

R2000 RENOVATION

Renovator Challenge & Opportunity



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What is R2000 Renovation / R2KR...

- Beyond **DEEP ENERGY RETROFIT**
- More than ENERGY
- Health, Environment, Energy efficiency, Energy, Comfort...
- R2000 Certification = No Special Treatment

WHY do R2KR...

- Because we can...
- The market is ready for innovation
- Leading edge is not 'niche'
- Relevant to marketplace expectations & social concerns
- We don't need another label

OPPORTUNITY...

High performance buildings make good common sense and good dollars and cents... for builder & homeowner

WHO can do R2KR...

- Every R2000 Certified Builder
- Meeting the challenge (Individual creativity)
- Not every project can be R2000 (Retrofit strategy)

BARRIERS (past and present)

- Where are all of the R2000 renos?
- NRCan policy - Not encouraged because of complexity
- Meet the challenge with creativity
- Dispel the myth...

OPPORTUNITY...

Builder / Renovator experience & knowledge has never been better positioned to advance **INNOVATIVE** technology

R2KR... the (unofficial) history

- Ontario connection (late 80's ?)
- NFLD HBA office (early 90's ?)
- Some failed attempts
- EnviroHome 2004 ~ Renovation Project
(1st residential / pilot project)
- Millpond Project (continuing the discussion)
- Brookside R2000 Project (regular status / 2013)

NO BARRIERS – JUST CHALLENGES



Case Studies...

- **ENVIROHOME 2004 ~ Reno Project**
- **Manufactured home / 25 years old**
- **2989 SQ'**
- **Zero Energy ready**
- **Active solar / 2 ton Ground source HP**
- **Passive solar 30% space heating**
- **CMHC Healthy House**
- **ACH .83**

ENVIROHOME 2004



BEFORE
1200 SQ'

AFTER
2989 SQ'

EnerGuide 88 (original reno)
TOTAL ENERGY 2005 / 2006
\$1189.00

RE upgrade / 2008 - NET ZERO

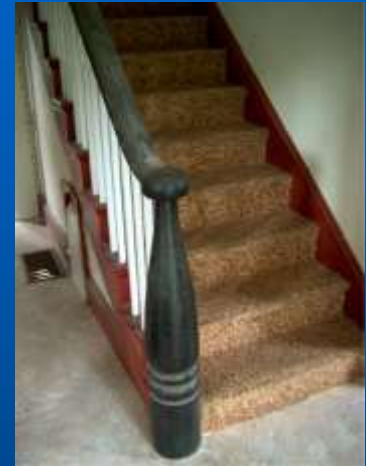


Renovation...

- **Mill Pond Project**
- **1600 sq'**
- **Century home - 200 + years old**
- **2 ton ground source HP
(23000 BTU)**
- **EG rated – A file minus 63 / B file
plus 82 / A file**
- **1.47 ACH**
- **Meets R-2000 Standards
(uncertified)**



Mill Pond Project



Restoration / Renovation...

- **BROOKSIDE R2000 Renovation Project**
- 2968 sq'
- Century home – built in 1857
- Solar assisted /direct exchange 2 ton HP
- EG 15 - A file / EG 87 – B file
- 1.42 ACH
- 1st 'Regular Status' R2000 Certified Reno



Brookside R2000 Resto /Reno



Before



After



(For more information see Home Builder Magazine Jan / Feb 2013 issue)



Challenges – quick points...

- NOT ‘cookie-cutter’ projects
- Be creative
- 2014 R2000 Standards
- Biggest technical challenge is air sealing
- Watch out for regulation



Conclusion

Thank you

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