

# ASHRAE Ottawa Valley Chapter

## Chapter Meeting #6 – March 15<sup>th</sup>, 2011 (17:30 pm)



---

Meeting Date:	March 15 <sup>th</sup> , 2011
Location:	Travelodge Ottawa, 1376 Carling Avenue
Attendance:	Total: 71      Members: 47      Guests: 17      Students: 7
Theme:	Student / YEA
Tech Session:	<b>HVAC Fundamentals</b> (part 2) by Joel Primeau
Table Top:	none
Program:	<b>Net-Zero Buildings</b>
Speaker:	Michel Bernier - Professor, Ecole Polytechnique de Montreal Roland Charneux Eng., M.Eng., LEED AP, Executive Vice President at Pageau Morel
Prepared by:	Secretary Roderic Potter

---

### ***Tech Session*** (16:40-17:30)

- Past President Joel Primeau presented a back to basics session on Heating and Cooling Load Calculations (Part 2 of 2) which was attended by approximately 22 people.

### ***Social*** (17:30 – 18:30)

### ***Business Session*** (18:35 –18:45)

- President Christine Kemp introduced the Board of Governors and the Executive.
- Secretary Rod Potter introduced the guests for the evening.
- President Christine Kemp reminded the membership that our Chapter is always looking for people to sponsor Student Meals.
- Incoming Nominations Committee Chair Bob Kilpatrick thanked David Eastwood for his work as previous nominations chair (9 years in this position). He then went on to briefly describe the nominations process and called for nominations for Secretary and 3 Governor positions.
- Jason DeSousa spoke about Joel Primeau’s tech session “HVAC Bootcamp”. The subject this month was load calculations (part 2 of 2); infiltration and ventilation loads were the main topics. He thanked Joel for a great presentation.

### ***Dinner*** (18:45 – 19:20)

- President Christine Kemp oversaw the raffle ticket sales for the Senators Game Ticket Giveaway Draw (courtesy Peter Nabi).

### ***Business Session cont.*** (19:30 –19:55)

- The Sens Ticket Draw was overseen by President Christine Kemp – it was won by Imad Abou-Falah of NRC, and this draw earned \$225 for ASHRAE Research.
- Student Activities Chair Matt Edmonds spoke about the recent Career Fair. There were 14 employer booths, and approximately 100 students attended the Fair over a five hour period. Matt explained that the committee is vibrant with greater interest being shown by Cegep, La Cité, Queens University, and Ottawa University. The 3<sup>rd</sup> place win for the Algonquin students in the Design Competition last year also helped.

- CRC Planning Committee Co-Chair Dan Redmond brought us up-to-date with their progress, with meetings regularly on Fridays at Carleton University. He said volunteers are always welcome to aid in their task.
- Peter Shaw-Wood (joint winner of 3<sup>rd</sup> place overall in last year's Student Design Competition) oversaw the award of plaques to Matt Edmonds, Andrew Greenhalgh, Chris Frauley, and Barry Riddell (not present) for their hard work in mentoring the students.

***Evening Program*** (19:20 – 20:40)

- Roland Charneaux of Pageau Morel spoke first:
  - o The Net-Zero project was the result of an RFP from CMHC.
  - o The RFP stipulated that the building must use standard and feasible technology, and be designed for living occupation by a 4 person family.
  - o Their proposal was chosen from the final 12 submitted, of which 3 were in Quebec.
  - o The building consists of a 3-storey condominium triplex located in Verdun, Montreal.
  - o Prime energy source is photovoltaic (PV) panels on the roof, connected to a Hydro Quebec meter that measures supply in both directions. There was a 50kW max. PV supply limitation stipulated by Hydro Quebec. The PV array consists of an angled arrangement covering most of the roof, and the area available was limited by the high density core location of the triplex.
  - o The design team was multi-disciplinary from the onset, and they followed the Four Rules of Good Sustainable Design: (1) Load Reduction; (2) System Efficiency; (3) Regenerative Systems; and (4) Renewable Resources.
  - o Insulation rates for the building are high, with R45 Walls, R70 Roof structure, and Low E krypton double glazing with intermediate film layer.
  - o Appliances are a major electrical load (about 1/3 of the entire demand) and they ensured that all appliances provided in the condos were Energy Star listed.
  - o High Efficiency lighting is incorporated and each condo has a master power cut-off switch at the exit door to isolate all small power to receptacles.
- Michel Bernier of Ecole Polytechnic de Montreal continued the presentation:
  - o He spoke about HVAC Simulations, and described the additional green energy sources such as solar panels for preheating domestic hot water, geothermal heat pump system(s) for heating (COP 4)/cooling (COP 6), and grey water heat recovery which saves approximately 25% on the DHW load.
  - o The PV modules have a nominal efficiency of 14%, and with 98m<sup>2</sup> of panel, this is likely to generate 14,100 kWh/year, with a system efficiency of 75%.
  - o Simulations result in 9,997 kWh being supplied to the grid, and 9,972 kWh being drawn from the grid. The PV array is expected to provide 14,161 kWh per year, with about 1/3 of that used to run appliances.
  - o Each 2-bedroom condo is about 850 ft<sup>2</sup> in area, two of which have already sold at a \$350K price tag.
- President Christine Kemp thanked both speakers for their entertaining presentation and gave each a small gift.
- Meeting adjourned 20:40

Distribution:

**All Board of Governors, Webmaster**