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Net Zero and Wildfire Resistant Housing

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Canada

Net Zero and Wildfire resistant Housing

Presentation outline

01 Energy efficiency in housing

02 Benefits of Net Zero housing

03 What is wildfire-resistance

04 Building wildfire resistant housing

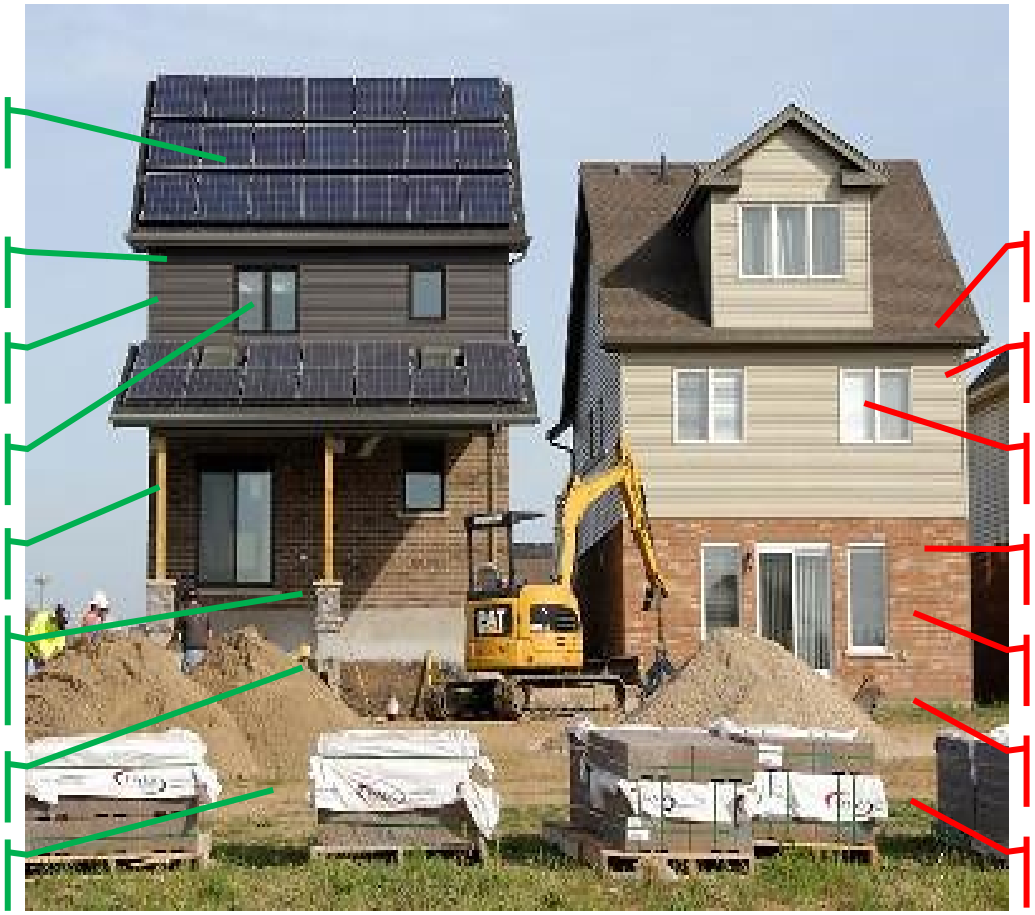
Energy Efficiency in housing is improving…

Homes built before 1990	BC Step 3 Homes	Net Zero Homes
• Poor energy efficiency • High utility costs • Minimal insulation • Uncomfortable rooms	• Great energy efficiency • Uses 50% less energy than a 1990 home • High quality construction practises • Improved comfort	• Excellent energy efficiency • Most of the homes' energy is produced from solar panels on the roof • Excellent comfort, health

Energy Efficiency Ingredients

Recipe: NZ House

- **Solar PV:** 6.2-11.2 kW
- **Attic:** R-50 to R-80
- **Air-tightness:** 0.4-1.5 ACH
- **Windows:** U-0.85 to U-1.1
- **Walls:** R-20 to R-40
- **Heating:** Heat Pumps, COPs from 2.5 to 3
- **Foundation:** R-12 to R-37
- **Under slab:** R-10 to R-20

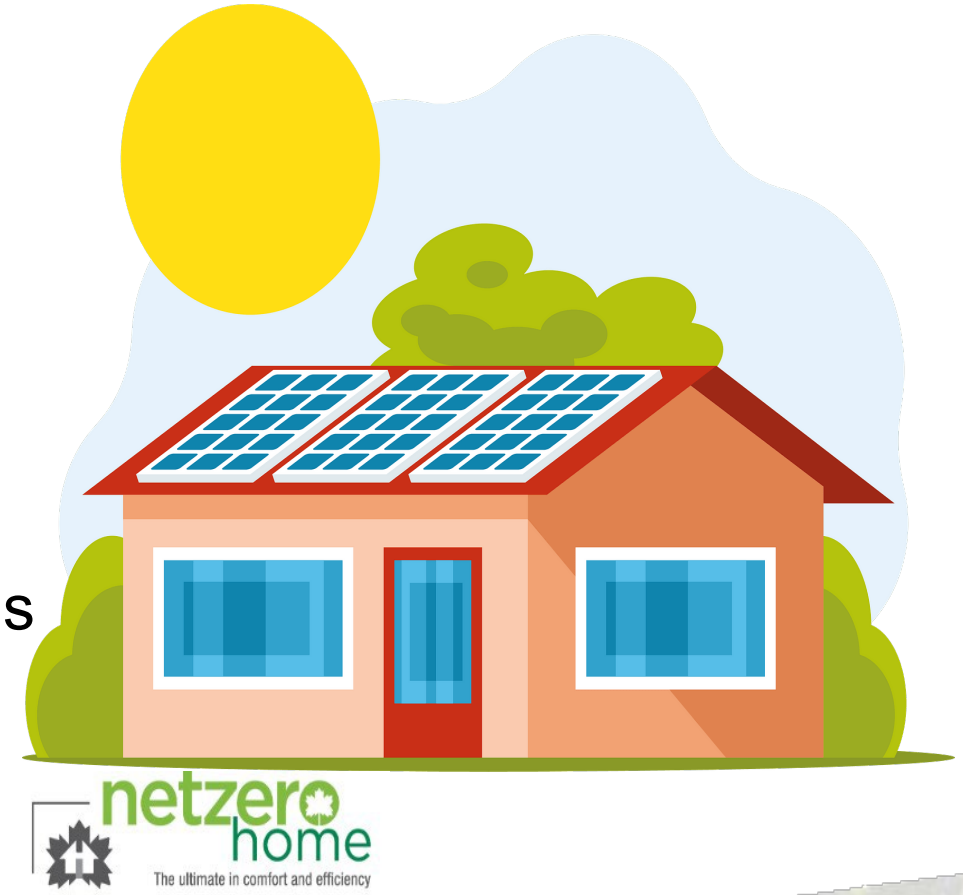


Recipe: Code House

- **Attic:** R-40 to R-60
- **Air-tightness:** ~2.5 ACH
- **Windows:** U-1.4 to U-1.8
- **Walls:** R-16 to R-18
- **Heating:** 96% eff. furnace
- **Foundation:** R-11 to R-17
- **Under slab:** NA

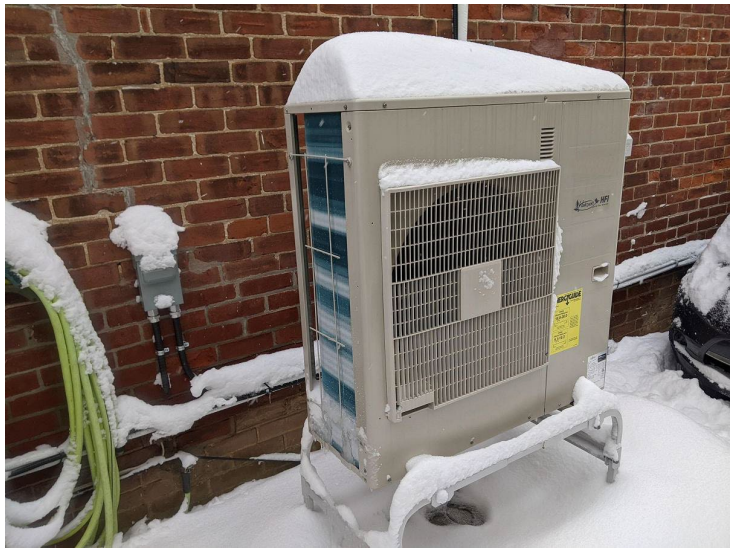
Net Zero vs Current Building Code (Step 3)

- Both Net Zero and Step 3:
  - require use of an energy advisor
  - take same time for design and construction
- Net Zero homes:
  - built with more durable and energy efficient materials
  - No cost electricity generated by solar panels
  - Improves comfort, healthier living

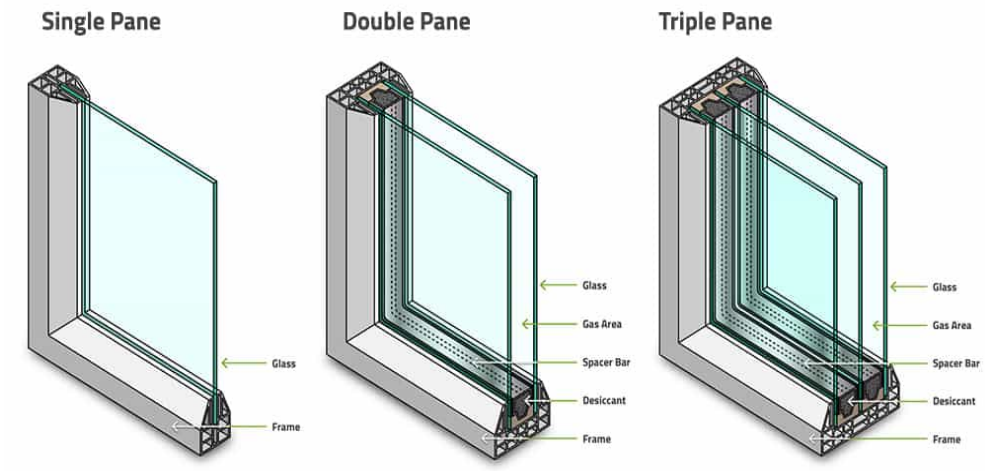


Key Net Zero Ingredients

Exterior insulation



Cold climate heat pump



Triple-pane windows

Solar panels