home Renovation series. Beyond pointers specific to materials reuse, this guide will help you find a green design or building professional for your job, covering issues of health and efficiency as well.



Photos Graham Winterbottom Photography

*Always weigh the environmental benefits of reuse against other goals, especially health and safety. Here are some instances where it's best not to reuse.*

# When Not to Reuse

Some building materials should not be reused because they either pose safety risks or waste energy or water. So, it's best to be prudent and on the lookout for potential problems.

## Health Hazards

- **Lead.** Widely used until 1978, lead paint is primarily a concern when it flakes or forms dust (such as that caused by scraping or dry sanding). Old plumbing fixtures (faucets) often contain lead solder and leaded brass, as well, which can leach into drinking water. Lead solder was frequently used to join copper pipes until it was banned in 1980.
- **Asbestos.** This known carcinogen was used in many building products, particularly from the 1940s until the 1970s. Older materials that may contain asbestos include 9-inch square flooring tiles and older sheet vinyl flooring, "popcorn" textured ceilings, roofing and siding, ductwork insulation, window glazing compound, and vermiculite insulation.
- **Mercury, PCBs, and arsenic.** Old thermostats, "silent" light switches as well as those with internal lights, and all fluorescent tubes and bulbs contain varying amounts of mercury. Pre-1978 fluorescent light fixture ballasts may have carcinogenic PCB (polychlorinated biphenyls). Pressure-treated woods often contain a variety of toxic substances such as arsenic.

For further help with potential hazards in used home building materials, see *Resources* on page 12.

## Fire Safety and Structural Risks

- Used lumber intended for structural applications must be professionally re-graded to meet local building codes. When in doubt, choose salvaged lumber for non-structural applications such as interior non-bearing walls, flooring, cabinets, or trim. Timbers of sufficient size may not need re-grading.
- Doors in some applications require a fire rating. Used doors must be inspected on a case-by-case basis if they are being specified for an application where the code requires a fire rating.

Contact your local permitting agency for code compliance of reused building material. All work done by contractors to be in compliance with Worksafe BC.

## Energy and Water Inefficiency

- **Toilets and Fixtures.** All toilets manufactured before 1994 waste huge amounts of water and should not be reused. Older toilets can use as much as twenty litres, or five gallons, per flush, while dual flush models are required to use three or six litres (depending on full or half flush), or 1.6 gallons or less. The flow rate data is often located on the toilet bowl, just behind the seat hinges. If your toilet was installed before 1980, you'll save water by replacing it with a new, efficient toilet – the City of Vancouver requires low flow (less than six litres) or dual-flush toilets for all new construction. Dual-flush give the user the option between a full or half-flush, depending on flushing needs. While many first generation six-litre toilets did not perform well, today's low flow and dual flush toilets have been engineered to flush better than their predecessors. Select toilets that have been tested by the Canadian Standards Association or an equivalent lab – a list of high-performing toilets can be found in the CMHC study 'Maximum Performance Testing of Popular Water-Efficient Toilet Models', available at [www.cwwa.ca](http://www.cwwa.ca).
- **Another source of water waste?** Old showerheads, which can use 19 litres or 5 gallons of water per minute - or more. New, low-cost designs save water and deliver plenty of shower power. Models are available that use as little as six litres or one and a half gallons per minute. Look for designs that deliver water in multiple individual streams rather than mist-like sprays—so water stays warmer, saving energy. There are many types of low-flow showerheads now available, including ENERGY STAR qualified designs.
- **Windows.** Old single-paned windows and most aluminum-framed double-paned windows are energy-inefficient; to meet building codes they can only be reused if building energy use calculations are modified and energy improvements made in other parts of your home to compensate. (Check with your local permitting agency for code compliance). Thinking of replacing your old windows? For further details on the ENERGY STAR and EnerGuide labelling programs and energy efficiency of fixtures, visit Natural Resources Canada, [oee.nrcan.gc.ca](http://oee.nrcan.gc.ca) (click on Residential). If your single-paned windows are in good condition and you plan to maintain them, storm windows can reduce their heat loss by 25 per cent-50 per cent. Inefficient windows can be reused in unheated buildings, such as sheds, greenhouses, and outbuildings.
- **Appliances.** Old appliances, water heaters, furnaces, and boilers should only be reused if they meet current energy conservation and safety standards. In general, new ENERGY STAR refrigerators, clothes washers, and dishwashers offer significantly greater efficiency than older models; visit [oee.nrcan.gc.ca](http://oee.nrcan.gc.ca) for more information. Also note that old refrigerators and air conditioners likely contain ozone-depleting CFCs and old appliances may contain asbestos and other hazardous materials. Recycle your old appliances at any of the locations listed in the Metro Vancouver directory of recycling and salvage businesses at [www.metrovancouver.org/MetroVancouverRecycles](http://www.metrovancouver.org/MetroVancouverRecycles). If you have a fridge that measures between 10-24 cubic feet (288-680 litres) and is still in working condition, BC Hydro will pick it up, recycle it, and give you \$30 for it. To find out more call 604-881-4357 or 1-866-516-4357 outside the Lower Mainland.

*Buy appliances and fixtures with an eye for resource efficiency. For further details on the ENERGY STAR and EnerGuide labelling programs and energy efficiency of household appliances, visit Natural Resources Canada, [oee.nrcan.gc.ca](http://oee.nrcan.gc.ca) (click on Residential). See CMHC's 'Household Guide to Water Efficiency' available for download at [www.cmhc.ca](http://www.cmhc.ca) for more information on water efficiency.*

# Used Materials Index

The following items are examples of materials that are often desired by others and generally available for reuse. Disposal options, health concerns, and considerations for buying new are also indicated.

ITEM	WHAT TO REUSE	WHAT TO RECYCLE	WHAT TO DISPOSE	ENVIRONMENTAL & HEALTH CONCERNS
<b>wood (lumber, flooring, etc.)</b>	timbers, large dimension lumber, plywood, flooring, molding, lumber longer than 6 feet (or 2 metres)	unpainted and untreated wood unfit for reuse	painted, pressure-treated and rotting wood	lead paint, structural integrity
<b>windows</b>	windows in good condition (for single panes, consider adding storm windows)	metal frames and screens, unpainted and untreated wood	glass, unusable painted items and wood in disrepair	lead paint, asbestos in older window glazing compound, energy inefficiency
<b>cabinets</b>	consider re-facing, or reusing in your home/shop/garage	remove and recycle hardware, unpainted and unfinished wood	painted or finished wood	lead paint, formaldehyde in particleboard or interior-grade plywood
<b>plumbing products</b>	sinks, tubs, faucets	metal pipe, toilets and inefficient plumbing fixtures (porcelain or metal), faucets with lead-content	PVC and other plastic pipe; toilet seats (not accepted at recycling stations)	drinking water: lead content in faucets, solder, and old galvanized pipe
<b>plaster and gypsum wallboard</b>	repair cracks, or cover with textured paint, install new wallboard over old, or "skim coat"	wood lathe—if clean—can be reused/recycled, unpainted wallboard	painted plaster or wallboard	nuisance dust, lead paint on walls, possible asbestos in older wallboard
<b>electrical products</b>	only if in good working order, or re-wired	metals (fixtures, conduit)	ceramic and plastic parts	frayed wires, possible asbestos insulation; PCBs in lighting ballasts; mercury in light switches and thermostats
<b>landscape materials</b>	timbers, stone, concrete	untreated, unpainted wood	rotting, treated, and painted wood	treated wood may contain arsenic, etc., wear a respirator and gloves when cutting; do not burn treated wood
<b>non-wood flooring (tile, carpet, etc.)</b>	difficult, unless removed intact, clean carpet in good condition	large quantities of ceramic tile, carpet pad and carpet tack strips	vinyl, stained carpet, broken tile	asbestos content in 9-inch tiles or sheet vinyl flooring, dust containing lead and pesticides in old carpet
<b>roofing materials (see Roofing guide for more details)</b>	retain sheathing, if in good condition, terra cotta or slate tiles	metal materials, contractors generally have outlets for recycling asphalt roofing materials, untreated cedar shingles	treated cedar shingles, torch-down roofing	possible asbestos content

# Resources

## Health

Health Canada's It's your health series provides reliable, easy-to-understand articles on Asbestos, lead, mould, indoor air quality. [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)

Aerius Indoor Air Quality Resource Centre provides information on building materials and their associated impacts. One section is dedicated to information for preventing IAQ problems in residential buildings, including control of pollutants and their source, ventilation and filtration, and education of occupants. [www.aerius.org](http://www.aerius.org)

CMHC's Indoor Air Quality series, [www.cmhc-schl.gc.ca/en/co/maho/yohoyohe/inaiqu/index.cfm](http://www.cmhc-schl.gc.ca/en/co/maho/yohoyohe/inaiqu/index.cfm)

For more on toxics in the home, you may find the following resources useful:

- CancerSmart Consumer Guide from Toxics Free Canada, [www.toxicfreecanada.ca](http://www.toxicfreecanada.ca)
- The Washington Toxics Coalition, [www.watoxics.org](http://www.watoxics.org)
- A Guide for using less toxic products around the home. [lesstoxicguide.ca](http://lesstoxicguide.ca)

For further assistance with selection of environmentally friendly building materials, see CMHC's 'Building Materials for the Environmentally Hypersensitive', available to purchase from [www.cmhc.ca](http://www.cmhc.ca).

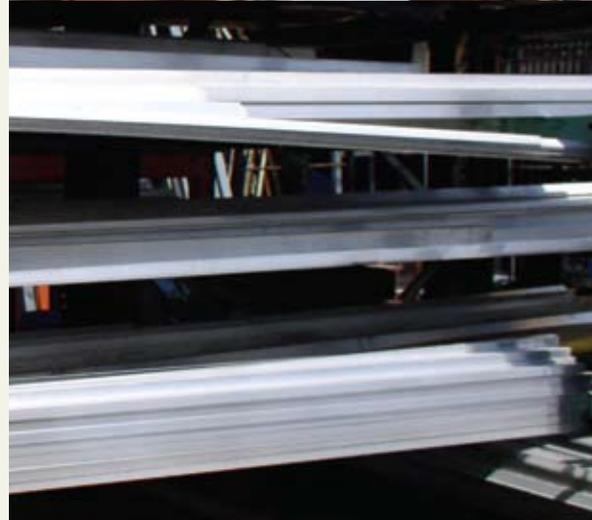
## Waste Management

Metro Vancouver provides a directory of recycling and salvage businesses at [www.MetroVancouverRecycles.org](http://www.MetroVancouverRecycles.org).

The Recycling Council of BC provides information to homeowners on location of used building supplies and materials companies and service providers as well as recycling facilities. Visit [rcbc.bc.ca](http://rcbc.bc.ca).

The Recycling Council of BC established a free province wide reuse and recycling service in 1985; the RCBC MEX program is a completely self-served web-based program comprised of Residential Reuses Programs and the BC Industrial Materials Exchange. Visit [www.bc.reuses.com](http://www.bc.reuses.com).

If you have to dispose of asbestos containing materials, review the City of Vancouver's Asbestos Policy for guidelines on proper disposal at [vancouver.ca/ENGsvcs/solidwaste/landfill/asbestos.htm](http://vancouver.ca/ENGsvcs/solidwaste/landfill/asbestos.htm).



Photo, top right: Ted Granger, Architect  
Photo, bottom right: The RE Store



The Green Home Remodeling Series was originally created by the Seattle Department of Planning & Development's City Green Building Program. The Vancouver Sustainable Development Program acknowledges City Green Building for permission to revise these guides for use in Vancouver, B.C. The City of Seattle, and all other named contributors to the original document on which this guide is based, are not liable and the City of Vancouver takes all responsibility for any errors, omissions or other defects contained in this guide.

[vancouver.ca/sustainability](http://vancouver.ca/sustainability)



© 2010 City of Vancouver. Printed in Canada.

\* Vancouver Green Capital is a registered trademark of the City of Vancouver.

