Presented By:

AREA

rise

Sustainable Housing Webinar Series

What makes a high-performance building and deep energy retrofits

Speakers:

- Ashley Abernethy - VP Growth & Partnerships, Rise
- Frank Crawford, CPHD - Education Committee Lead, Passive House Alberta Foundation

High Performance Homes

A discussion on how to sell what's good for the planet

AREA Alberta Real Estate Association

rise

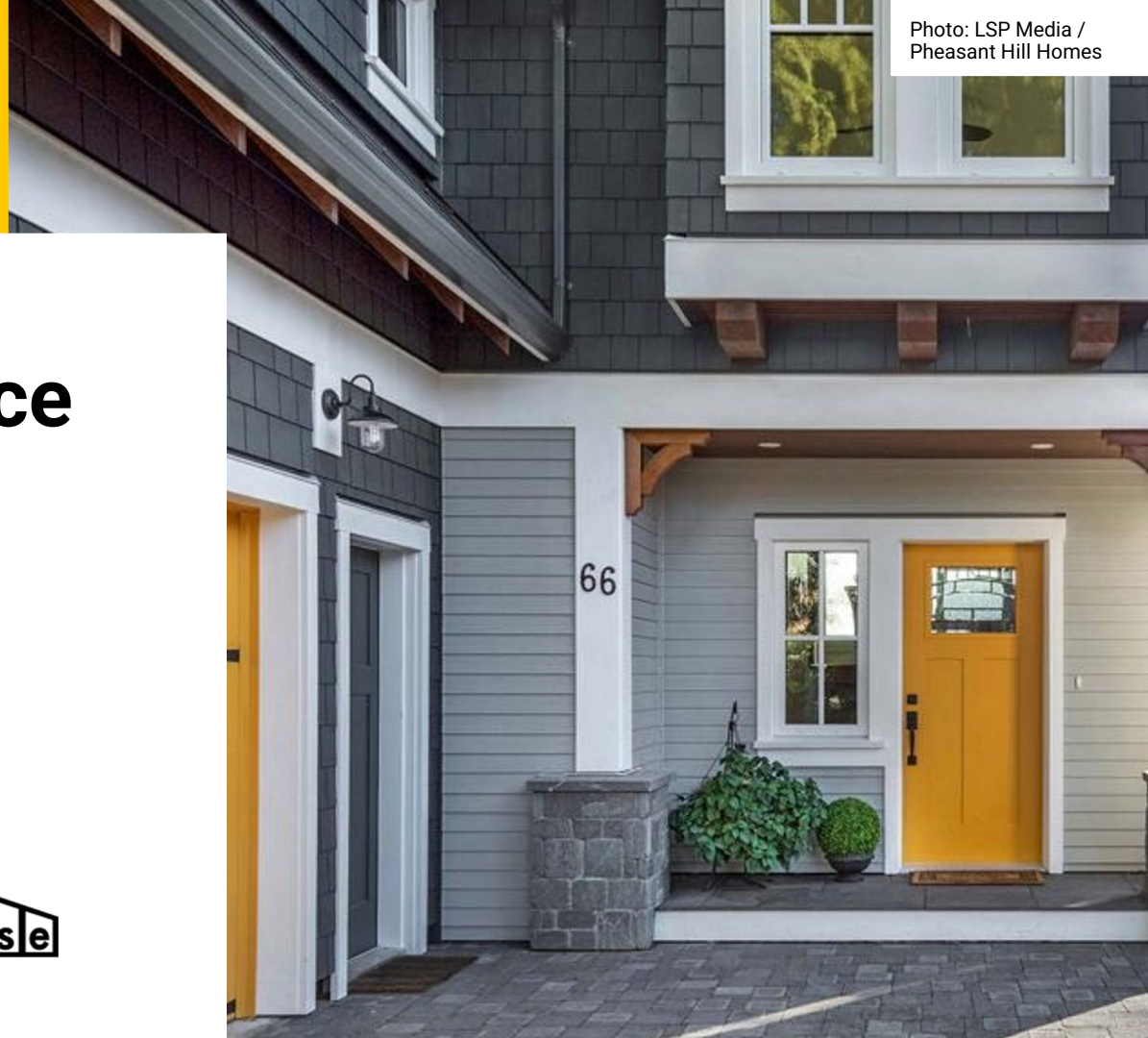


Photo: LSP Media / Pheasant Hill Homes

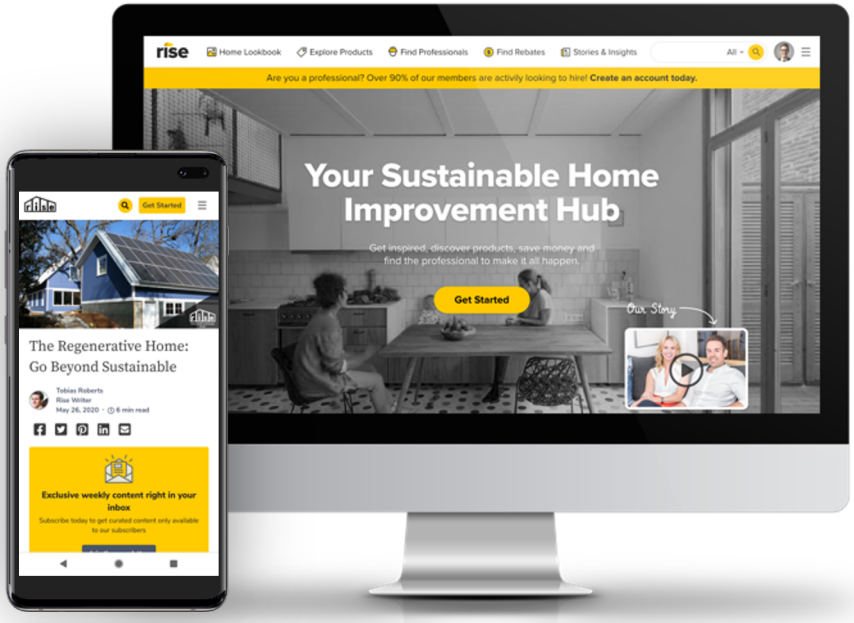
THE DEMAND FOR SUSTAINABLE HOMES

HOW HOMES IMPACT THE ENVIRONMENT

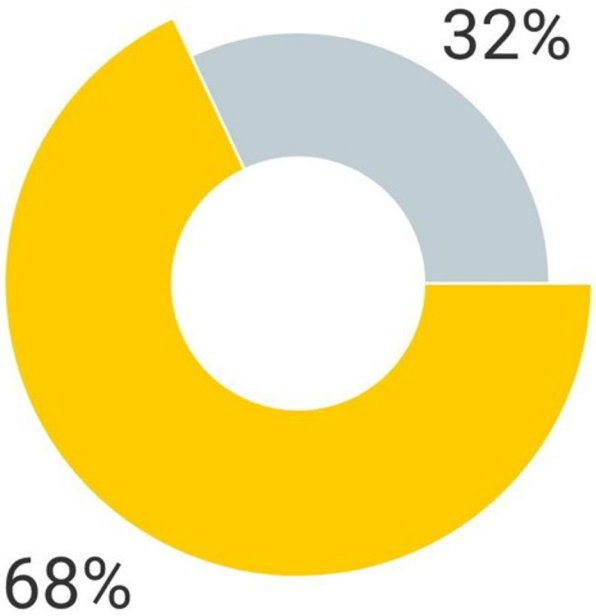
THE ROLE OF THE REALTOR®

"Empower every person with the unbiased resources they need to build and improve homes that benefit their health, their wealth, and the planet."

- **5 million visitors, 10,000 per day**
- Expert unbiased content for homeowners
- Explore 1000s of interactive photos
- Decision Power on 100s of Products/Materials
- Find utility incentives in your area
- Connect with Pros and Manufacturers who can help
- Online courses for real estate professionals
- **AND buy only the best home improvement products for your home**



Homebuyers Want an Environmentally Friendly Home



39%

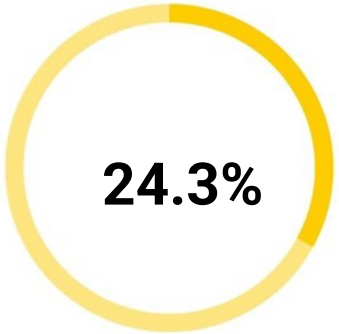
of real estate professionals are comfortable talking about these types of homes

Super Energy Efficient Homes Will Soon Be the Norm

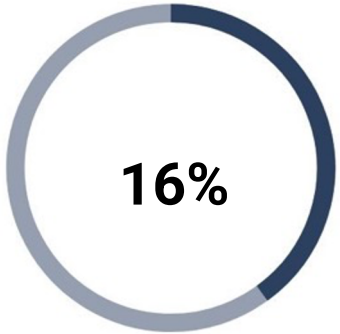
2030

Net-zero buildings

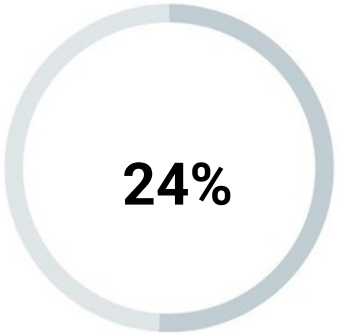
How Homes Impact the Environment



Residential sector accounting for almost one-quarter of Canada's total energy use.



Alberta buildings contribution to GHG emissions

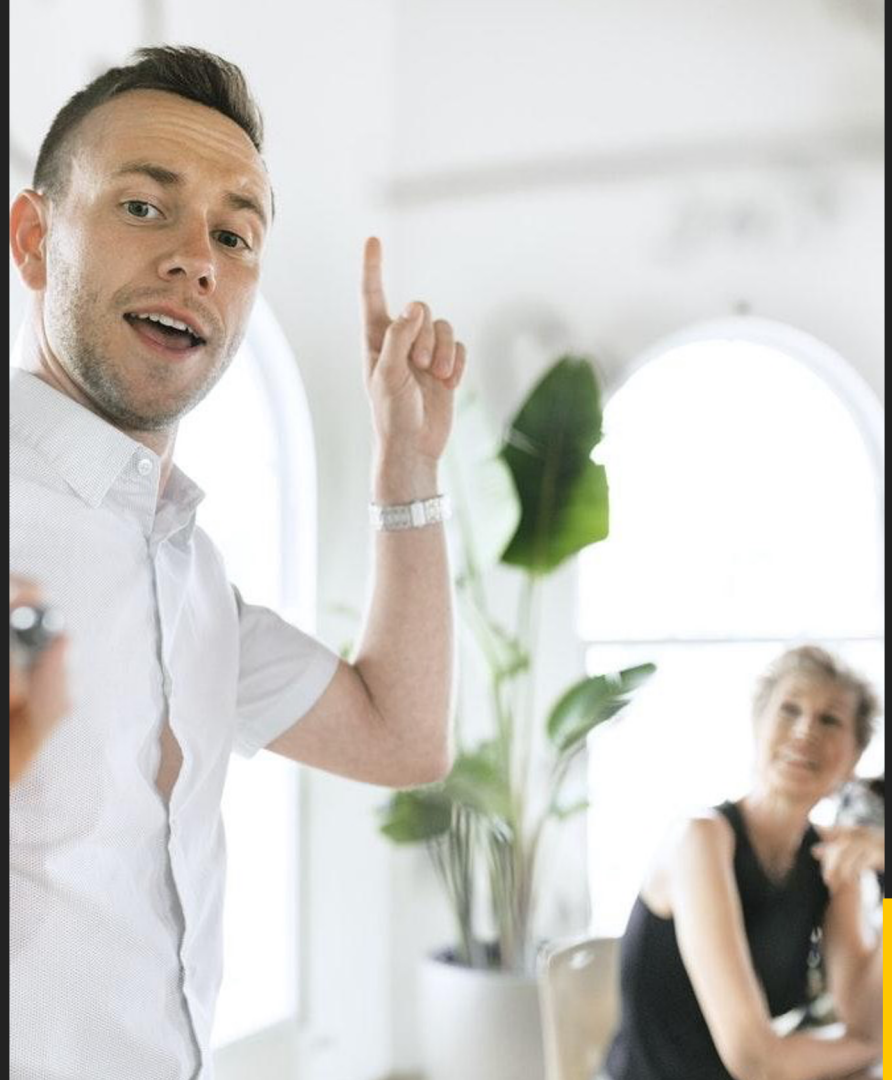


Electricity share of Alberta buildings energy use

2021 Canada's Climate Retrofit Mission Report - Efficiency Canada

What is the Role of a REALTOR® ?

- Know the science...
  … but sell the benefits
- Add value...
  … for homebuyers by spotting crucial details before the inspection
- Find homes...
  … that suit your homebuyers' values (health, wealth, or planet)
- Earn listings...
  … by understanding sustainable and high performance homes



Online Courses Available to Real Estate Professionals

Be ahead of the curve on the home sustainability market:

- Identify sustainable building standards.
- Name strategies to make a home more comfortable and energy efficient.
- Identify sustainable products based on third party certifications.
- Compare on and off-grid solar solutions.
- Show the different types of heating sources.

Learn to spot crucial details that impact homebuyers' health:

- Identify air quality hotspots and how they affect the health of those who live there
- Compare popular home building materials and recognize unhealthy ingredients
- Choose cleaners and air purifiers that keep a home healthy
- Outline what to look for and how to test a home's drinking water
- Identify the different ventilation systems that can improve the indoor air quality in a home

3 hours

Self-paced

Interactive stories, text, graphics, and videos

Rise

Turn any home improvement project into a sustainable one.

www.buildwithrise.com

Email: education@buildwithrise.com
Social: @buildwithrise

Intro to Passive House and High Performance Building for AREA

PASSIVE HOUSE
ALBERTA

Welcome

Frank Crawford, P.Eng, CPHD

- Professional Civil Engineer
- 12 years commercial construction Project Manager
- LEED Platinum (2007) and Gold (2015) office buildings
- Owner / designer / builder of the Montgomery Passive House
- Certified Passive House Designer
- Energy Efficiency Consultant
- Helped create and now Education Committee lead for PHAb

International Passive House Standard

PASSIVE HOUSE ALBERTA

- Based on work done in Canada in 1970's
- Developed in Germany in 1990, now used all over the world in all climates
- No statistical gap between the predicted energy use and actual measured use
- Internationally recognized as the gold standard for high performance building standards, however adoption in Alberta remains low
- Principles apply to all homes

Five Principles for Comfort, Health and Energy Efficiency

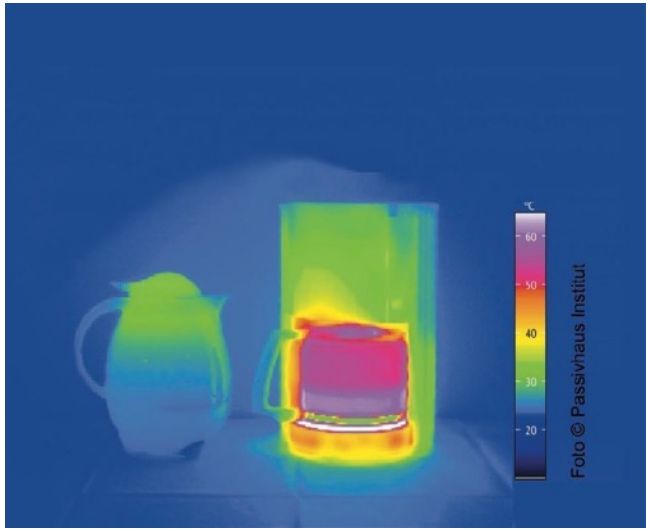
PASSIVE HOUSE ALBERTA

1. Insulation
2. Airtightness
3. Thermal Bridge Free
4. Windows and Doors
5. Mechanical Ventilation

1. Insulation

Mountains With Sunspot, KD Brown
Woman in Winter, Adobe Stock

1. Insulation

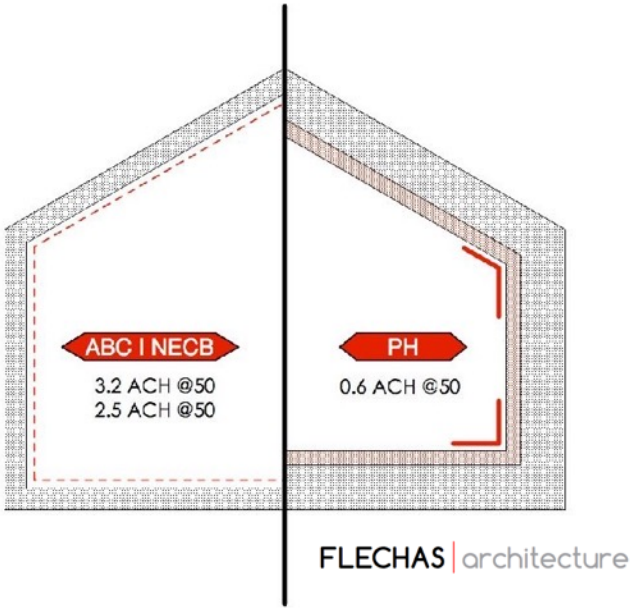


Passive Insulation | Active Energy

2. Airtightness

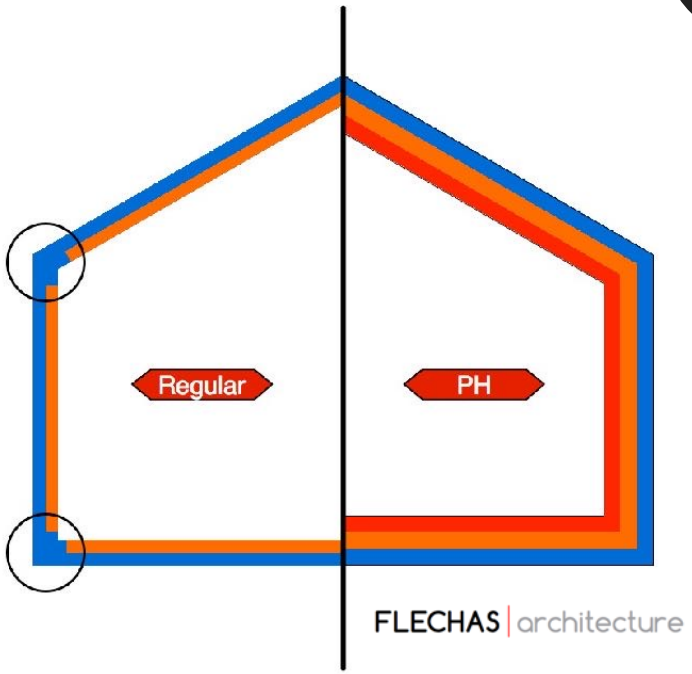
Photo: © passivehouse.ie

Blower door test



3. Thermal Bridge Free

A Thermal Bridge is an area of reduced insulation



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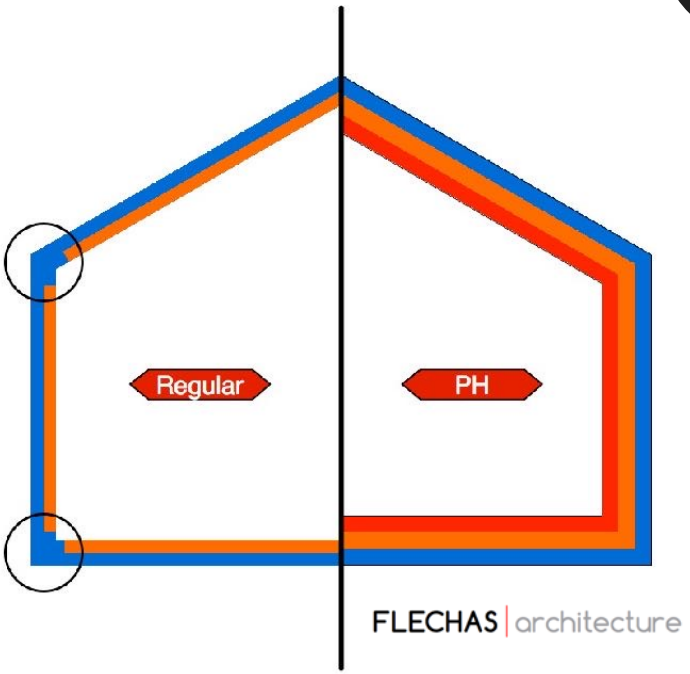
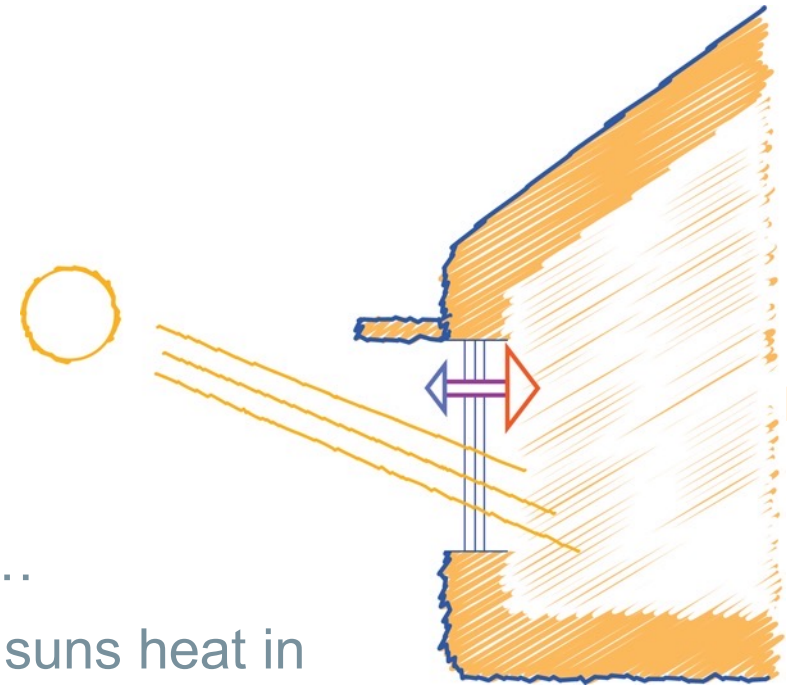


4. Windows and Doors and Shading

Triple pane windows should be the standard in Alberta's climate, but frame is as important as the glass.

4. Windows and Doors and Shading



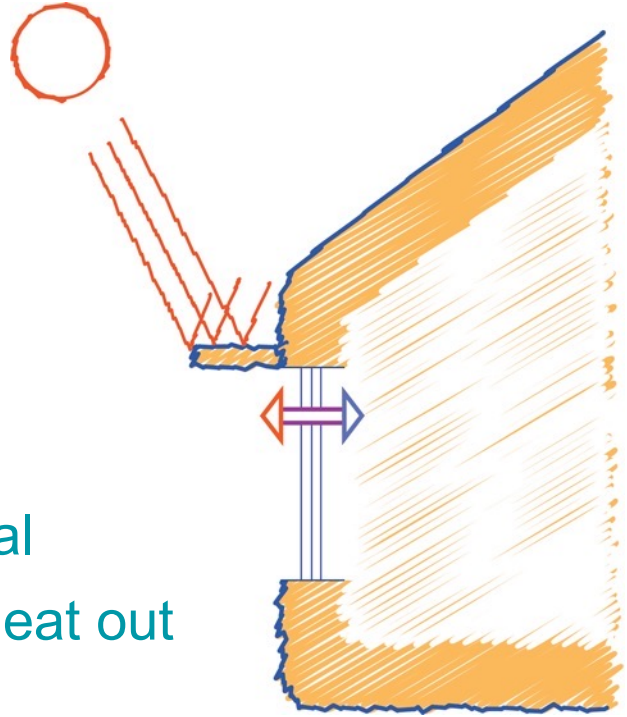
Net heat gain…

Winter…

Let the suns heat in

Graphic: KDBrown

4. Windows and Doors and Shading



Graphic: KDBrown

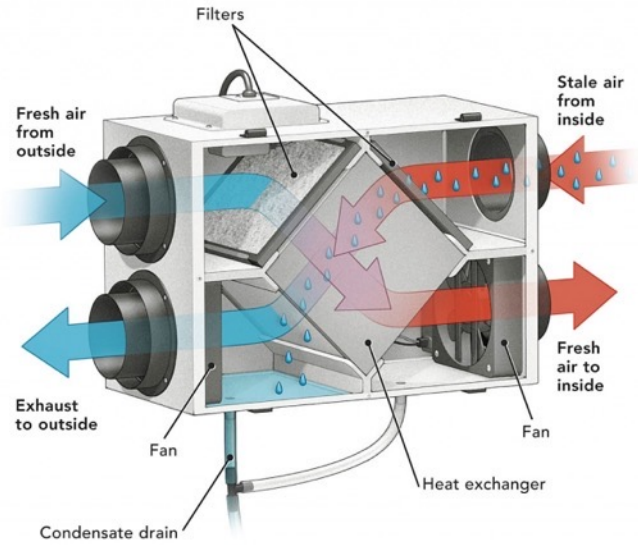
Summer…

Shading is critical

Keep the suns heat out

5. Mechanical Ventilation

- Continuous
- Filtered
- Silenced
- Balanced
- Commissioned



Heat Recovery Ventilator (HRV)

Efficiency, Cold climate : 82 – 95%

Benefits of a High Performance Home

Comfort

- No drafts, no cold spots, no cold surfaces
- Even temperature on all floors, in every room and year
- Less dust
- Less smoke as air is filtered
- Better humidity control

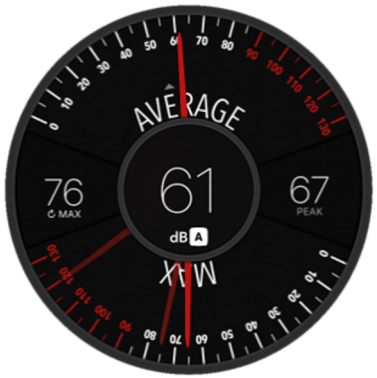
Health Implications

“Allergies against pollen, pet hair and insects are less frequently observed in occupants with mechanical ventilation.” H*ealth and Wellbeing of Occupants in Highly Energy Efficient Buildings: A Field Study, 2017*

“We have known for a long time that damp and mould will make asthma worse if you already have it, but this is one of the first studies to show that mould may be actually causing asthma to develop." *Dr. C. Shorter, Department of Medicine, University of Otago, Wellington NZ, 2017*

"The study also found the more mould, the more cases of asthma." *Dr. C. Shorter, Department of Medicine, University of Otago, Wellington NZ, 2017*

Quiet – During a Thunderstorm



Closed window

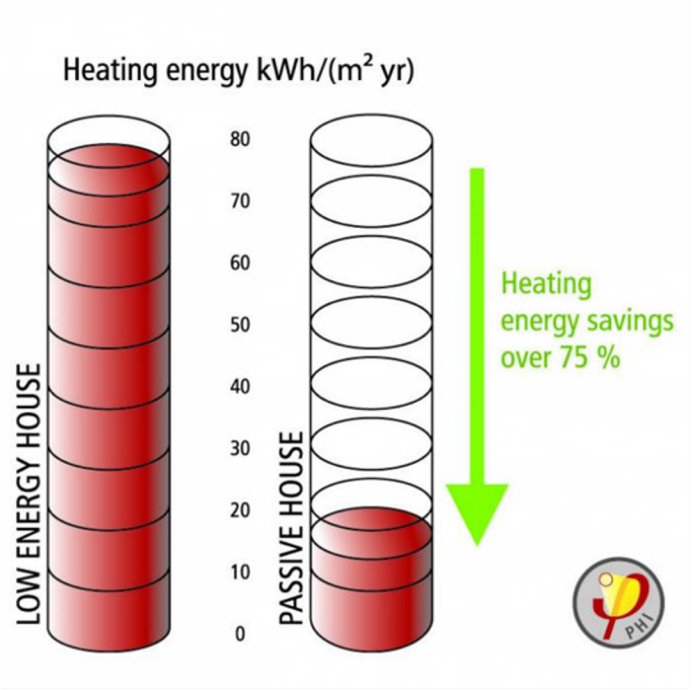
- 30-40 decibels (quiet talking)
- 45 dB during thunder (office)

Open window - outside

- 55-60 dB
- 75 dB during thunder

- Almost no internal background noise (22 decibels)
- Greatly reduced external noise

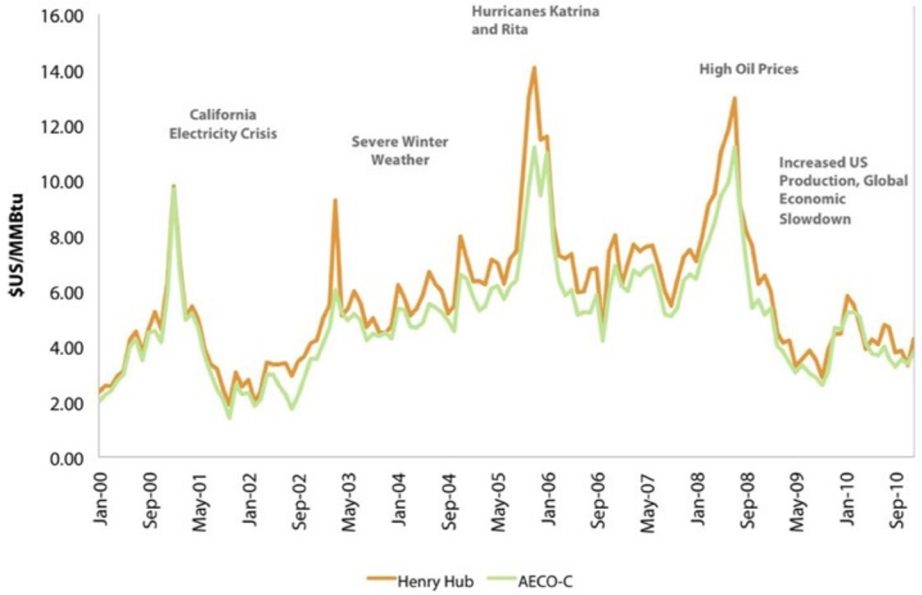
Energy Savings



Energy Security

By significantly reducing consumption you are less effected by changes in the energy price as you use much less.

Oil Prices, 2000-2010



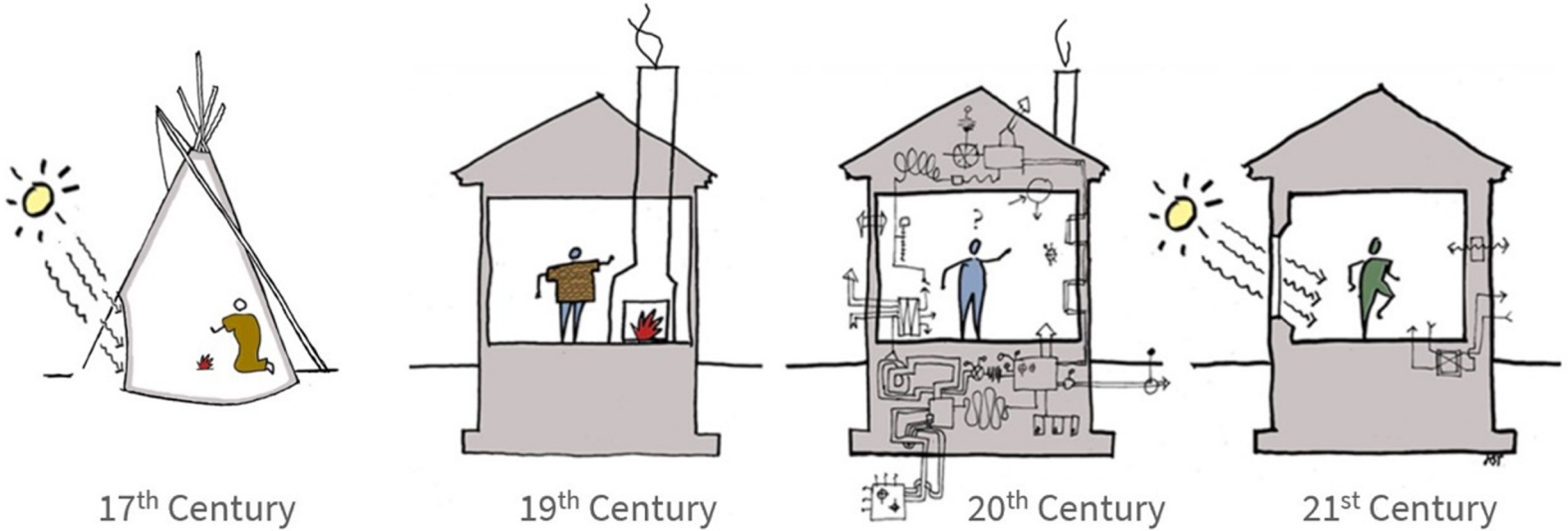
GLJ Petroleum Consultants

Power Outages

- **Conventional homes** are reliant on continuous energy supply
- Power disruptions in winter can cause pipes to freeze and cause extensive structural damage

- **Passive House buildings** are much less reliant on external energy supply
- During unexpected power disruptions inhabitants remain warm and comfortable
- Buildings remain resilient throughout various weather conditions

Simpler heating / cooling systems



Less maintenance

Houses Image: ART Architects; 17thC: KDBrown

Questions?

Learn More

Sign up for our newsletter
Connect on social media
Become a member of Passive House Alberta
Attend our monthly members only coffee talks

education@passivehousealberta.com

passivehousealberta.com

Questions?

AREA

AREA and Rise Sustainable Housing Webinar Series

Upcoming webinars:

- Webinar #2 The EnerGuide Rating and current Grants, rebates and funding opportunities - October 22 at 10 AM

Future webinars in series (registration to open closer to session dates):

- Webinar #3 Implication with providers from High-Performance Homes
- Webinar #4 High-Performance homes and Comfort

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