



American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
British Columbia Chapter Region XI

President's Message

It's another new term for ASHRAE BC and I'm excited for what the year has in store. I am Charlie Sabean, your Chapter President for this term, and I will be bringing to you updates and news on events surrounding ASHRAE over the next year.

Last year was very strong for ASHRAE BC with consistent interest from you, the members, in terms of attending the dinner meetings and continued support of donating to ASHRAE Research. We greatly appreciate all the support our members have given, and continue to give. ASHRAE BC and its members are certainly noticed in the ASHRAE community, and as a result of its efforts, ASHRAE BC was awarded the Richard Perry Award for Most Outstanding Chapter in our Region last year.



It has been our goal, and continues to be our goal, to bring you interesting topics as well as tours with strong content relating to our industry that are both informative and educational. Everyone who has volunteered on the ASHRAE BC Board of Governors both from last year and continuing this year deserve great credit in keeping this strong.

As I alluded to, this upcoming year is promising to be as impressive as the last. On September 16, 2009 we will be meeting at the new **Vancouver Convention Centre**. I encourage everyone not to miss an opportunity to see throughout this magnificent new building, one of the very finest and interesting in Vancouver, and shown by those very people who designed and built it.

New this year, there is an ASHRAE BC – Southern Interior Section **Trade Show** being held at the Thompson Rivers University in **Kamloops** on September 30, 2009. There will be many exhibitors showcasing their latest technologies, as well as two technical seminars and dinner with guest speaker discussing CMHC's Equilibrium™ Sustainable Housing Demonstration Initiative featuring the Green Dream Home.

Details and forms to attend these two very exciting events are on our website at <http://www.ashrae.bc.ca/bc/> on the home page, and have been emailed to you as well.

It is our mission to make your membership as valuable as possible by bringing you these kinds of meetings, events and related news; we want to bring you topics that have benefit. If there are topics you as members would like to be addressed, please contact myself or any one of the Board Members with your ideas.

We look forward to seeing you!

Charlie Sabean

BC Chapter President

August 2009

September Meeting Notice

Location:

Vancouver Convention Centre
(New Building)

Topic

Tour of the New Vancouver Convention Centre, which will serve as the International Broadcast Centre for the 2010 Winter Olympics

Date

September 16th, 2009

Time:

Registration 4:30 PM
Reception 5:00 PM
Presentation 6:00 PM
Tour 6:30 PM

Cost

BC Chapter Member \$50
Society Member \$55
Non-Member (Guests) \$55
Student Members \$10

Reservations are a must

Email:

jhocquard@square-m.net

Fax: 604-737-1521

Ph: 604-737-1522



2009 - 2010 ASHRAE BC Chapter Meetings Schedule



September 16th, 2009	Tour of the New Vancouver Convention Centre
September 30th, 2009	Green Advantage Trade Show and Dinner Thompson Rivers University, Kamloops
October 14th, 2009	Tour of Boiler Retrofit at the Croatian Cultural Centre Meeting Sponsored by EMONA Sales Ltd. Croatian Cultural Centre
November 18th, 2009	Understanding Air to Air Energy Recovery Technologies Paul Pieper, ASHRAE Distinguished Lecturer Croatian Cultural Centre
January 13th, 2010	Visit by ASHRAE Society President Gordon Holness Past Presidents Lunch Pan Pacific Hotel — Lunch Meeting
February, 2010	<i>No Meeting due to 2010 Winter Olympics</i>
March 10th, 2010	TBA
April 14th, 2010	TBA
May 12th, 2010	TBA
May 26th, 2010	Golf Tournament — Westwood Plateau

Schedule Subject to Change
Please check the B.C. Chapter website www.ashrae.bc.ca for updates



B.C. CHAPTER WINS BIG AT CRC 2009

The ASHRAE B.C. Chapter received the prestigious Richard Perry Award for the Outstanding Chapter in Region XI at the CRC held in Spokane in May.



B.C. Chapter President 2009-2010 Charlie Sabean receives the Richard Perry Award from Traci Hanegan (ASHRAE DRC) & Jim Fields (ASHRAE Society Vice President)

The B.C. Chapter was also recognized with several other awards in Spokane, including:

L.O. Crooks Refrigeration Award

J. Donald Kroeker Newsletter Award

Outstanding Student Chapter Branch for BCIT

Presidential Award of Excellence

TOPS & Full Circle Awards



DETAILS ABOUT THE VANCOUVER CONVENTION CENTRE TO WET YOUR APPETITE FOR THE SEPTEMPBER MEETING

Project Team:

Owner: BC Pavillion Corporation (PavCo)
Construction Manager: PCL Constructors Westcoast Inc.
Architect: Musson Cattell Mackey Partnership, DA Architects & Planners

Mechanical Team:

Mechanical Contractor: Fred Welsh Ltd.
Consultant: Stantec Consulting
Sheet Metal: Viaduct Sheet Metal Ltd.
Plumbing: Alpha Mechanical Contracting Ltd.
Insulation (Pipe & Duct): Aarc-West Mechanical Insulation Inc.

Mechanical Contract Value: \$55,000,000

Project Duration: 32 months
Total Man Hours: 320,000
Mechanical Pipe Mains: 40,000 linear feet
Radiant Slab Piping: 1 million linear feet
Weight of ductwork: 1.8 million pounds

VCCEP at a Glance:

Approximately 1.2 million square-feet which houses a 235,000 square-foot exhibition hall, 56,000 square-foot ballroom, 83,000 square-feet of meeting space and a 443 vehicle parkade.

Mechanical Systems:

The buildings' mechanical systems are comprised of: central chilled and heating water plant; glycol condenser system; in-slab radiant heating/ cooling; constant and variable air volume systems; data/ electrical room cooling systems; steam distribution for kitchens/ DHW/ heating; waste water treatment and desalination plants that produce non-potable water, which is distributed to water closets, urinals and roof-top

Central Plant:

The central plant is the hub for core cooling and heating systems consisting of (1) 2,875 ton chiller plant - two 1050 ton heat recovery chillers each capable of producing 2,220 kW heat at 130°F and one 750 ton variable speed cooling only chiller; (2) Heat rejection and extraction for chiller plant is achieved by drawing water from Coal Harbour via four 1,950 gpm vertical turbine pumps through three plate heat exchangers using specialty stainless plates (15 year life expectancy). Filtering of the sea water is critical to maintain operating efficiency of the plate exchangers; this is done through two automatic flushing filters constructed from titanium; and (3) , steam-water heat exchangers are used to provide heat back-up and to compliment chillers; capacity 35,000 PPH steam, 30,000,000 BTU/hr heat

Exhibition Hall:

16 air handing units totaling 340,000 cfm serve the 235,000 square-foot ex-hall. Each unit has cooling and heating coils and return/ outdoor air mixing plenums. Half of the units are also used for smoke evacuation. Air is distributed from these units to 160 diffusers through 11,745 feet of 24 inch spiral duct.

3D Modeling:

PCL and VCCEP offered a building 3D model to understand the complexity of the structure. Both Fred Welsh Ltd. and Viaduct Sheet Metal used this model to further integrate/ coordinate mechanical piping and ductwork systems through their in-house 3D CAD. This allowed for fully coordinated drawings to be produced months prior to commencing with construction. From CAD models, we were able to provide detailed layout and spool drawings which had significant impact on being able to meet and/ or exceed schedule durations. In addition, the 3D models were invaluable to the consulting team as we were able to incorporate gravity, operating and seismic loads of the systems; this allowed the structural consultant and contractor to verify that structural members could sustain mechanical loads.



**The ASHRAE BC Chapter Southern Interior Section
is hosting a Trade Show, Technical Seminars and Dinner at Thompson Rivers
University in Kamloops on September 30th, 2009**

The Green Advantage

Exhibitors at the Trade Show include:

Andrew Sheret Limited

AquaTech Sales & Marketing Inc.

Barclay Sales Ltd.

BC Hydro

BGE Service & Supply Ltd.

Canada Mortgage and Housing Corporation

Canadian Aerothermal

Con-Cur West Marketing Inc.

Critical Environment Technologies

D/R Energy Wise Distributors Ltd.

DB Equipment

Emona Sales Ltd.

Engineered Air

Grundfos Canada Inc.

HSL Automation Ltd.

ITT Fluid Products Canada

JSA Sales

KVC Industries Corporation

Progressive Air Products Ltd.

Refrigerative Supply Ltd.

Roberts Gordon

SMACNA

Stantec Consulting

Sun Solutions/Optimum Air

Trane Northwest (Kelowna)

**Information about the Technical Seminars and Dinner, and the
Registration Form are presented on the following pages and on the
B.C Chapter Website at www.ashrae.bc.ca**

For further information, contact Tim Hutchison at (604) 788-4286



ASHRAE BC CHAPTER - OKANAGAN SECTION

The Green Advantage

Trade Show & Seminars

September 30, 2009

SHOW HOURS 9:00 a.m. to 5:00 p.m. - Free Admission

Thompson Rivers University, Campus Activity Centre, Grand Hall, Kamloops, BC

The Show will feature exhibits of heating, ventilating, air conditioning, refrigeration, mechanical, electrical and energy management products & Services and will appeal to architects, contractors, engineers, building owners/managers, and others in the industry. The Green Advantage theme will be emphasized in both the technical sessions and exhibitors presentations.

For further information contact Gail Hutchison, Show Manager
Phone 250-314-9981 or e-mail: gail_hutchison@telus.net
Website www.ashrae.bc.ca

Members \$40.00

CHAPTER DINNER MEETING

Guests \$45.00

The Terrace, Campus Activity Centre

Wednesday, Sept. 30th

Reception: 5:00 p.m.

Dinner: 6:00 p.m.

**Guest Speaker: Allan Dobie, MEDes(Arch), MRAIC, Sr. Consultant, Research & Information Transfer
Canada Mortgage and Housing Corporation (CMHC)**

“CMHC’s Equilibrium™ Sustainable Housing Demonstration Initiative featuring the Green Dream Home”

ADVANCE REGISTRATION REQUIRED

- Energy Efficient Heating of Sanitary Hot Water \$ 20.00 \$ _____
 - Photovoltaics & the Kamloops Green Dream Home \$ 40.00 \$ _____
 - Discount Rate to attend 2 Seminars \$ 50.00
 - Chapter Dinner Meeting Member \$40.00 / Guest \$45.00 \$ _____
- TOTAL:\$ _____**

NOTE: SPECIAL STUDENT RATES FOR SEMINARS & DINNER ARE \$10.00 EACH EVENT

Method of Payment: Cheque enclosed Visa Card No. _____

Cardholder _____ Signature _____ Expiry: _____

If registering for seminar(s) and dinner meeting, include payment and register by fax or e-mail when paying by Visa or send cheque and registration to ASHRAE , 745 Rosewood Crescent, Kamloops BC V2H 1S3 by **September 28, 2009**.
If registration for Show Only fax to (250) 314-9900 or e-mail gail_hutchison@telus.net



10:00 - 11:30 a.m (Technical Session, Campus Activity Centre, Room 130)

Topic: "ENERGY EFFICIENT HEATING OF SANITARY HOT WATER"

Heat pumps can harvest the abundant energy provided by the sun to produce the most energy efficient water heating available. Heat pumps utilize the vapor compression cycle to transfer energy from a low quality heat source to a high quality hot water supply. Heat pump water heaters have zero emissions and further reduce your carbon footprint by maximizing efficiency and minimizing electricity consumed.

Heat Pump Water Heating Technology provides commercial and industrial hot water fully compliant for sanitary hot water systems with no requirement for additional boilers. The need to burn fossil fuels (oil/gas/solid fuel) with associated costs and emissions is eliminated. The dual energy concentrations—sanitary water heating and simultaneous air conditioning—of the heat pump water heater act to put normally wasted energy to work for you heating sanitary water to instant full discharge temperature. Highest energy savings are achieved in the process with proven long durability and trouble-free reliability.

Presented by: BRUCE I. NELSON, President of Colmac Coil Manufacturing, Colville, WA

A registered Professional Engineer (P.E.) in the state of Washington, he has been active in ASHRAE at both the local and national levels. Nelson received an Engineering degree in 1980, graduating Cum Laude from Washington State University.

Nelson joined Colmac Coil Manufacturing in 1981. As R&D Engineer he developed the company's first computerized heat exchanger selection program and accurate computerized heat exchanger cost estimation/quote software. In addition, he created industrial air cooler and air-cooled condenser product lines for Freon and glycol. He also developed the world's first commercial heat pump product line using R134a refrigerant and introduced stainless steel tube/aluminum fin heat exchangers for industrial ammonia refrigeration systems.

Nelson is a member of ASHRAE/American Society of Heating, Refrigerating, and Air Conditioning Engineers, IIR/International Institute of Ammonia Refrigeration, IIR Research Committee, ASHRAE Technical Committee TC1.3 "Heat Transfer and Fluid Flow", President of Inland Empire Chapter ASHRAE 1993-1994, and was named "Engineer of the Year" for the local Inland Empire ASHRAE Chapter.

1:00 - 3:00 p.m.

Topic: "POTENTIAL FOR PHOTOVOLTAIC ENERGY & THE KAMLOOPS GREEN DREAM HOME"

Ben Giudici will provide an overview of the potential for PV energy harvest for residential and commercial buildings in BC. Through a detailed look at example off-grid, grid-tied, and residential net-zero projects (Kamloops Green Dream Home), participants will gain an understanding of PV technologies, design considerations and application issues relevant to commercial and residential building design and construction in BC.

Dale Parkes will be speaking about the Green Dream Home, a joint project of Canadian Home Builders' Association Central Interior Chapter and Thompson Rivers University. This home has been chosen to be 1 of only 15 participants in the CMHC EQUilibrium™ Sustainable Housing Demonstration Initiative and is designed to be highly sustainable incorporating aspects of each of the five key principles for sustainable design: Health, Energy, Resources, Environment and Affordability. This will be a net zero energy house that produces as much energy as it consumes on a yearly basis.

Presented by: BEN GIUDICI, P.Eng., Instructor & Engineering Coordinator, School of Advanced Technology and Mathematics Electronics and Engineering Department, Thompson Rivers University.

DALE PARKES, MAIBC, M.Arch., B.E.D.S., B.Sc., A.Sc., Lecturer, Architectural and Engineering Technology School of Advanced Technologies and Mathematics, Thompson Rivers University

Ben holds BASc and MASc degrees in Electrical Engineering from the University of BC. He worked 12 years in the analysis, design and maintenance of high voltage power systems protection and control before coming to TRU. Since 1990 Ben has taught, developed curriculum and directed student project work in Electronics, Engineering Transfer and Engineering Design and Drafting Technology program. Ben currently teaches in the TRU Electronics and Engineering Transfer programs and is the Engineering Transfer coordinator.

Ben is highly focused on using relevant applications and project opportunities to enrich the learning environment and has a keen interest in both off-grid and grid-tied renewable energy applications. He has worked on a variety of off-grid and grid-tied projects applying both fixed and tracking photovoltaic systems as well as small scale wind generation. Most recently, he has been involved with the design of the Kamloops Green Home EQUilibrium™ project in Kamloops.

Dale is a registered architect and lecturer in the Architectural and Engineering Technology program at TRU as well as the principal of Project Green Architecture. After studying sciences at University College of the Cariboo (now TRU), Dale was awarded a Bachelors of Science degree from UBC, achieved a Bachelors of Environmental Design Studies Degree and Masters of Architecture Degree from Dalhousie University. His background in Environmental Design and science influences both his belief in the importance of sustainable design and the 'laboratory' approach he takes in his design.



UBC STUDENT BRANCH WINS 3RD PLACE IN THE ASHRAE 2009 STUDENT DESIGN COMPETITION

Dr. Nima Atabaki (Student Branch Advisor) is very pleased to announce that in the context of the course MECH 457, the UBC Student Branch Design Team participated in the international ASHRAE's 2009 Student Design Project Competition (in the System Design Category).

The team secured 3rd place in the System Design Category competition, out of entries from 14 engineering schools from across North America.

Dr. Atabaki & The team would like to thank to Geoff McDonell from Omicron who served as the industrial mentor for this project.

The UBC ASHRAE Design Team members were:

Brent Kavelaars
Ara Beittoei
Tapio Pikkarainen
Jensen Metchie
Chu Lin

The award includes a trip for one team representative to attend ASHRAE's Winter Meeting in Orlando in January 2010 where the award will be presented.

**THE ASHRAE B.C.CHAPTER HAS NOW ESTABLISHED A
CENTRALIZED E-MAIL ADDRESS & E-MAIL DISTRIBUTION SYSTEM**

THE NEW E-MAIL ADDRESS IS

totem.bc.chapter@gmail.com

**YOU WILL BE RECEIVING FUTURE E-MAILS FROM THE
ASHRAE B.C. CHAPTER FROM THIS E-MAIL ADDRESS.**

**YOU MAY WISH TO ADD THIS E-MAIL ADDRESS TO YOUR CONTACT
LIST, AS IT SHOULD ENSURE THAT THE CHAPTER E-MAILS DO NOT
GET FLAGGED AS SPAM.**



ASHRAE RESEARCH PROMOTION CAMPAIGN RAISES \$2,038,528 IN 2008-2009

The ASHRAE Research Promotion Campaign for 2008-2009 raised over \$2 million, through contributions from individuals and companies from each ASHRAE Chapter. The Society matches these donated funds dollar for dollar, creating a \$4 million dollar pool to support HVAC related research projects in Canada, the U.S. and overseas.

Our B.C. Chapter Campaign for 2008-2009, led by RP Chair Wayne Borrowman, raised \$20,598. This was made possible by the generosity of many companies and individuals.

MAJOR DONORS (\$1,000 to \$3,000)

B.C. HYDRO IMEC MECHANICAL REFRIGERATIVE SUPPLY LTD TEKMAR CONTROL SYSTEMS	HAAKON INDUSTRIES PUTZMAUS AMERICA STANTEC CONSULTING TERASEN GAS
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COMPANY DONORS (\$200 to \$800)

APOLLO SHEET METAL CIMCO REFRIGERATION ECCO HEATING ENGINEERED AIR JADE WEST ENGINEERING J.M. BEAN & CO. SMACNA B.C. VIADUCT SHEET METAL	BELIMO AIR CONTROLS DEC DESIGN ECCO MANUFACTURING GORDON LATHAM LTD. JOHN HOYLE SALES KD ENGINEERING VIBRA-SONIC CONTROL WESTERN MECHANICAL SERVICES
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INDIVIDUAL DONORS (\$100 to \$200)

WAYNE BORROWMAN ED CHESSOR ROBERTO COSTA NORM GRUSNICK LUKA KOKAN BRIAN O'DONNELL DICK REITENBACH MIHAELA SPULBER JOHN TOPLISS	PERCY BUTLER CHRIS COLLETT ROB FLIPSE GERALD HUGHES KEN MAH LES PEREIRA CHARLIE SABEAN TIM THOMPSON
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THIS YEARS RESEARCH PROMOTION CAMPAIGN KICKS OFF AT THE SEPTEMBER MEETING

Past Chapter President, Chris Collett, is the Research Promotion Chair for 2009-2010.

Our goal is to once again surpass \$20,000 in donations from the B.C. Chapter.

Expect to hear from Chris in the near future! To save yourself from a phone call from Chris; contact him at 604 535-4215 or at chris@collett.net to make your generous donations!!!



2009 POWER SMART
FORUM
OCTOBER 13-15
VANCOUVER CONVENTION CENTRE

BChydro  powersmart

The 2009 BC Hydro Power Smart Forum is now open for registration. Taking place from October 13th to 15th at the Vancouver Convention Centre, the Power Smart Forum is the premier event for professionals who are seeking to improve energy efficiency and enhance conservation programs within commercial and industrial organizations.

Early bird registration, including a chance to **win one of three pairs of tickets to the 2010 Winter Games**, runs until September 18th at 5 p.m. PDT. Registration closes on October 7th.

For more information and to register, visit bchydro.com/forum.

ASHRAE B.C. CHAPTER TRADE SHOW SPRING 2010

WANTED: TRADE SHOW CHAIR & VOLUNTEERS

Many Industry professionals and organizations have expressed the need/desire for an HVAC Industry Trade Show. Your board is looking for a volunteer to head up the Trade Show committee. If you are interested in heading this group or just in assisting, please contact Charlie Sabean, B.C. Chapter President, at csabean@modern-systems.com



ASHRAE BC CHAPTER GOLF TOURNAMENT 2009

This year's tournament was again held at Westwood Plateau. The day started with a slight shower, but the afternoon was nice and sunny, and it was a great day of golf. This year, the golfers had a choice of either individual stroke play, or a Texas Scramble.

We would once again like to thank all the sponsors, companies and individuals that generously donated prizes.

Major Sponsors

VIADUCT SHEET METAL LTD.
ECCO HEATING PRODUCTS LTD.
REFRIGERATIVE SUPPLY LTD.
SMACNA BC
EQUIPCO LTD.

Additional Hole Sponsors

Apollo Sheet Metal	AZZKIKR Customs	BC Hydro
Blueridge Engineering	Cimco Refrigeration	Crosstown Metals
DB Equipment	DDK Ventilation	Engineered Air
ESC Automation	Excel Awards	Gordon Latham Ltd.
HVAC Systems & Solutions	Olympic International	Square M Engineering
Terasen Gas		

The RSL "Beat the Pro" raised over \$1,000 for ASHRAE Research. Thank you to Refrigerative Supply for once again sponsoring this fundraiser.

A big thank you also to all of the companies and individuals who generously donated prizes.

Tournament Winners

Presidents Trophy:	Bruce Sychuk
Don Kern Trophy:	Ron Strong
Low Net:	Sid Siddiqui
Low Gross:	Albert Benning
Mens Long Drive:	Mike Mahannah
Mens KP:	Dan McLellan
Ladies KP:	Debbie Halvorsen
Texas Scramble:	John Broxterman, Harley Smith, Harry Wallace, Brian Melhus

Finally, a big thank to you to Golf Tournament Chair, Norm Grusnick, for all of his time and effort in making the ASHRAE BC Golf Day such a great event.





Just a Joke

ENGINEER IDENTIFICATION TEST

You walk into a room and notice that a picture is hanging crooked.

You...

- A. Straighten it.
- B. Ignore it.
- C. Buy a CAD system and spend the next six months designing a solar-powered, self-adjusting picture frame while often stating aloud your belief that the inventor of the nail was a total moron.

The correct answer is "C" but partial credit can be given to anybody who writes "It depends" in the margin of the test or simply blames the whole stupid thing on "Marketing"

Do you have something to say or have you read something that others in our chapter may find very interesting?

Let the BC Chapter's Totem be your voice.

Send the information by email to the Totem Newsletter Editor at chris@collett.net

You will see your article in the next Totem!

Advertisement and Opportunities

The ASHRAE BC Chapter will post Employment Opportunities Advertisements in the Totem as a service to our Chapter members at a cost of \$100 per issue. The advertisements should be a half page maximum and can be e-mailed to Newsletter editor Chris Collett at chris@collett.net



ASHRAE ANNOUNCES BUILDING EQ: THE BUILDING ENERGY LABELING PROGRAM

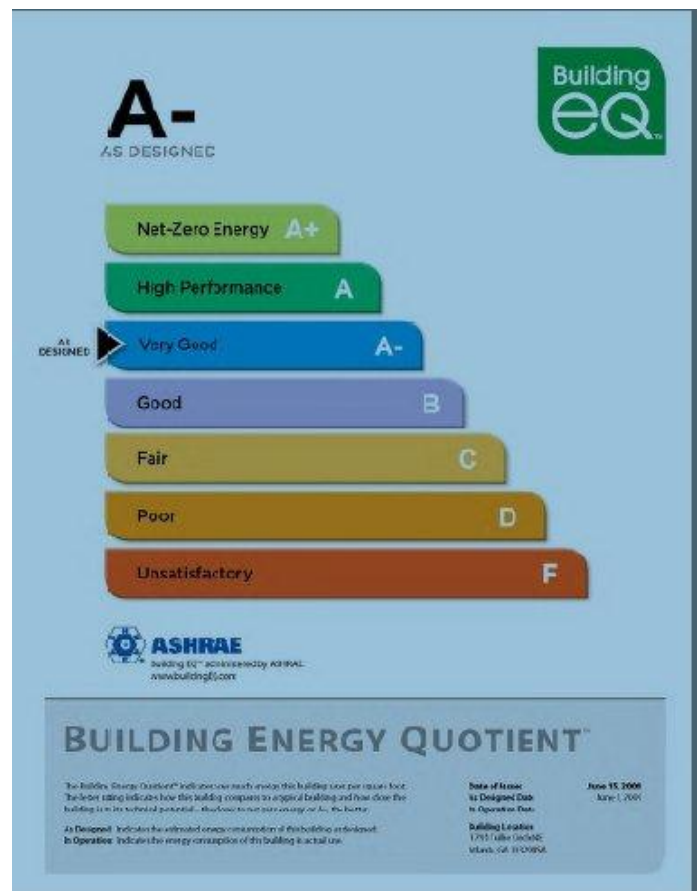
Most of us know the fuel efficiency of our cars, but what about our buildings? ASHRAE is working to change that, moving one step closer today to introducing its building energy labeling program with release of a prototype label at its 2009 Annual Conference in Louisville, Ky.

A prototype label for the ASHRAE Headquarters in Atlanta was unveiled. The Building Energy Quotient program, which will be known as Building EQ, will include both asset and operational ratings for all building types, except residential. ASHRAE is working with major real estate developers to implement the label prototype this fall with a widespread launch of the full program in 2010. For more information, visit <http://buildingEQ.com/>

“As North America looks to reduce its energy use, information is the critical first step in making the necessary choices and changes,” Bill Harrison, ASHRAE Society Past President, said. “With labeling mandatory in Europe and disclosure of a building’s energy performance becoming required by several states, now is the time to introduce a label that can serve as a model for mandatory programs. ASHRAE’s introduction of its prototype labeling program couldn’t be better-timed.”

Ron Jarnagin, who chairs the committee developing the label, noted that the market, with its move toward placing a premium on energy-efficient properties, would benefit from a labeling program. “When potential building tenants and owners have information on the properties they are interested in, they can understand the full cost of their investment and place a value on the energy efficiency of a building,” he said. “ASHRAE’s label will help building owners differentiate their product in a technically sound manner while providing tenants with the tools they need to select energy-efficient spaces.”

The ASHRAE labeling program differs from existing labeling programs in that it focuses solely on energy use. Under the ASHRAE program, new buildings will be eligible to receive an asset rating. An operation rating will be available once the building has at least one year of data on the actual energy use of buildings. Existing buildings would be eligible to receive both an asset and operational rating. The asset rating provides an assessment of the building based on the components specified in the design and would be based on the results of a building energy model. The operational rating provides information on the actual energy use and is based on a combination of the structure of the building and how it is operated.





ASHRAE BC Chapter 2009-2010 Officers and Committee Directory

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Please help us keep you updated by keeping us updated

If you have not been receiving your email meeting notices or you have changed your e-mail information, please let us know at totem.bc.chapter@gmail.com.

Please include the following:

Name: _____,

Company Name: _____

Address: _____

Phone: _____,

Fax: _____,

Email: _____ Membership _____

Membership matters

TOP REASONS PEOPLE JOIN ASHRAE:

- To receive technical / educational publications
To support the HVAC&R professions
To receive the journal
To be knowledgeable in the area of Technical Standards
Networking Opportunities
Increase Professional Skills