



Better Choices  
Better Homes  
Better Lives

# Eco-Solar Home Tour – 2010

Saturday, June 5, noon to 4pm

## Site #4: Mill Creek NetZero Energy House

**Address:** 9805 84 Avenue, Edmonton  
**Hosts:** Conrad Nobert and Rechel Amores (homeowners)  
**Parking:** available on street. Edmonton Transit is 2 short blocks away.  
**Rating:** (modified) EnerGuide rating: 100+

### We Appreciate Our Sponsors



www.climatechange  
central.com



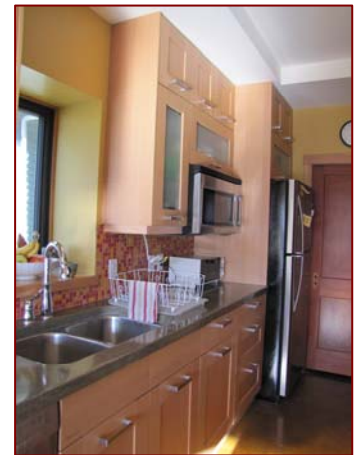
**Solar Energy Society  
of Canada Inc.**  
Northern Alberta Chapter  
www.solaralberta.ca



www.cmhc.ca

### A. Net zero energy housing – progressing towards affordability for everyone!

- Imagine...
  - a beautiful stylish comfortable house
  - generating your own electricity, space heating and hot water heating
  - ultra comfort and indoor air quality
  - ultra quiet
  - ultra secure energy supply and energy costs
  - no furnace, no natural gas bill
  - simple technologies, simple operation...
- “Net zero energy” means generating the same amount of electricity and heat over the year as you consume... this is Edmonton’s 2<sup>nd</sup> net zero energy house.
- Extra cost is now down to around \$60,000 over standard construction, after receiving Alberta’s leading-edge \$10,000 incentive for ultra efficient homes rated at an EnerGuide 86

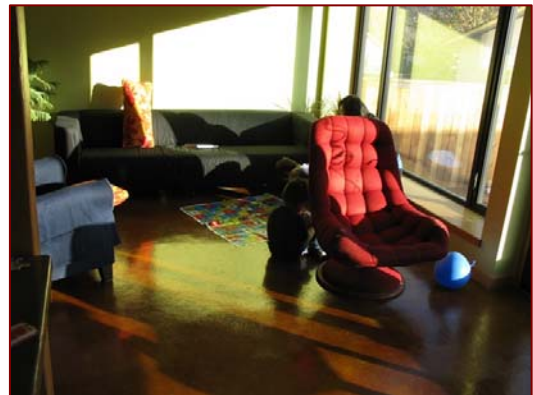


- Find out lots of information about the house at [www.greenedmonton.ca](http://www.greenedmonton.ca) and about net zero housing at [www.riverdalenetzero.ca](http://www.riverdalenetzero.ca) and [www.hme.ca](http://www.hme.ca).
- The house is occupied. Come and speak with the homeowners to see what it is really like to own and live in a house like this.
- Experts are on site to explain everything and answer your questions.

### B. Why this house is on the Eco-Solar Home Tour...

- To demonstrate how normal commercially-available products can be designed and integrated to produce a house with net zero energy consumption, net zero greenhouse gas emissions, no natural gas bill, and high levels of comfort, energy security and quietness.
- To empower people to take ideas from the house to use on their own new house or retrofit projects.

(Continued on other side)



**Note:** Items with a "→" symbol here are presented on the Tour.  
"❖" will not be presented. "•" are information points.



# Eco-Solar Home Tour – 2010

## Site #4: Mill Creek NetZero Energy Home

(Continued from other side)

### C. Net zero energy plus much more...

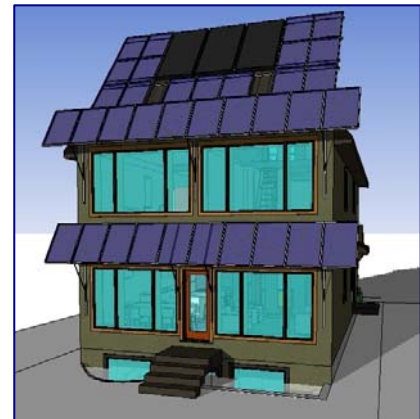
- Based on Canada Mortgage and Housing Corporation's world-class EQUilibrium Sustainable Housing Initiative, which focuses on: [www.equilibriumhousing.ca](http://www.equilibriumhousing.ca)
  - affordability
  - energy efficiency
  - water efficiency
  - indoor air quality
  - health
  - sustainable materials
  - management of water and air emissions
  - renewable energy
- Saves ~16,000 kg of greenhouse gas emissions annually
- ➔ House is integrated into walk ways, bicycle ways, and nearby low-emission Edmonton Transit System



### D. Features that save on space heating and hot water heating costs

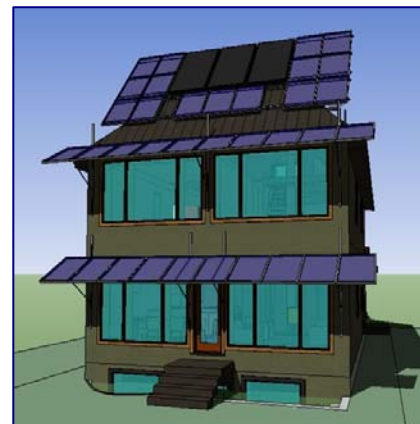
- ❖ 65% savings in heating consumption. Can heat the house with the equivalent of 8 hair dryers at midnight at -32°C.
- ❖ Ultra-high insulation levels: walls (R-56), ceiling (R-90), floor (R-24)
- ❖ Ultra-tight air leakage (tested at 0.36 air changes per hour, compared to 4 to 7 AC/h for an average house)
- ➔ High-efficiency air heat-recovery ventilator feeds fresh air to each room
- ➔ High performance, high solar gain Duxton windows, which provide 50% of the house's wintertime space heating
- ➔ High thermal mass concrete floors to store passive solar heat
- ➔ Simple heat distribution system using electric baseboards, with small wood stove for heat security
- ➔ Innovative, simple, solar thermal domestic hot water system
- ➔ Drain water heat recovery unit recovers 50% of shower water heat
- No need for natural gas line means saving \$520 per year in grid-connection fees in 2010 in Edmonton.

Amount of energy produced by the house (kWh per year)	
Passive solar heating	8300
Active solar heating	2500
Solar electricity	8000+



### E. Features that save on electricity costs

- ➔ Electrically-efficient appliances, motors, lighting, natural daylighting, and control of phantom electrical loads save 50% on electricity costs
- ➔ 32-module, 6 kW solar electric system
  - generates more electricity than the house consumes per year
  - 20 modules of the solar array are mounted on a tilt-able awning to increase the solar electricity generated both in summer and winter plus provide important shading for the south windows in the summer and autumn. The awning is due to be installed by the end of June.
- \$50 to \$200 net electricity bill per year results from being credited for surplus electricity fed back into the grid, which reduces the \$229 annual electrical-grid connection charges in Edmonton.



### F. Features that save 75% on cold and hot water costs

- ➔ Ultra low flush toilets, shower heads, faucets, clothes washer, dishwasher, rainwater collection
- ➔ Low-water, high-eat landscaping is being installed.

**Our Eco-Solar Contacts and Services List of web sites and companies can help you find information and resources for your own eco-solar actions... Download from ([www.ecosolar.ca/links.html](http://www.ecosolar.ca/links.html)).**