



Capital Communiqué



2008 - 2009

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OTTAWA VALLEY CHAPTER

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EVENING PROGRAM

DATE: Tuesday **October 21, 2008**. Tech Session: 16:30 Dinner: 18:30 Program: 20:00
Travelodge Ottawa Hotel & Conference Centre, 1376 Carling Avenue, Ottawa, Ont.,
613-722-7600

**TECH
SESSION**

The Fundamentals of the Psychrometric Chart

As part of the Ottawa Valley Chapter's theme on the fundamentals, a technical session will be presented on the Fundamentals of the Psychrometric Chart. The psychrometric chart is an essential tool in the design, operation and commissioning of HVAC systems. Engineers, building operators, facility managers, contractors and sales engineers should all have a basic understanding of how to use the chart. This presentation will provide an orientation of the psychrometric chart, show heating, cooling, humidification processes on the chart, and provide examples. The presentation will be a great opportunity for students, young engineers and those that need a refresher.

The technical session will be given by Robert Lefebvre, P.Eng., LEED AP. Robert is a Senior Associate with Goodkey Weedmark and Associates Limited consulting engineers, and has 14 years experience in the industry. Robert was the 2007-2008 President of the ASHRAE Ottawa Valley Chapter.

THEME:

Membership

PROGRAM:

Building Envelope Systems and their effect on Mechanical Systems

SPEAKER:

David Kayll, FMA, P. Eng.

OVERVIEW:

The presentation will provide an overview of building science theory with a focus on curtain wall building envelope systems and their relationship with mechanical HVAC systems. Typical construction details of common aluminum curtain wall systems will be reviewed including back pans, mullions and windows, and their connection to the structure. The impact of these details will be analyzed with respect to the effect on the mechanical systems, specifically, the impact on heat and ventilation requirements and the overall real thermal resistance values that can be expected. There will also be a discussion on condensation resistance and the interdependence between the building envelope and mechanical systems design and performance.

SPEAKER BIO:



David Kayll, FMA, P.Eng., is a Principal of Morrison Hershfield, working in the Ottawa office. He has 20 years experience with building science R&D, building envelope assessment, design and construction, as well as larger scale industrial and institutional new building design and construction. David has worked as a lead project manager in an architectural and engineering consulting firm for 3-1/2 years. Over the past 9 years David has been working at MH, based in the Vancouver and Ottawa offices, and he now works as the senior technical project engineer on the Ottawa team as well as the department manager for Building Science and Mechanical engineering. David is past-president of the British Columbia Building Envelope Council and now sits on the board of the Building Envelope Council Ottawa Region (BECOR).



President's Message

By Patrick St-Onge
P.Eng., LEED AP
2008-2009 OVC President

Hello everyone,

Our October meeting will be at a new location: the Travelodge on Carling Ave. One new service that we will be offering is that you will be able to pay by credit card. Please read Stephen Lynch's article following for more details.

Many of us have been involved with ASHRAE for a considerable time at Chapter level but have never attended an ASHRAE society event. The Winter Meeting taking place January 24th to 28th, with the ASHRAE co-sponsored AHR Expo (the world's largest HVAC&R trade show) from January 26th to the 28th is certainly one event that should not be missed. I have passes for ASHRAE Chapter members attending the Winter Meeting for the first time: a one-day complimentary registration or a special first time attendee rate, for a value of 250\$. If you are interested, send me an e-mail at patrick.stonge@wbbpengineering.com. Refer to my article on page 6 for all the details about the winter meeting.

The theme of the October meeting will be membership. As I have mentioned in the past, the Ottawa Valley Chapter is proud to count on a very participatory membership, and it is all the members who benefit from this participation because of the activities of the chapter. Our chapter counts members from various backgrounds: consultants, manufacturers, distributors, building owners, governments etc. All these people receive the newsletters, can meet at our monthly meetings to benefit from the networking and receive valuable information from our conferences and seminars. Some also get involved, whether it be at the chapter level, regional, society or on technical committees. All members are volunteers! So, thank you for all being part of this organization and making it exist.

This month's meeting will start earlier with our past president Rob Lefebvre presenting a technical session on the psychrometric chart. Yes, this chart is not just a pretty picture, it is actually useful. The main program is in direct line with the integrated design process where we will learn how the building envelope impacts the HVAC systems.

Looking forward to see you all at our next meeting and, at our new location!

Yours very truly,

Patrick St-Onge, P.Eng., LEED AP
ASHRAE Ottawa Valley Chapter
2008-2009 President



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What you missed

by Christine Kemp
2008-2009 Chapter Secretary

Once again the first meeting of the year was held at “The Prescott”. Thanks very much to Patrick Albert who organized this venue. Thanks also to Engineered Air as they always generously provide the table top for this meeting – “Square Pizza”.

As Francois Belair has stepped down from the President position, the new executive was introduced: Patrick St.Onge – President, Jason Alexander – President Elect, Christine Kemp – Secretary, Stephen Lynch – Treasurer and Robert Lefebvre – Past President. Governors include: Paul Baker, Georges Maamari, Steve Moons, Rod Potter and Don Weekes.

We have a new meeting location this year. Meetings are now being held at the Travel Lodge on Carling Ave. For your convenience, credit cards will now be accepted.

Please be sure to check out the Exceptional Program prepared by Aaron Dobson on our website.

Sebastien Laroche has taken on the role of Student Activities. Algonquin is including the design competition as part of their curriculum. Four students were at our meeting, Matthew Desjardins, Jonathan Bloomquist, Norman Sargant and Akhilesh Bhardwaj.

We are looking for Student Sponsorship, please sponsor meals whenever you can.

The CRC was held August 22nd – 24th in Montreal. Many awards were given to our Chapter, notably the Blue Ribbon award to Christine Kemp, the Chapter Service awards to Joel Primeau, David Eastwood, Cathy Godin and Paul Baker. Rod Potter received the gold ribbon award for history, as our website is the envy of all chapters throughout society. Congratulations to all and keep up your great effort.

Rod Potter entertained us with a History Trivia Quiz. Thanks for your efforts Rod; this was a lot of fun.



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Jack Teevens
Region General Manager



History Update – Scandid Camera

by Rod Potter
Governor, Chapter Historian, Gopher and Webmaster

So it seems that I have cranked up the scanner once more over recent weeks, delving into those milk crate housed binders, and here I display a few of the more interesting images freshly posted:

Carrier Field Trip – 1971

Images posted from this event - 2



There were two field trips to Syracuse NY to visit the Carrier plant during our chapter history, the first was in the mid 1960's and the second was in October 1971 [I think]. This picture is from the 1971 trip.

The event during the first trip that is recounted most often occurred on the return bus trip when Ian Paterson was distributing beer to the passengers before crossing the border back into Canada, and he tossed a bottle to Rudy Jetzelsperger just as Rudy looked away. The bottle hit Rudy square in the head.

The event most remembered from the second field trip was Rudy Jetzelsperger forgetting his passport. Possibly related to the beer hitting his head?



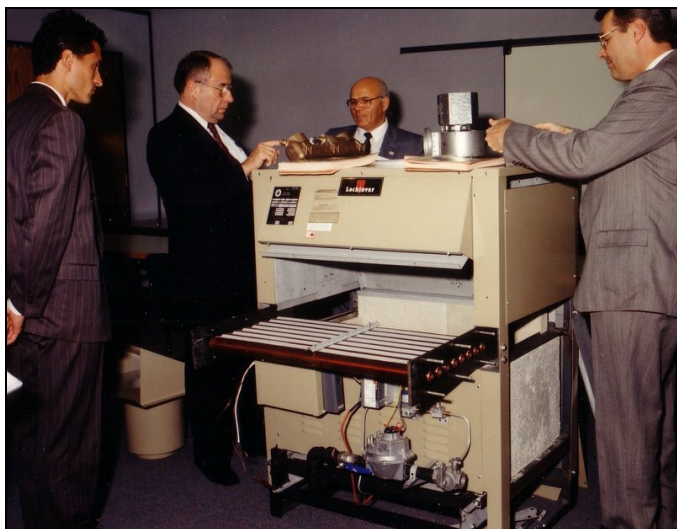
Ian Paterson



Rudy Jetzelsperger

Consumers Gas - 1992

Images posted from this event – 68



On October 20th, 1992, the meeting was held at the offices of Consumers Gas on Coventry Road in Ottawa. The evening meal was also served there, and a good time was had by all.

In this photo, Frank Vaculik is struggling with their coffee machine.

40th Anniversary - 1992

Images posted from this event – 22



The 40th Anniversary of our Chapter was celebrated in fine style on November 17th, 1992, at the Phileas Fogg location downtown.

Here seated during that event are Simon Jol, Charlie Hobbs, George Carscallen, John Dugan, Roy Beckman, Jake Klassen, and Dalton McIntyre.



Phileas Fogg on Bank Street



The meeting was followed by what had to be an excellent trip over to The Prescott Hotel, via a double-decker bus ride from Phileas Fogg. I think this must have been a wonderful evening for those attending, and only wish I had been there myself!

Pictured here are: Paul Leclair, Cliff Thompson (Region II Historian), Paul Baker (Chapter Historian).



The Prescott Hotel

Cheers from the desk of Rodders CAS
See you at the October meeting!

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ASHRAE Returns to Chicago for Winter Conference and AHR EXPO

By Patrick St-Onge
P.Eng., LEED AP
2008-2009 OVC President

Chicago, with one of the most recognizable skylines in the United States, has long-standing status as a livable urban center. That the city has stood the test of time makes it the perfect backdrop for this year's ASHRAE Winter Conference theme: *Sustainable Urban Design: Engineering Tomorrow...Today.*

The Palmer House Hilton will once again host ASHRAE January 24 – 28, with the ASHRAE co-sponsored AHR Expo taking place Jan. 26-28 at McCormick Place. The conference promises to be a great way to kick off the new year, with opportunities to interact with colleagues, learn technical information, and hear Keynote Speaker Chris Luebke of Arup speak on sustainability and thoughtful design and Technical Plenary speaker Adrian Bejan, Ph.D., explain technical evolution through “constructal theory” which he says can predict how everything flows through time and space.

The technical program highlights the conference theme and will feature presentations on energy conservation, indoor environmental quality, sustainability efforts and more that will help you earn your PDHs. Seeking to create additional value for Expo and Conference attendees, ASHRAE is launching “Wednesday Welcome,” at which all ASHRAE technical program sessions on Jan. 28 take place at McCormick Place. The “Wednesday Welcome” includes 18 hands-on, applications-type programs, held from 9 a.m. to 1:30 p.m., leaving the afternoon open to tour the Expo with more than 1,850 exhibits covering a world of equipment, systems, components and technology for the building industry. Admission to the “Wednesday Welcome” is included with your full ASHRAE Winter Conference registration or you can purchase a ticket for the full day for \$99.

You can also earn PDHs and CEUs at Professional Development Seminars and Short Courses brought to you by the ASHRAE Learning Institute.

Networking opportunities and chances to see Chicago are plentiful at the ASHRAE Winter Conference. Meet with old friends at the Welcome Party, Presidents Luncheon and Member's Night Out. Technical tours of the city take you to the Intercontinental Hotel and The Art Institute of Chicago and you can see mansions and temples of the city, or take a cooking class on one of the general tours.

For complete, updated information and to register for the ASHRAE Winter Conference, go online to www.ashrae.org/chicago. Visit www.ahrexpo.com to learn more about the AHR EXPO.



Membership

By Philippe Lemieux
2008-2009 OVC Membership Promotion Chair

The ASHREA Ottawa Valley Chapter would like to thank, Mr. Joseph Henry Spivak for joining our chapter. Let's make him feel at home at the October meeting.

Philippe Lemieux

Mike Tomkinson, P.Eng.
Sales Manager



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Treasurer



ASHRAE OVC – Treasurer: Payments and banking changes for 2008

By Stephen Lynch
2008-2009 OVC Treasurer

We have been talking about this for some time and it is becoming a reality. The Board of Governors (BOG) have completed some extensive research into our banking and our member services in order to add credit card payments as an option. We have agreed upon a solution that will be instigated shortly. The BOG would like to make our chapter members aware of the changes and are looking for feedback on the new changes.

The BOG analyzed the costs and services from the 5 major banks; Bank of Montreal, Royal Bank of Canada, Scotia Bank, TD Canada Trust and CIBC. In the end, for cost and continuity it was decided that TD Canada Trust was the best and most cost effective solution. This revitalization of our money management reduces our monthly banking fees and gives our chapter membership the option to pay by major credit card at chapter meetings.

A few years ago, the OVC chapter financial accounting was transferred from hardcopy to softcopy using accounting software. Each year the treasurer position changes and it has become difficult to maintain a continuous accounting practice as computer systems change, as does the treasurer location. The bigger the organization the tighter the IT guys get and loading software on to the work laptop or desktop does not get approved easily. Direct Energy Business Services Ltd. with the help of Jeff Jarvis and IT guru Luke Lafrance, have donated a laptop to our ASHRAE OVC for the use of the Treasurer position. The laptop will remain an asset of the OVC to be transferred to the incoming treasurer.

The time-line is tight, but we are hoping to role out this new credit card service for the next meeting, October 21st, 2008. The process is new for everyone and your patience will be appreciated. As with most things there is a cost to convenience. The costs for this program will be:
Monthly Meetings - \$3.00 per transaction.
Special Events and Seminars – To be determined

As a Not-For-Profit organization we were able to negotiate the lowest price possible. Let me assure you that the \$3.00 user fee cost does not generate profit but rather just covers the cost of the software, card-swipe reader, and processing fees.

Any questions and/or comments can be directed to the 2008-2009 ASHRAE OVC Treasurer -
Stephen.Lynch@directenergy.com

Thank you for your support,
Stephen Lynch

[please be aware that while Stephen mentions that the BOG has collectively handled this improvement, in truth this has been almost exclusively his work, and he deserves a HUGE pat on the back for his efforts – ed]



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"Describe how to determine the height of a skyscraper with a barometer."

One student replied: "You tie a long piece of string to the neck of the barometer, then lower the barometer from the roof of the skyscraper to the ground. The length of the string plus the length of the barometer will equal the height of the building."

This highly original answer so incensed the examiner that the student was failed immediately. He appealed on the grounds that his answer was indisputably correct, and the university appointed an independent arbiter to decide the case. The arbiter judged that the answer was indeed correct, but did not display any noticeable knowledge of physics.

To resolve the problem, it was decided to call the student in and allow him six minutes in which to provide a verbal answer which showed at least a minimal familiarity with the basic principles of physics. For five minutes the student sat in silence, forehead creased in thought. The arbiter reminded him that time was running out, to which the student replied that he had several extremely relevant answers, but couldn't make up his mind which to use.

On being advised to hurry up the student replied as follows:

"Firstly, you could take the barometer up to the roof of the skyscraper, drop it over the edge, and measure the time it takes to reach the ground. The height of the building can then be worked out from the formula $H = 0.5 \times t^2$. But bad luck on the barometer."

"Or if the sun is shining you could measure the height of the barometer, then set it on end and measure the length of its shadow. Then you measure the length of the skyscraper's shadow, and thereafter it is a simple matter of proportional arithmetic to work out the height of the skyscraper."

"But if you wanted to be highly scientific about it, you could tie a short piece of string to the barometer and swing it like a pendulum, first at ground level and then on the roof of the skyscraper. The height is worked out by the difference in the gravitational restoring force $T = 2 \pi \text{ square root } (l / g)$."

"Or if the skyscraper has an outside emergency staircase, it would be easier to walk up it and mark off the height of the skyscraper in barometer lengths, then add them up."

"If you merely wanted to be boring and orthodox about it, of course, you could use the barometer to measure the air pressure on the roof of the skyscraper and on the ground, and convert the difference in millibars into feet to give the height of the building."


"But since we are constantly being exhorted to exercise independence of mind and apply scientific methods, undoubtedly the best way would be to knock on the janitor's door and say to him 'If you would like a nice new barometer, I will give you this one if you tell me the height of this skyscraper'."

He then received credit for the class.



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The Energy Conservation People



Table Top Display Reservations

By Frank Bann, P.Eng.

This month's Table Top is presented by Chris Fudge of Trane.



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News Update

By Robert Lefebvre
 P.Eng., LEED AP
 OVC Past President

Technical News:

Changes Proposed for ASHRAE Standards, Guidelines

September 22, 2008


ATLANTA – ASHRAE is currently accepting public input on more than 35 proposed addenda to standards as well as a proposal to withdraw Standard 52.1. Addendum to various standards, including 15 (refrigerate safety), 34 (classification of refrigerants), 55 (thermal comfort), 90.1 (energy efficiency), 62.1 (ventilation), 62.2 (residential ventilation), and 135 (BACnet) are open for review, as are seven standards and one guideline. Complete information can be found at www.ashrae.org/publicreviews.

Among them is the proposed withdrawal of ASHRAE Standard 52.1-1992, *Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter*. The most important features of this standard, dust-holding capacity and arrestance, have been incorporated into Standard 52.2-2008, *Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size*. The only unique features remaining in Standard 52.1 are the dust-spot efficiency tests – now replaced particle-size efficiency tests in 52.2 – and a renewable filter test not used by the industry for decades, according to Monroe Britt, committee chair.

Among the proposed addenda to Standard 90.1 is addendum *ap*, which would modify the requirements for demand control ventilation; adding the demand controlled ventilation requirements to the simplified approach in order to keep the stringency of this path the same as the mandatory plus prescriptive path of compliance. Also proposed is a change to addendum *af* to modify energy savings requirements to recognized varied piping material pressure drops.

Six proposed addenda to Standard 62.1 are open for comment, including a proposal regarding outdoor air cleaning. Addendum 62.1c adds significant air cleaning requirements in many locations within the United States. Regarding particulate matter 2.5 micrometers and smaller, for buildings in those U.S. locations established as non-attainment for PM2.5 by the U.S. Environmental Protection Agency, 62.1c would require that the ventilation system include particle filters rated at least MERV 11 (installed between the outdoor air intake and the occupied zone). Regarding ozone air cleaning, the proposed addendum would require that the ventilation system include ozone air cleaners rated for at least 40% ozone removal efficiency.

John Lowery, P.Eng.
 Senior Territory Manager



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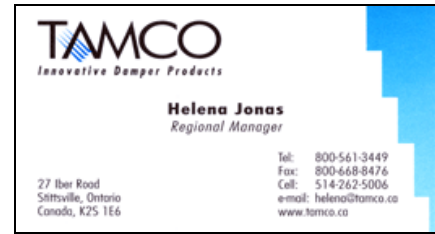
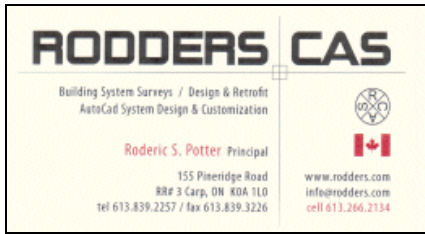


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Sustainability News:

California Set the Example for Green Building Code

September 2, 2008

California has consistently forged the path towards green building legislation and practices. So, it is no surprise that the Golden State was the first in the nation to adopt a state-wide green building code. The California Building Standards Commission (CBSC) unanimously voted in favor of new laws mandating that buildings owners and operators reduce energy use, conserve water, control erosion, recycle construction waste and improve indoor air quality.

In an official statement, Governor Arnold Schwarzenegger commended the decision saying, "Cars and buildings are two of the leading users of energy. We're already addressing cars and these new building standards will ensure that California remains at the forefront of reducing our carbon footprint and conserving valuable natural resources while also protecting our economy."

The standards, which are scheduled to take effect in mid-January, cover commercial and residential construction in the public as well as private sectors, schools, universities, hospitals and all other public institutions. Adherence to the California Green Building Standards Code will be voluntary until 2010, commission leaders told GreenBiz.

Policy makers reported that producing balanced guidelines that satisfied different groups was a challenge. Rosario Marin, the Secretary of the State and Consumer Services Agency and the chair of the California Building Standards Commission, commented that the process brought together groups with different interests and that the code "sets a floor, not a ceiling." Builders, cities, counties and other groups have been encouraged to exceed the standards if they can.

The Code Explained

The California Green Building Standards Code requirements will be introduced in phases over the next three years. All parts will be voluntary at first and will gradually become mandatory, starting with energy efficiency. In January of 2011, moisture control, indoor air quality and waste recycling rules will become mandatory. The following July, a 20 percent reduction in potable water use will be required.

Energy Efficiency

According to the official website, www.energy.ca.gov/greenbuilding, the basic mandate for better energy efficiency starts with the design of the building and the source of construction materials. Shade is required for all south facing windows during the hottest months as well as for east and west facing windows to reduce glare when the sun rises and sets. Building joints and openings must be sealed to prevent uncontrolled airflow. At least one percent of electric power must come from an onsite energy source such as solar, wind, geothermal, hydro or biogas. For construction, building materials used for permanent installation must be manufactured in California or 500 miles from the site.

Indoor Air Quality

Improvements in indoor air quality and moisture control will be achieved by requiring every bathroom in a building to have an exhaust fan and to have high-energy exhaust filters on air duct systems. Materials used should require little or no finishing work and sealants and carpeting will be used sparingly to accommodate the lower volatile organic compound (VOC) allowances. To control moisture, vapor barriers will be required under foundation slabs and lumber will be required to be drier than 18 percent.

Waste Recycling

The new code will require that at least 50 percent of all construction materials be diverted from landfills. This will be accomplished by recycling as much as possible at the construction site and using salvaged, refurbished or recycled materials

for a minimum of five percent of the total value of the building. A certain amount of materials used will also need to be able to be re-used or recycled at the end of the building's lifecycle.

Water Consumption

For reducing potable water consumption, the code focuses on changing the fixtures and the source. To cut indoor water consumption, all fixtures need to have a reduced flow rate of 20 percent. Justin Dunning, program coordinator for California Green Builder, says this will save a three-bedroom house about 10,000 gallons of water per year. Outdoor water consumption will be reduced by lessening the area of a property devoted to lawns and emphasizing naturally drought tolerant plants. Further reduction of wastewater will be achieved by using non-potable water systems for fixtures such as toilets and hoses.

Handling the New Rules

Commission representatives say that if all measures of the code are followed, every building will qualify for at least a silver LEED rating according to the standards set by the U.S. Green Building Council (USGBC). USGBC president and founder Rick Fedrizzi applauded California, saying in an official statement, "The LEED green building certification system helped lead the way while setting the stage for states and municipalities to strengthen local building codes. Buildings are our first, best opportunity to reduce energy use and CO2 emissions and greening them must be a critical component of any policy approach that aims to fight climate change."

Turner Construction representative Michael Dean is confident that the contractor will be able to comply with all the demands of the code. "My understanding is that [the code] has tried to strike a balance with really aggressive goals for energy efficiency with achievable goals." Like many other builders in California, Turner's sustainability practices are already more stringent than the new code.

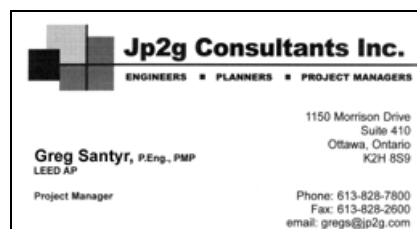
Other Trend Setters

Though California is the first to have a state-wide green building code, the movement started with individual cities and counties. This gradual bottom up progress is present in other states across the nation. In 2006, Washington, D.C., became the first major city to mandate green construction in the private sector by requiring all developments to comply with the USGBC's LEED rating system. The mandate expanded this year to include all public buildings and in 2012 it will cover the construction of private buildings of 50,000 square feet or more.

Boston adopted a zoning code in 2007 that covered not only new buildings but also renovations on existing ones. Renovation projects of more than 50,000 square feet must earn LEED certification or approval by the Boston Integrity Council, which adds historic preservation into the sustainable mix.

New York City also requires LEED certification for all public buildings but has taken a different approach with private builders. The city now offers incentives in the form of grants to private green builders for green roofs and brownfield redevelopment. The Big Apple also has PlanNYC, developed by Mayor Michael R. Bloomberg, which mandates strict codes for energy consumption and a goal of a 30 percent reduction in carbon dioxide emissions by 2030. With the proven bottom up evolution of green building codes, building leaders are confident that sustainability laws will reach the federal level.

This article is based on a news release from Green Building Insider written by Samantha Solomon.



People on the move



The *Master Group L.P.* is pleased to announce the appointment of Mr Tom Chiykowski as Regional team leader, Commercial and Industrial products, for the Ontario region effective August 18, 2008.

Tom holds a Bachelor of Engineering with a major in Mechanical Engineering, from Carleton University and has 25 years of experience in the HVAC Industry. He has worked as a Sales Engineer for many years, commencing his career with Ken Frank Agency, followed by Breck-Mar Sales LTD and The Trane Company. Since 2004, Tom has worked at Johnson Controls L.P., as an Account Executive.

Tom has a solid reputation as an experienced project manager. He is recognized for his expertise, and possesses an excellent reputation in the HVAC Industry.

Master is proud to welcome Tom within the team!

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