



LEED® Canada for Homes

Passive House Building Coalition



Troy Glasner President, LEED AP, CEA E3 ECO GROUP INC.





Compare and Contrast

Passive House:

- Building Energy Consumption
- Appliance Energy Consumption
- Focus on Building Envelope
 - High levels of insulation
 - Utilization of solar gain
 - Air tightness
 - Good indoor air quality



LEED for Homes:

- Innovation and Design
- Sustainable Sites
- Locations & Linkages
- Energy
 - High levels of insulation
 - **Performance / Prescriptive**
 - Utilization of solar gain
 - Air tightness
 - Good indoor air quality
- Materials and Resources
- Indoor Environmental Quality





LEED for Homes Stages

- Provider
- Preliminary Review
- Performance (ERS Plan Review)
- Thermal By Pass Inspection (not all rating systems have this)
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How do we do it?

LEED for Homes has two key methods:

1) EnerGuide Rating System (ERS)

2) Prescriptive Path

Other:

- Passive House would be a nice fit here
- EnerGuide 90(s) – Malcolm? None have been done by us to date





What is EnerGuide?

EnerGuide for New Houses

- 1) Utilizes an energy modeling software called HOT 2000 / HERS
- 2) Reduces impact of occupancy by equalizing loads – i.e. 2 adults 2 infants at home 50% of the time.
- 3) Allows all homes to be benchmarked against each other. Essentially providing a L/100km for all dwellings.
- 4) Expressed on a scale from 0 – 100
- 5) Looks at all dimensions of a building
 - 1) Envelope
 - 2) Mechanical
 - 3) **Air tightness** (prescriptive too!) Is there a goal? Whistler according to NRCan HOT 2000 4287 HDD
 - 1) **Air tightness by LEED for Homes on Prescriptive would be Maximum 3.0 and for extra points 2.0 or less.**
 - 4) Appliance consumption
 - 5) Renewables

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LEED for Homes

Prescriptive Approach

- Insulation
- Air Infiltration
- Heating and Cooling – layout and design
- Space Heating and Cooling
- Water Heating
- Lighting
- Appliances
- Renewable Energy
- CFC control and reduction





Passive & LEED for Homes

Points that should be emphasized in every project

- Passive Solar – orientation, glazing, type of Low E!
- Site Orientation – city planners are you listening?
- Insulation – green or not – we need it – think refrigerators
- Windows – see above – work for you or against you...
- Ventilation – required – dummy proof – like HRV's good for ERS – but need to educate...
- Indoor Air Quality – reduce pollutants
- Thermal Mass – great product – hard to implement
- Density – something that we all should be striving for – LEED for Homes
 - Home size adjuster





Passive & LEED for Homes

Q & A

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