



12TH CANADIAN POLLUTION PREVENTION ROUNDTABLE

June 10-12, 2008
Edmonton, Alberta

Crowne Plaza- Chateau Lacombe





6.2 “Pollution and Illness Prevention by Design”

Stephani Carter, Eco-Ammo



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Pollution and Illness Prevention by Design

Canadian Pollution Prevention Roundtable - June 10 to 12, 2008

Presented by:

Stephani Carter, LEED® A.P./ I.D.T.

Sustainable Building Materials Specialist



Presentation Overview

- Illness Prevention by Design
- Pollution Prevention by Design
- The Good News
- Questions



Illness Prevention by **Design**

Interior IAQ

✎ “Walking into a modern building can sometimes be compared to placing your head inside a plastic bag that is filled with toxic fumes.”

- John Bower, Founder, *Healthy House Institute*



Basic Sources of IAQ

- Lifestyle Choices of Occupants
- Building Design and Construction
- Furniture and Equipment
- Outdoor sources
- Maintenance





Biologic Pollutants

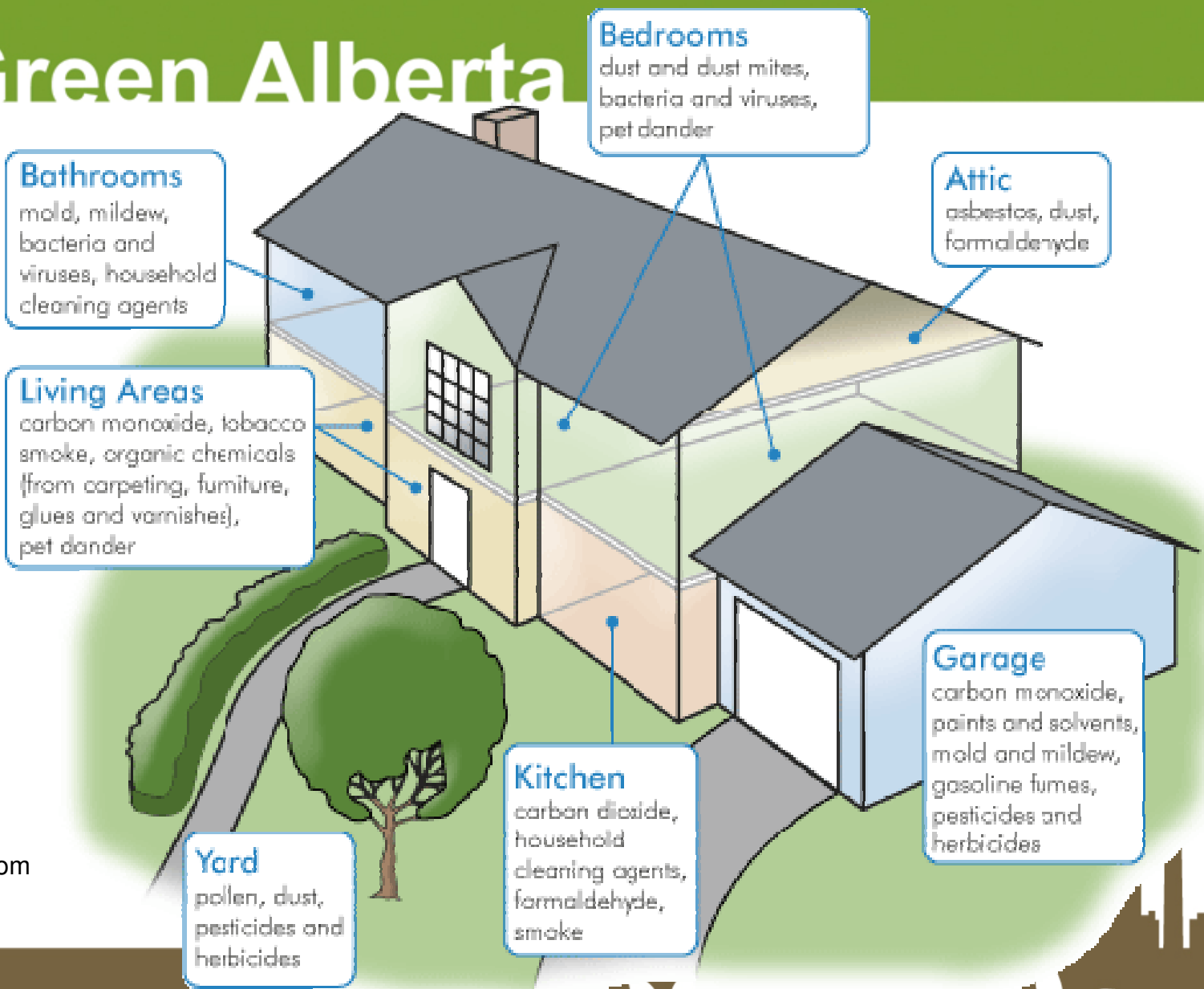
- Cockroaches
- House Dust mites
- Pets
- Mold

Chemical Pollutants

- Carbon Monoxide
- Ozone
- Tobacco Smoke
- Volatile Organic Compounds
- Radon
- Pesticides



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www.airadvice.com



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Use of chemical substance
for building materials
(Walls, Floors, Ceilings)
Use of Furniture•Daily Commodity

Poor air circulation

Combustion gas generated from
equipment such as heating

Air tightness in houses

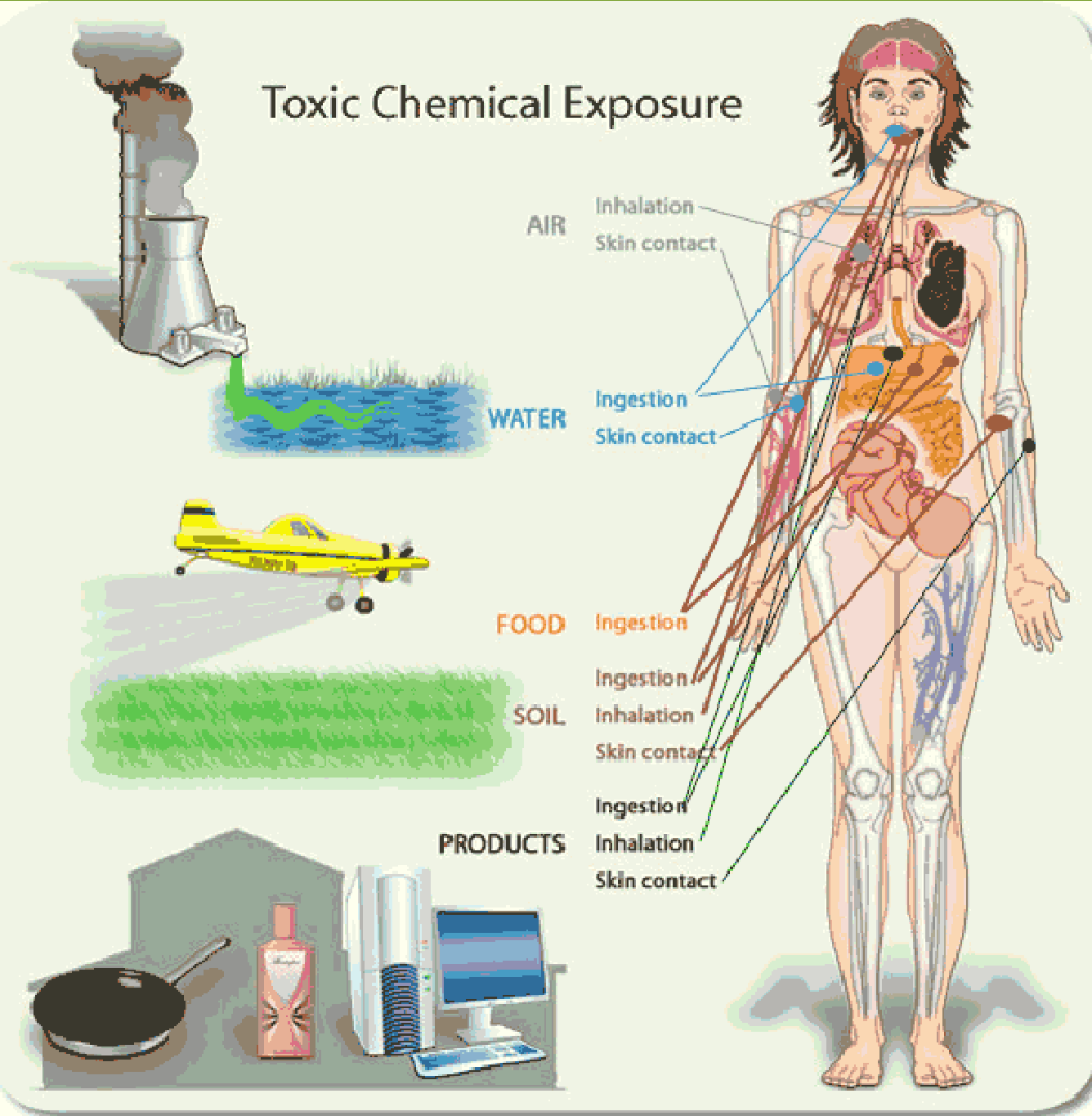


Symptoms

- ① Eye or Throat Irritation
- ② Headache, Dizziness
- ③ Nausea, Feeling Sick
- ④ Difficulty in Breathing
- ⑤ Dry or Itchy Skin
- ⑥ Difficulty in Concentration,
Lassitude, Fatigue



Toxic Chemical Exposure





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- Biologic Pollutants

35% of Canadian Homes have visual Mold.



Why is **Sustainability** important?

Global Issues:

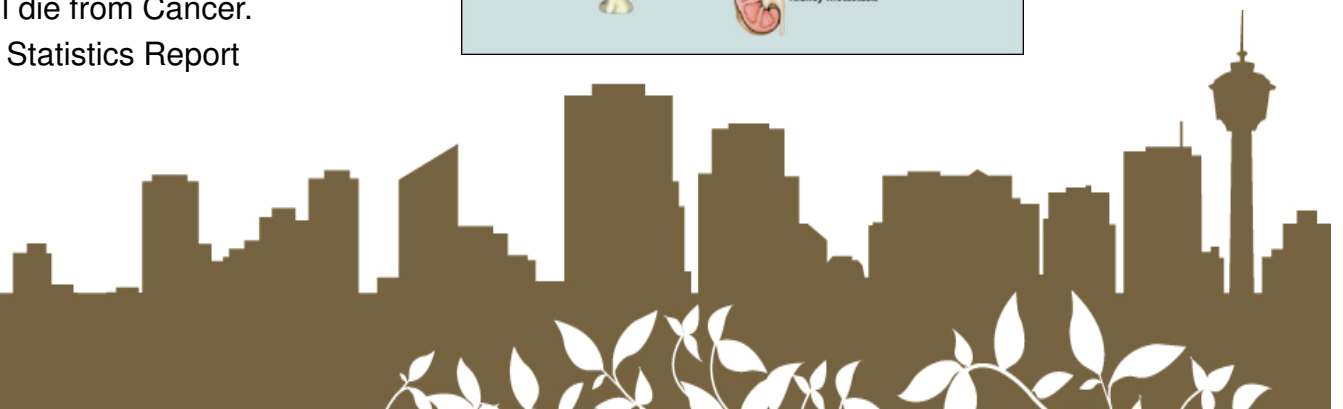
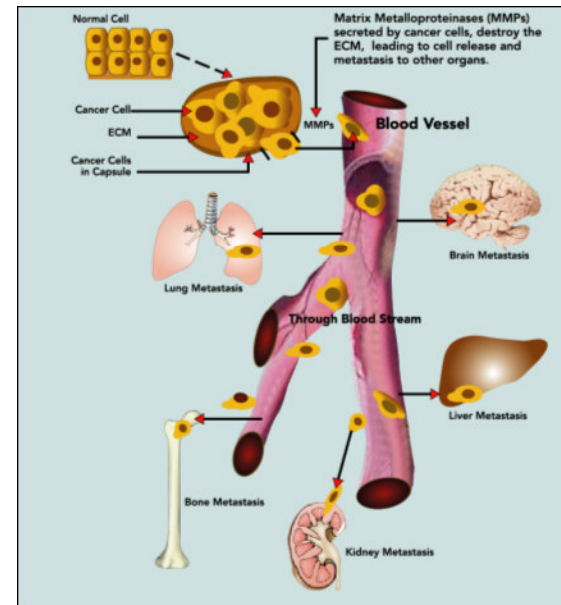
- **Cancer**

1 in 4 Canadians will develop cancer within their lifetime

– Canadian Cancer Society.

On the basis of current mortality rates, 24% of women and 28% of men, or approximately 1 out of every 4 Canadians, will die from Cancer.

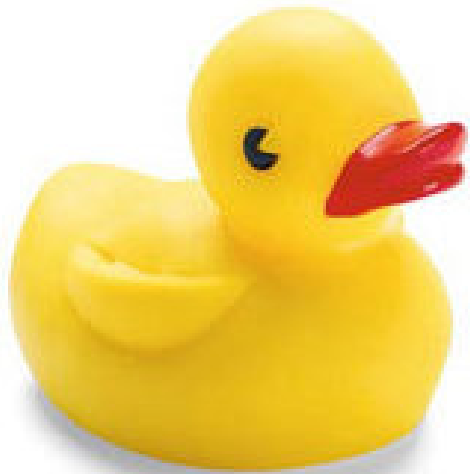
- 2007 Canadian Cancer Statistics Report





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This product comes with a California Surgeon General warning that says:



This product contains chemicals known by the state of California to cause cancer and birth defects or other reproductive harm



Exterior Impacts

✎ "Unless someone like you cares a whole awful lot, nothing is going to get better. It's not."

- Dr. Seuss



Why is **Sustainability** important?

Global Issues:

- **Climate Change**

Buildings account for 46% of global energy consumption while transportation only accounts for 22%.

- U.S. Energy Information Administration



Why is **Sustainability** important?

Global Issues:

- **Landfill Waste**

25-30% of all landfill is waste from construction, renovation and demolition, 57% of that is from commercial buildings.

– US EPA



Why is **Sustainability** important?

Global Issues:

- **Pollution**

Air, water, land, thermal, radioactive, noise, light – there are many different kinds of pollution all have extremely adverse side effects to humans and the environment.



Why is **Sustainability** important?

Global Issues:

- **Water**

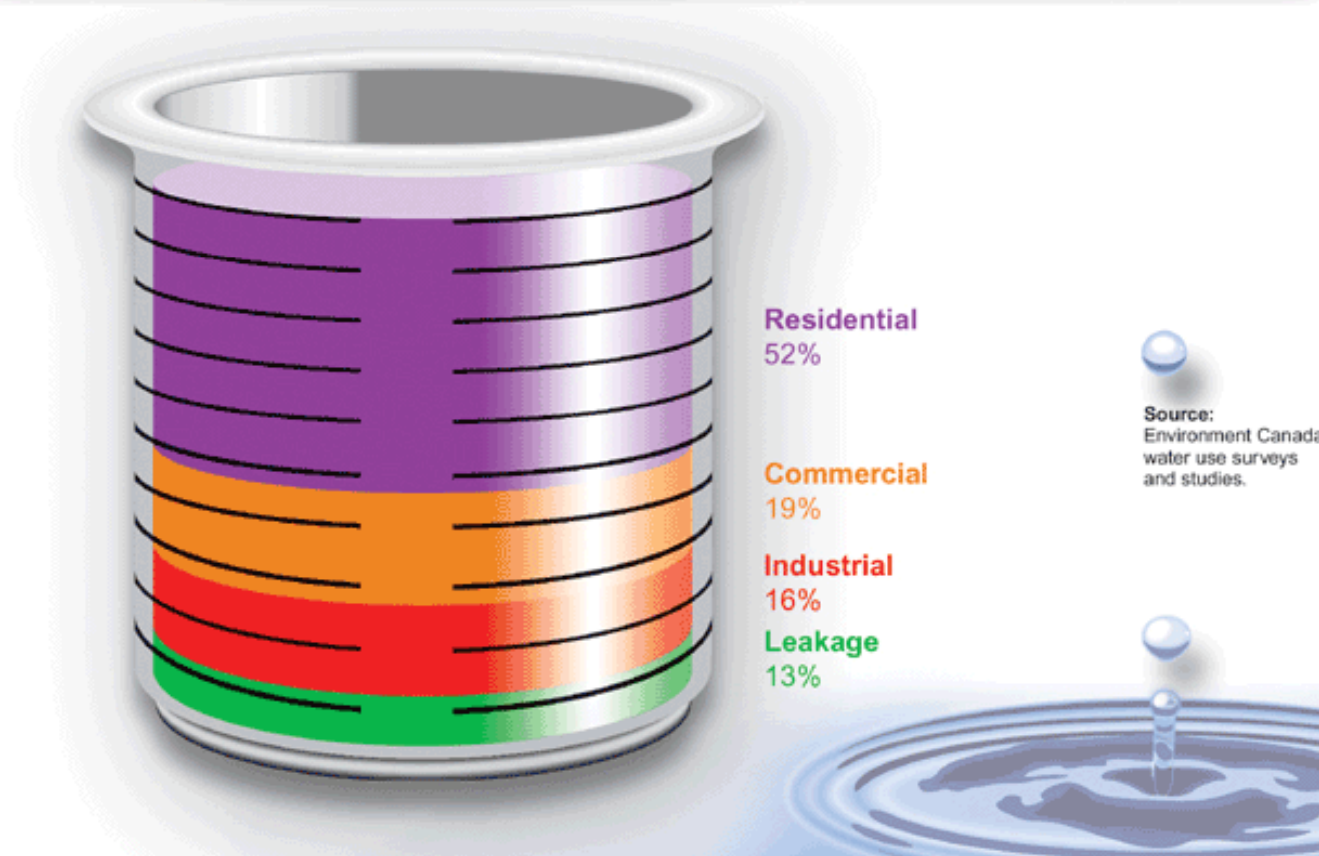
Water covers 70% of the planet. 97% is sea water, 2% is in the glaciers, leaving 1% available for human use and of that, half is polluted.

- Anita Roddick



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Municipal water use by sector, 1999

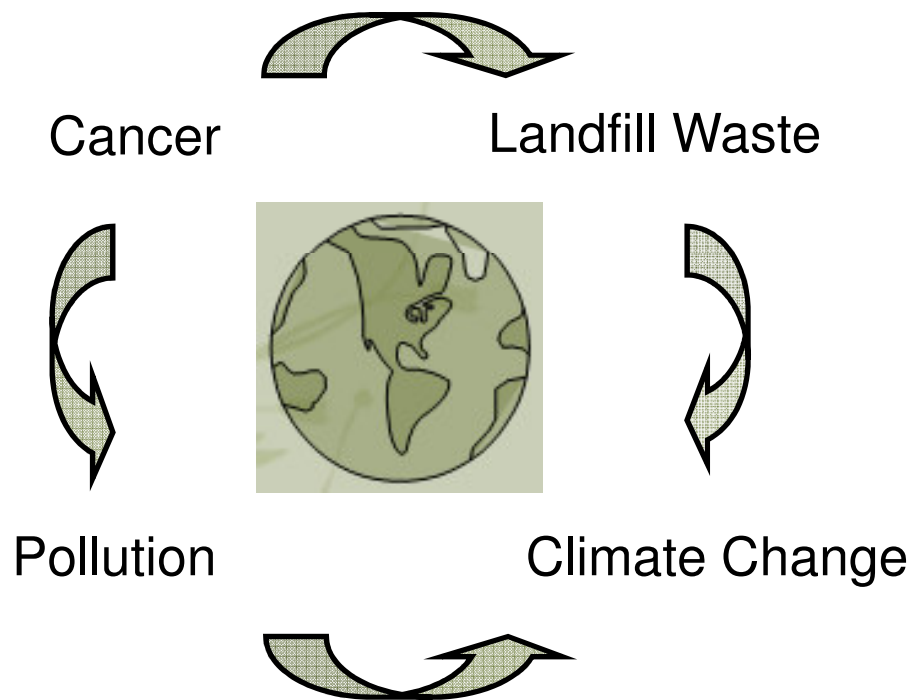


Source:
Environment Canada
water use surveys
and studies.



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Why is **Sustainability** important?



These Global Issues are all related and they are all not sustainable.



The Green Building Movement

✎ “The connection between health and dwelling is one of the most important that exists.”

- Florence Nightingale



Green Market Trends

Alberta's Growing Green Building Industry

- Alberta Chapter of the Canada Green Building Council
- Built Green Society of Canada
- Equilibrium - CMHC Net Zero Healthy Homes Program
- Alberta Agriculture - Biobased product development



Green Market Trends

LEED Certified Projects in Alberta

- Yellowhead County Administration Building, Edson
- AUMA Buildings, Edmonton
- Crowfoot Library, Calgary
- St. Johns Ambulance, Edmonton
- Banff Community High School, Banff
- Canmore Civic Centre, Canmore
- US/Canada Shared Port of Entry, Coutts
- Stantec Centre Atrium Tower, Edmonton
- Country Hills Multi-Services Centre, Calgary
- Edmonton Police Services – Southeast Division



Green Market Trends

LEED Certified Projects in Alberta

- North Hill Home Depot, Calgary
- Spruce Grove City Hall, Spruce Grove
- PCL's Centennial Learning Centre, Edmonton
- Glenmore Filtered Water Pump Station, Calgary
- Mount Royal College for Continuous Learning, Calgary
- Shell Centre, Calgary
- Cohos Evamy Office, Calgary
- Dinosaur Provincial Park Visitor Centre, Dinosaur Prov. Park
- Enermodal Engineering Office, Calgary
- Child Development Centre, Calgary
- Vento Residence, Calgary



Riverdale NetZero Project

The Riverdale NetZero Project is one of twelve homebuilding teams selected by the Canada Mortgage and Housing Corporation (CMHC) to build pilot demonstration homes across Canada as part of their EQUilibrium Housing Initiative.

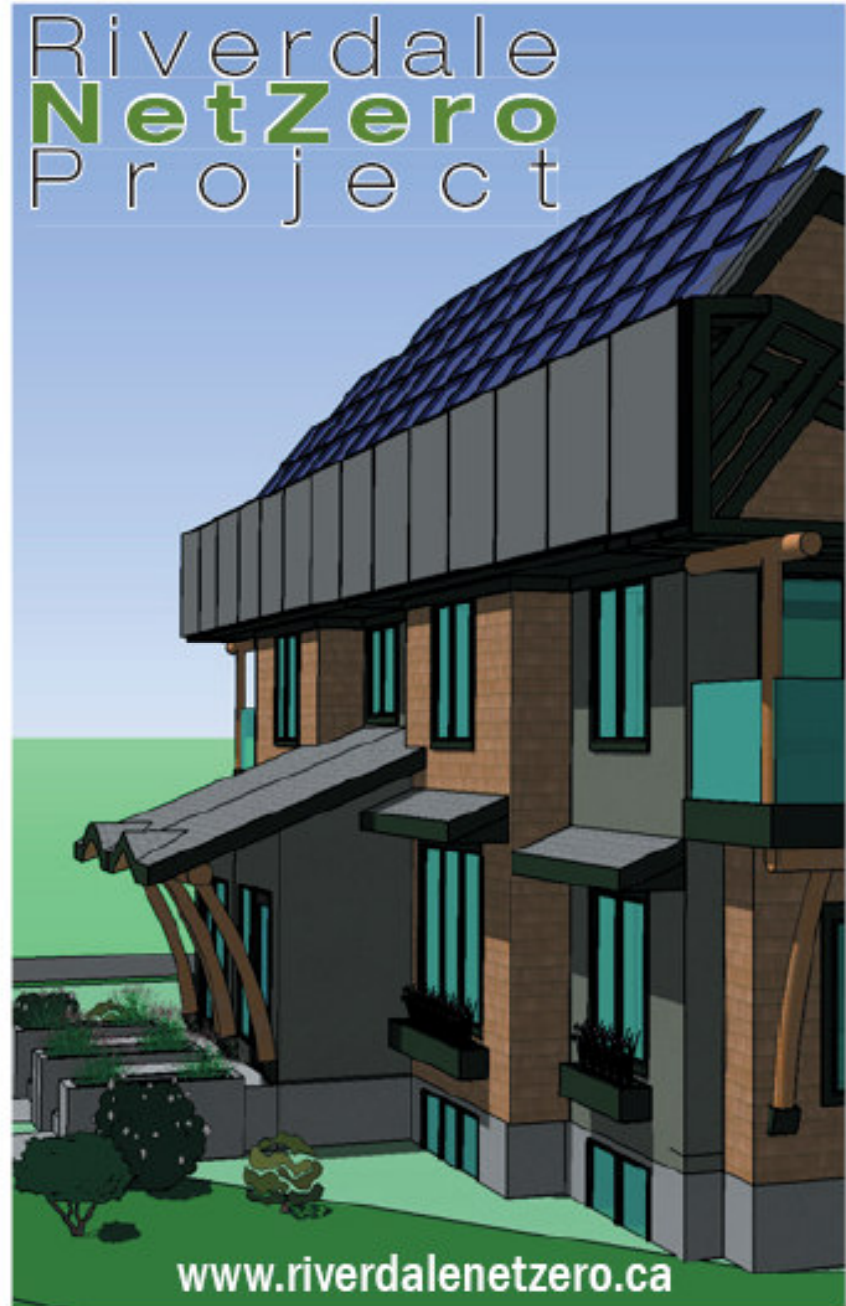
EQUilibrium is a national initiative led by CMHC that supports the development of Healthy Housing and sustainable community solutions that deliver on the promise of improved occupant health and comfort, increased energy efficiency, and reduced environmental impact.

For more information on the Riverdale NetZero Project,
including the full technical proposal, visit the project website at:

www.riverdalenetzero.ca

The Riverdale NetZero Project is a collaborative initiative of:

Habitat Studio & Workshop Ltd • Howell-Mayhew Engineering
Solnorth Engineering • Solar Energy Society of Canada Inc - Northern Alberta Chapter
Alberta Research Council • Anielski Management • Cancell Industries
City of Edmonton (CO₂RE) • Climate Change Central • Conergy •
Duxton Windows Ltd • Earth Net Geothermal • EcoAmmo • Green Door Builders
Hicklin Consulting • Hydraft Development Services • Kitska Designs
Leslee Greenaway • Lincolnberg Homes • Max Amerongen • Mikhael Horvath
Northern Alberta Institute of Technology • Pembina Institute • Peter Bull • Phillip Mees
Planet Organic Markets • Richard Caldwell • Ron Wickman Architect
Servus Credit Union • Shafraaz Kaba • Tang Lee • Taylor Munro Energy Systems
Telus World of Science Edmonton • The Urban Farmer

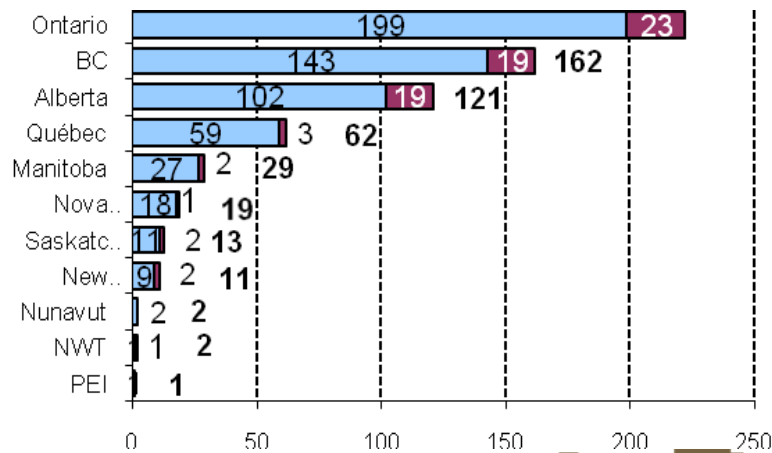
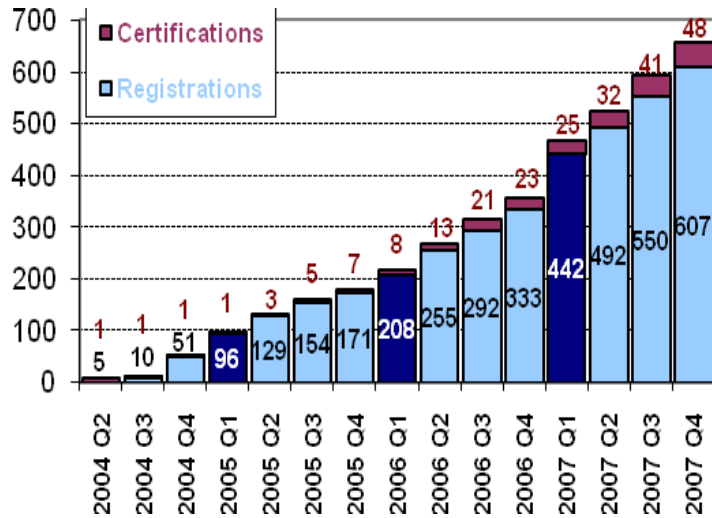


Canada

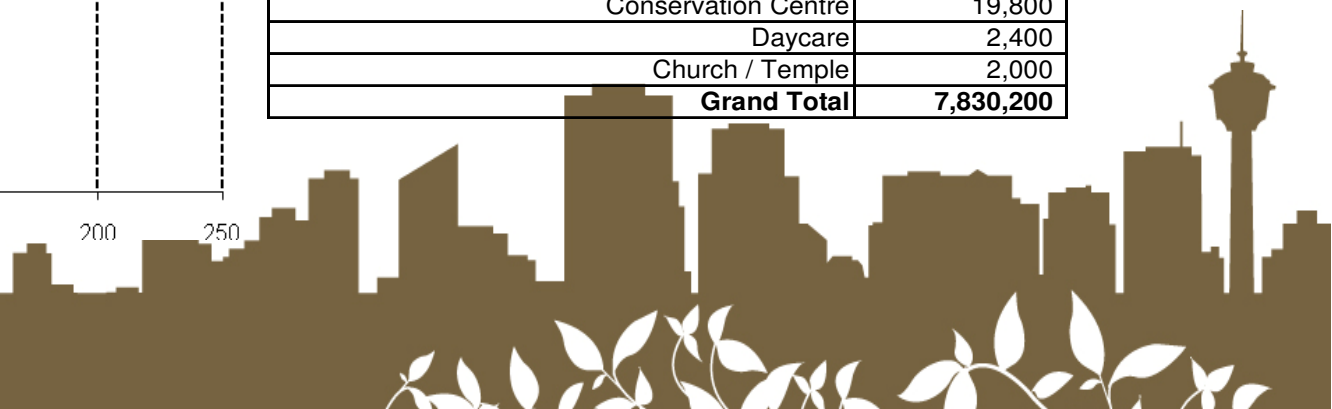
Equilibrium
HEALTHY HOUSING
FOR A HEALTHY ENVIRONMENT

CMHC SCHL

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	square metres
Office building	1,701,200
High-rise multi-unit residential (>10 storeys)	1,413,200
Other	1,058,100
Mixed-use	675,500
Hospital / Clinic	475,200
Mid-rise multi-unit residential (>3<10 storeys)	432,900
Lecture Hall / Classroom	367,200
Sports Facility	279,800
Public Safety (firehall, police station)	225,600
Hotel / motel	190,100
High School	144,900
Industrial / Manufacturing	132,700
Retail	114,400
K-9 School	103,000
Laboratory	83,800
Community Centre	83,500
Library	81,900
Assembly	79,200
Public transport passenger station	51,800
Nursing home/Extended care facility	50,200
Low-rise multi-unit residential (<=3 storeys)	39,900
Bank / Credit union	21,900
Conservation Centre	19,800
Daycare	2,400
Church / Temple	2,000
Grand Total	7,830,200



Green Market Trends

Alberta's Growing Green Building Communities:

- Griesbach Stage 8 - LEED®-ND Pilot Project - Edmonton
- Drake Landing - Solar Community - Okotoks
- Centre in the Park - Sherwood Park
- Emerald Hills - Sherwood Park
- Carbon Buster's Eco-Village - South of Edmonton





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Welcome to Green Alberta!

Thank you for your patience as our company transitions in this period of growth. We have taken some major directional changes that we hope will expand our services to better serve our clients. We are pleased to announce that our launch dates have been confirmed for November 22nd in Edmonton and November 28th in Calgary. More details on the venue [Here](#).

Please see our most recent [newsletter](#) for a full update of the company's directional changes.

Design professionals, the database will be available for view after the official launch date. Please nominate a product in the meantime at [Nominate a Product](#)

[Register Now >>](#)

Username

Password

[Forgot your password?](#)

[Login](#)

[What's New!](#)

Our launch date has changed! Sorry for the inconvenience. [Click here for our launch date.](#)

I am a
Member

I make or sell green building materials

I am a
Subscriber

I design and specify green building materials

I am a
General Consumer

I am interested to learn more about green building materials



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Green Alberta is...

A new green building products database created for Alberta by Albertans. It will help to ease the transition to a more sustainable local industry with education and easily accessible verified information about green building products manufactured and supplied in Alberta.

Sponsored by:



International Frameworks :

Triple Bottom Line Measurement of Business Performance

- **Economic, Social and Environmental as inclusive measures to exploring business performance.**
- **Companies defining success and measuring risk, by the 'triple-bottom line' are increasing**

- World Business Council for Sustainable Development. 2002.
Innovation, technology, sustainability and society. WBCSD, Geneva.



Sustainability Indicators:

Helping Companies Measure Product Performance

- **Prioritizing and tracking business environmental performance**
- **Aiding decisions and communications based upon or incorporating sustainability**
- **Determining areas of limited and high potential sustainable improvement**

- World Business Council for Sustainable Development. 2000.
Measuring eco-efficiency. A guide to reporting company performance.
WBCSD, Geneva.





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Green Alberta is...



A professional team from diverse backgrounds.

Our experiences and skills range from LEED project certification, interior design and industrial design, to social development, and environmental sciences and research.

Our passion is to improve Canada's economy and environmental performance, by helping the building industry make the transition to providing primarily sustainable products and materials.





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“The twentieth century will be chiefly remembered by future generations not as an era of political conflicts or technical inventions, but as an age in which human society dared to think of the welfare of the whole human race as a practical objective.”

- *Arnold J. Toynbee, English Historian (1889-1975)*





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Questions?



www.greenalberta.ca



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THANK YOU!

