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ASHRAE REGION 2 NEWSLETTER

GREETINGS FROM YOUR REGION II DIRECTOR AND REGIONAL CHAIR

Greetings ASHRAE members of Region II,
Hope your ASHRAE year is going well. Just a few notes to bring you up to date.
The motions you brought forward were brought forward to members council in the nov meeting. As soon as there is news we will share with you. Many are referred to other committees for their consideration. If there is something you would like society to look at or change, this is the forum to do it. Start thinking now of motions for next years crc.
One thing that was approved at the fall board meeting was that the YEA committee is now officially a grassroots committee as of July 1, 2018. This means for our next crc in aug 2018 the yea chapter chairs would have their transportation paid to attend the workshop (it was not reimbursed in the past).
The building EQ web portal for existing buildings is now up and running and they are working on the as designed portion as well. There have been many changes to the BEQ program so I encourage you to check it out. Ron Gagnon our RVC for GGAC has finally got everything for this portal now translated into French (great job Ron) and this will be soon integrated into the portal so that it will be truly bilingual.
I am excited that our society President will be touring our region from Feb 26-Mar 5. I will be escorting him to visit the London, Windsor, NB/PEI, Halifax and Toronto chapters and possibly Montreal. This is a first for our region, and I am thrilled so many chapters are able to accommodate the end of month schedule (even thought it is not a regular chapter night for them). We get to show society first hand what a truly great region we have.
We are planning another day on the hill in Ottawa as well as Queens Park in Toronto (there may be more). Stay tuned for more details.
The chapter opportunity funds have been approved and Windsor, Hamilton, Quebec and Ottawa chapters will all be receiving funds to further grow their chapters. Look for their reports on their progress. I hope some of you are able to attend the ASHRAE Chicago meeting Jan 20-24 in conjunction with the AHR expo Jan 22-24 (should be the biggest one yet). Our regional dinner will be Sun Jan 21 7-10 at the park grill within walking distance of the ashrae hq hotel palmer house. Final details to be released shortly. Hope to see you there.
The regional team is here to support you and answer any questions. Please reach out to any member of the team.
Happy Holidays and Bonne Anne

Sincerely,

Doug Cochrane, P.Eng. LEED AP, MAshrae
ASHRAE DRC Region II

REGION II REGIONAL VICE CHAIR UPDATES

Daniel Robert – RVC CTTC

Moving in my 2nd year of my 3 year mandate, I'm starting to feel quite comfortable in my CTTC RVC role. The CRC was very productive and all the CTTC chairs and co-chairs that were present got well acquainted to their role within the Chapter. Thing are moving quick in CTTC (which is a good thing!) and I am happy to see most of the Chapter CTTC chairs are ramping up their respective Chapter program for the year and I am sure that all chapter member of the Region will be attending interesting conference/presentation all along the year.

The region has only booked 7 of our 12 allocated DLs… the good think is that these 7 DLs will be visiting within the year a total of 10 chapters. Two DLs will be attending 2 chapters in one Society allocated visit (multi-visits) and we have 1 DLs that will be attending 3 chapters in one Society allocated visit (DL Karine Leblanc will be speaking to the Quebec-Montreal and Toronto Chapter in January); a **DL hat-trick**: I think this is a first in the region! We still have 5 DLs available to us; hope that they will be grabbed before the Society deadline of Nov 30th. BTY, on November 1st, chapters of the region that would like to have an addition DL for their program line-up and have already schedule DL will be authorize to do so; I definitely want all our allocated DLs to be used so we don't get cut next year.

ASHRAE Technology Awards 2017: on September 1st , Region II has submitted 6 technology awards at the Society level (out of the 8 tech awards received at the regional level). We had good participation of a few Chapter within the region (Montreal, Quebec, Toronto and NB/PEI): great job everyone.
Just recently, the Society release the 2017 Technology Awards winner list and I'm very proud to say that, once again, Region II out did ourselves with a total of 4 winners including 2 project selected in first place projects:

- 1st place**: Roland Charneux** (Montreal Chapter) with the *Mountain Equipment COOP head office* located in Vancouver (!) in category 1 (Commercial Building-New)
- 1st place**: Samuel Paradis** (Quebec City Chapter) with the *Amphithéâtre Multifonctionnel de Québec* (also called the *Centre Vidéotron*, which may become the future home of the Quebec Nordiques!) in category V (Public Assembly- New).
- **Martin Roy** (Montreal Chapter) managed to get 2nd Place with the *Bibliothèque Raymond-Lévesque* project in category II (other institutional Building-New).
- Finally, we also got one project with an Honorable mention (3rd place) going to **Pierre-André Tremblay** (Quebec City Chapter) with his *CHU de Québec, integrated energy efficiency* project in category III (Health care Facility-Existing).

Congratulations to all the winners and to all members that submitted outstanding projects, in our minds, you are all winners. We hope to see as many Technology Award submittals next year as last year. I plan to be coming to 3 regional events apart from my home town Chapter events (Montreal) this year: I will be attending the Quebec's City chapter meeting in January. I also plan to stop by seeing the Toronto chapter and possibly the Ottawa or Windsor chapter this year pending on my travel plans and availability. Hope to see as many ASHRAE members as possible while attending all these events!

Mark Lawrence – RVC Research Promotion (RP)

Here is our Region's progress as of the end of November. A screenshot is below, and the who document is attached. We are quite behind where we were last year. I'm hoping to catch up by mid-November when the scholarship donations are due.

REG	CHAPTER	YEAR-TO-DATE #	YEAR-TO-DATE $	LAST YR THIS MO	CHAPTER'S GOAL $	CHAPTER'S GOAL %
2	13 Quebec	5	633	1,900	20,700	3.1%
2	14 Montreal	11	1,925	1,375	31,900	6.0%
2	15 Ottawa	3	331	500	30,100	1.1%
2	16 Toronto	2	200	4,065	37,600	0.5%
2	37 Hamilton	2	200	850	10,000	2.0%
2	100 Halifax	2	621	1,400	10,500	5.9%
2	116 London	5	650	1,175	13,500	4.8%
2	117 NB/PEI	0	0	217	14,400	0.0%
2	141 Windsor	6	1,074	0	7,300	14.7%
2	890 Other 2	0	0	0		
2	902 **Tot Region 2**	36	5,634	$11,482	$176,000	3.2%

ASHRAE RESEARCH CANADA
YEAR-TO-DATE CONTRIBUTIONS SUMMARY
2017-10-31

REG	CHAPTER	YEAR-TO-DATE #	YEAR-TO-DATE $	LAST YR THIS MO	CHAPTER'S GOAL $	CHAPTER'S GOAL %	HIGH FIVE $	HIGH FIVE %	CHALLENGE GOAL $	CHALLENGE GOAL %	TOTAL PAOE POINTS
2	13 Quebec	5	633	1,900	20,700	3.1%	28,348	2.2%	24,840	2.5%	136
2	14 Montreal	11	1,925	1,375	31,900	6.0%	34,249	5.6%	35,962	5.4%	300
2	15 Ottawa	3	331	500	30,100	1.1%	38,946	0.8%	36,120	0.9%	250
2	16 Toronto	2	200	4,065	37,600	0.5%	35,895	0.6%	37,690	0.5%	227
2	37 Hamilton	2	200	850	10,000	2.0%	9,750	2.1%	10,238	2.0%	260
2	100 Halifax	2	621	1,400	10,500	5.9%	10,921	5.7%	11,467	5.4%	125
2	116 London	5	650	1,175	13,500	4.8%	12,940	5.0%	13,587	4.8%	177
2	117 NB/PEI	0	0	217	14,400	0.0%	15,009	0.0%	15,759	0.0%	140
2	141 Windsor	6	1,074	0	7,300	14.7%	8,400	12.8%	8,760	12.3%	383
2	890 Other 2	0	0	0							
2	902 Tot Region 2	36	5,634	$11,482	$176,000	3.2%	$194,458	2.9%	$194,423	2.9%	1,997
11	17 Manitoba	2	260	800	11,750	2.2%	12,340	2.1%	12,957	2.0%	160
11	18 S Alberta	11	2,743	1,984	18,250	15.0%	32,305	8.5%	21,900	12.5%	425
11	19 N Alberta	6	583	750	12,000	4.9%	21,470	2.7%	14,400	4.0%	165
11	20 Brit Columbia	4	450	4,350	24,850	1.8%	35,450	1.3%	29,820	1.5%	135
11	96 Regina	14	1,465	2,635	14,200	10.3%	16,413	8.9%	17,040	8.6%	274
11	102 Saskatoon	0	0	100	12,100	0.0%	12,288	0.0%	12,902	0.0%	25
11	145 Vancouver Isl	7	700	100	4,500	15.6%	4,633	15.1%	4,865	14.4%	250
11	911 Tot Region 11	44	$6,201	$10,719	$97,650	6.4%	$134,899	4.6%	$113,884	5.4%	1,434
	TOTAL CANADA	80	$11,835	$22,201	$273,650	4.3%	$329,357	3.6%	$308,307	3.8%	3,431

Tom Pollard – RVC Historian & Webmaster

Chapters are reminded to have their Historical Chair plan for a program on history at a chapter meeting. This can be combined with a Past President's Night or a building tour of a building that is associated with some local history or older equipment. Events should be recorded on the chapter's web site, newsletter and then PAOE points added to the Society web site for Historical Activities. Chapters can also use social media such as Twitter or Facebook to promote activities. Posts on social media also can claim PAOE points for Electronic Communications

YOUNG ENGINEERS IN ASHRAE (YEA) NEWSBOARD

YEA Leadership Weekend 2.0 - Registration Opening Soon!

Registration for the next YEA Leadership Weekend 2.0 (YLW 2.0) is about to open! YLW 2.0 will be held February 23-25, 2018 in Phoenix, AZ and is designed to provide additional soft skills training and personal/professional development strategies to YLW alumni.

Registration is $500 and includes hotel accommodations for Friday and Saturday, meals during the event, and all necessary materials and resources. Airfare and any ground transportation costs are not included.

Who can attend?
This event is open to any current ASHRAE member who has previously attended a YEA Leadership Weekend or YEA Leadership International event (you do not still need to be considered a YEA member to attend).

When can I register?
Registration will open on Tuesday, October 17th at 11am Eastern, and registration will be filled on a first-come first-served basis. Registration is limited to 15 attendees, so be sure to register early to secure your spot.

Visit www.ashrae.org/YLW2.0 for more information and to register in two weeks.
If you have any questions, please let me know.
I hope to see you there!

Rhiannon

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YEA
LEADERSHIP
WEEKEND
Region 2 contest to attend the YLW
March 23-25, 2018
Seattle, WA
Are you interested in expanding your knowledge, meeting fellow engineers and having some fun along the way?
Look no further than YEA Leadership Weekend! YEA Leadership Weekend is an opportunity for you—the future leaders of ASHRAE—to learn more about Society, develop soft skills and network with other young professionals.
For your chance to win, please complete the online form: click here!
*ASHRAE Region II will reimburse flight ticket and program registration only (ASHRAE REGION II maximum reimbursement is 1100$CAD)

YEA Leadership Weekend

Spring 2018 Schedule

MARCH 23-25, 2018
SEATTLE, WA

HOTEL:
COURTYARD SEATTLE DOWNTOWN / PIONEER SQUARE

TOPIC	DESCRIPTION	TIME	LOCATION
Friday, March 23			
Welcome Session	Introduction to the weekend. Icebreakers and scavenger hunt.	2:00 pm—5:00 pm	Hotel
Meet for Dinner	Meet in hotel lobby to walk to evening activities	5:45 pm	Hotel Lobby
Dinner	Dinner	6:00 pm—9:00 pm	TBD
Saturday, March 24			
Breakfast	Breakfast at hotel	8:00 am—8:30 am	Hotel
Leadership Session	Facilitator-led session	8:30 am—12:00 pm	Hotel
Lunch and Activity	Lunch at hotel and ASHRAE resources presentation/discussion	12:00 pm—2:00 pm	Hotel
Leadership Session	Facilitator-led session	2:00 pm— 5:00 pm	Hotel
Meet for Dinner	Meet in hotel lobby to walk to dinner	5:45 pm	Hotel Lobby
Dinner	Dinner	6:00 pm—9:00 pm	TBD
Sunday, March 25			
Breakfast	Breakfast at hotel	8:30 am—9:00 am	Hotel
Leadership Session	Facilitator-led session	9:00 am—12:00 am	Hotel
Lunch	Wrap-Up & Lunch To Go: Boxed lunches so you can head to the airport	12:00 am—1:00 pm	Hotel

PRESIDENTIAL AWARD OF EXCELLENCE (PAOE) SCORE CARD

2017-2018 Presidential Award of Excellence
***Minimum and PAR points indicated are for 2017-2018**

Chapter#	ChapterName	ChapterMembers	Membership Promotion: Minimum 500; PAR 800	Student Activities: Minimum 300; PAR 500	RP: Minimum 800; PAR 1050	Historical: Minimum 100; PAR 300
13	QUEBEC	178	875	250	0	350
14	MONTREAL	551	1210	450	0	500
15	OTTAWA VALLEY	418	935	200	0	250
16	TORONTO	1113	1300	630	0	350
37	HAMILTON	257	920	70	0	350
100	HALIFAX	182	550	50	0	250
116	LONDON (CANADA)	126	275	100	0	350
117	NB/PEI	159	570	50	0	350
141	WINDSOR	64	450	100	0	350

Chapter#	ChapterName	ChapterMembers	Electronic Communications: Minimum 250; PAR 500	Chapter Operations: Minimum 400; PAR 1000	Chapter Technology Transfer: Minimum 450; PAR 1050	Grassroots Government Advocacy: Minimum 500; PAR 650	ChapterPAOEpointTotals
13	QUEBEC	178	511	970	0	0	2956
14	MONTREAL	551	350	1195	500	50	4255
15	OTTAWA VALLEY	418	300	790	225	150	2850
16	TORONTO	1113	615	1280	0	0	4175
37	HAMILTON	257	100	420	225	550	2635
100	HALIFAX	182	300	320	50	0	1520
116	LONDON (CANADA)	126	350	340	0	0	1415
117	NB/PEI	159	100	670	275	0	2015
141	WINDSOR	64	100	300	0	0	1300

REGION II NEWS ARTICLE

THE REGINALD-J.P.-DAWSON LIBRARY, MONTREAL

The Reginald-J.P.-Dawson Library, located in the heart of the Town of Mount Royal in Montreal, went from being a place to simply borrow books to providing the local community with a cozy venue where it is possible to nourish the mind, get some respite, relax, recharge, revitalize, and be inspired. Moreover, it was done in harmony with respect to the original heritage building, and in continuity with the city's lush green spaces. The extension of the building was designed to be resilient and sustainable.

These exemplary objectives were set during the integrated design phase, where the city invited the architect and engineer to study the project and determine the most favorable development plan.

The new construction, which extends the existing library, is mainly dedicated to reading rooms and offices. It consists of a basement, a ground level, a mezzanine, and first floor, covering an overall area of 13,313 ft^2. The existing portion of the building was 21,200 ft^2. This multi-level design floats overtop the public space, expressing itself vertically, in contrast to being spread out.

Energy Efficiency

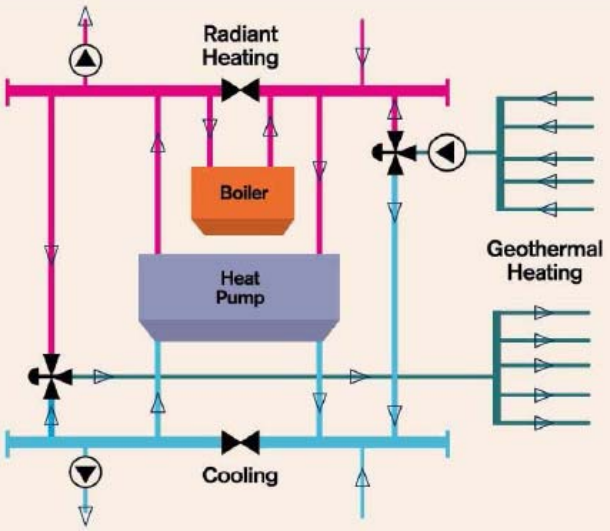
The unique bioclimatic design is reflected in various ways throughout the new building. Perhaps the most impressive proof of the eco-efficient is the fact that even though the library's square footage expanded by 68% with the addition of the new building, the energy consumption increased by only 22%. When translated to the LEED certification criteria, the energy efficiency earned 19 points, the highest attainable LEED score for energy performance optimization.
The energy model, which compared the new building to an ASHRAEIIESNA Standard 90.1-2007 baseline building, showed its energy consumption to be 52.91% lower, and its energy cost 57.59% lower. Some elements that contribute to this performance are the geothermal wells, the radiant floor, a hybrid ventilation system (mechanical and natural), heat recovery ventilation units, very low energy consumption daylighting controlled lights and movement sensors, C02 sensors, as well as a highly efficient building envelope.

More specifically, the heating/cooling system relies on three heat pumps. In cooling mode, the energy retrieved from the various spaces is transferred to the hot manifold, reducing the energy required to produce hot water. This configuration is most effective during mid-seasons, absorbing the hot and cold water demand fluctuations.

Inversely, in heating mode, the hot manifold can transfer energy from the floor to the geothermal wells. Hot water is distributed to the radiant floors throughout the new building. To meet the building's energy needs, seven new wells were added to the existing six.

Another contribution to the bioclimatic concept comes from the coupling of the radiant floor with a ventilation system equipped with a heat recovery ventilator, through which the heating energy of the building is retrieved. In winter, this system, with a 70% latent and sensible heat recovery efficiency from exhaust air, allows for fresh air preheating.

Figure 1 HEATING/COOLING SYSTEM



The heating/cooling system relies on heat pumps. In cooling mode, the energy retrieved from the various spaces is transferred to the hot manifold, reducing the energy required to produce hot water. In heating mode, the hot manifold can transfer energy from the floor to the geothermal wells. Seven new wells were added to the existing six to meet the building's energy needs.

With the perspective of improving both energetic yield and overall comfort, a hybrid ventilation system combining mechanical and natural systems allows, in given conditions, to ventilate and cool without using energy. This is made possible by the vertical open space design in the center of the new building, from basement to roof. Not only does this space invite natural light to the heart of the library, but it also creates a temperature gradient, or stack effect, pulling the air from the lower level opened windows to the windows at the highest point of the staircase near the roof.

When exterior conditions allow for it, natural ventilation is prioritized by the centralized controls of the mechanical equipment (dampers, motorized valves and windows, ventilators, temperature/pressure/humidity set points, boilers, heat pumps, etc.) through activation of strategically placed motorized windows in the building perimeter. Once the windows are opened, air naturally flows through the building.

Indoor Air Quality and Thermal Comfort

To ensure the best air quality, the heat recovery ventilators are fitted with high-efficiency filters, and C02 sensors are installed in strategic areas to regulate the required fresh air intake. The relative humidity is maintained by a vapor humidifier inserted in the fresh air ducts, as well as humidity sensors installed strategically in the building.

The humidity and temperature set points were set using ASHRAE Standard 55-2004. One challenge met by the design team was how to choose the clo level in the spaces since the employees are dressed for a normal office type workday, while the occupants may be arriving in the library wearing winter jackets, for example. In the end, the owner and the design team decided to go with

the values closest to the level of the employees since visitors always have the option to remove clothing, and the employees are using the space all day_

Fresh air renewal and distribution is optimized when exterior conditions allow the hybrid ventilation system to be activated.

Another strategy implemented to improve air quality and occupant comfort is displacement ventilation. Many zones within the library have very high ceilings and many occupants. These zones are ventilated through displacement, supplying air at low speed near the floor. Two distinct zones are created: the lower level, where the occupants are, is the stratified zone; up higher is the mixing zone. With this type of ventilation, the free-cooling period can be extended.

With the radiant hot water floor as the heating source, the risk of combining and redistributing various odors in the rooms is completely avoided since no air is transferred from one room to another as with a heat through ventilation air system.

All of the airflow rates were calculated using ASH RAE Standard 62.1-2007 and were validated through the LEED certification process. An Ez value of 1.0 was used, since only air cooler than or at the same temperature as the room is ever supplied through the ceiling with radiant floor heating.

Furthermore, as mentioned below in the Environmental Impact section, materials were selected based on their low emission of volatile organic compounds.

Innovation

If taken individually, most of the technologies in place in the building might not seem exceptional in and of themselves. However, when looked at as a whole, the library is an entirely innovative building.

The idea to use existing equipment and enhance its use is not only ecological, but a novel approach. The engineers used equipment that was not working to its full potential and enhanced the system by adding geothermal wells and connecting new heat pumps to the network, resulting in a comfortable and energy-efficient building.

Natural ventilation is rarely seen in a library since there are concerns with humidity levels in an environment with books. By adding the proper controls to the windows and going through a rigorous commissioning process, all the required setpoints are maintained. Natural ventilation is available many hours throughout the year.

By using an integrated design process, the building geometry was able to accommodate the engineering requirements {central basement to roof opening), while also providing a space that promotes tranquility and light, an ideal setting for reading and learning.

Operation and Maintenance

The maintenance personnel have local and remote access to a building management system (BMS), which integrates all electro-mechanical equipment. Through the BMS, they can fully optimize the balance between environmental conditions, energy consumption, and operational needs. Furthermore, the alarm signals are sent to the operators via emails and telephone messages, and they include the level of urgency tied with the action to be taken.

Start-up was carried out with ease, even though it involved the integration of the existing building systems into the new BMS. The heat pumps were intensively commissioned to optimize setpoints with respect to the new conception.

The commissioning process not only allowed for a smooth start-up of the new equipment, but also helped the O&M staff understand the importance of continuous maintenance such as filter changes to maintain equipment efficiency.
Commissioning of natural ventilation required more time, testing different enthalpies to get the best compromise between mechanical and natural ventilation. The process ensured that the displacement ventilation was adjusted to the occupants' liking while maintaining the vertical temperature gradient within the setpoints calculated with Standard 55-2004.

Cost Effectiveness

A comparative study on energy/cost consumption was carried out after one year of occupation. The study compared pre-renovation (2008-2009) consumptions and post-renovation consumptions (2013-2014), accounting for outdoor temperatures. The study found a cost increase of 36% and energy increase of 41%. On the natural gas portion, there was a reduction of gas costs of 40% and gas consumption of 53%. The result was a total energy cost increase of 31% and energy consumption of 22%, for a building that is 68% bigger in size.

Figure 2 shows energy consumption for 2015. In 2014, the total energy consumption was 4,508 m3 or 162 MBtu at a cost of $1,815. The electrical consumption for the same year was 901,951 kWh or 3,077 MBtu at a cost of $66,312.

The total energy consumption for the building is 3,239 MBtu, which equals 152 kBtum2.
Even though part of the existing building was conserved architecturally, those mechanical and Electrical components were part of the renovation. According to RS Means Square Foot Costs 2014, the electrical and mechanical costs for a library are $70ift2. The total existing building

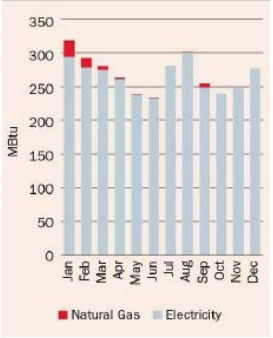
square footage is 21,200, which equals $1,484,000. The total project cost for mechanical and electrical was $1.6 million, for an additional cost of $116,000.

The energy model predicted an energy cost savings of 57%, which can be assumed for the existing building as well as the new construction for a cost savings of $39,000. This represents a retum on investment of three years.

Environmental Impact

It is often said that the ecological building is the existing building. This is yet another way in which the library stands out. It was not transformed through a demolition/construction process, but rather by the addition of a new LEED Gold extension, which is harmoniously integrated to the existing heritage building. Furthermore, this transformation allowed the existing portion of the building to reclaim its original cachet.When compared to a reference building using gas with an 80% efficiency, we calculate savings of 653 MBtu, which translates in equivalent C02 reduction of 35 tons.

Figure 2
2015 ENERGY CONSUMPTION



Efficient water management is also a predominant preoccupation in the new building. The plumbing fixtures were selected to reduce the building's water consumption by 40.1% (based on LEED calculations). Outside, the green roof, terraced garden, as well as the landscaping are all composed of native and adapted plants, which are drought-resistant and require no irrigation.

The construction materials were carefully selected following strict criteria. Paints, coatings, adhesives, and sealants were chosen based on their low emission of volatile organic compounds. The entirety of wood used in the new building was Forest Stewardship Certified. Thirty percent of the construction materials were of regional provenance and 12% contained recycled materials.

Other environmental initiatives rewarded in the LEED certification include designing lighting to reduce exterior light pollution, maximizing green spaces, no parking space, and remarkable access to public transportation, which surpasses the exemplary double transit ridership defined in the LEED manual.

The Town of Mount Royal is renowned for its abundance of trees and delightful green spaces. Building in continuity with this already rich natural landscape helps support biodiversity health and survival. Healthy biodiversity also helps prevent the establishment of invasive plants.

Additionally, library users also benefit from the landscape, for as they move through the new building, they remain in constant visual contact with the outdoors, whether it is on the ground level gardens, views on the green rooftop, or the terraced garden.

The Reginald-J.P.-Dawson municipal library is a model to follow on so many levels, from resource optimization to reduction of ecological footprint, economical strategy, and valorization of built heritage. It is also a model that brings pride and a sense of community to the citizens of the Town of Mount Royal.

About the Authors

Martin Roy, LEED Fellow, is *president,* ***Nancy Picard, LEED BD+C,*** is *director of LEED certification* seNices, *and* ***Lianne Cockerton, LEED BD+C,*** is a *mechanical engineer at Martin Roy et* Associes, *Deux-Montagnes, Quebec, Canada.*

ASHRAE SOCIETY NEWS

ASHRAE Earns Prestigious UN Environment Award for Dedication in Advancing Montreal Protocol

ATLANTA (Nov. 27, 2017) – ASHRAE has received the prestigious Partnership Award from the United Nations Environment Programme's (UN Environment) Ozone Secretariat for its extraordinary commitment and contribution to the progress and achievements of the Montreal Protocol on Substances that Deplete the Ozone Layer, which is celebrating its 30th anniversary.

The award was presented to ASHRAE at the 2017 Ozone Awards ceremony on Nov. 23 in Montreal. The Partnership Award recognizes the work of civil society and other international organizations that have played a critical role in the development of the Kigali Amendment and/or implementation of the Montreal Protocol.

"We could not be more pleased to have earned this recognition. Receiving the Partnership Award is a great honor and acknowledgment of the tireless work ASHRAE and our members are doing to support the phase-out activities of ozone-depleting substances around the world," said 2017-2018 ASHRAE President Bjarne W. Olesen, Ph.D. "We are proud to be a part of this initiative and look forward to continuing our partnership with UN Environment as we work toward a more sustainable built environment."

Photo by Francis Dejon| IISD/ENB

Commonly referred to as "the treaty that saved the ozone layer," the Montreal Protocol, signed in 1987, is an international agreement designed to substantially reduce emissions of substances that deplete the stratospheric ozone layer. The Protocol has led to the phase-out of more than 99 percent of nearly 100 ozone-depleting chemicals and significantly contributed to climate change mitigation, according to UN Environment.

"I congratulate ASHRAE for this well-deserved award honoring its exceptional efforts to support the advancement of technologies which help protect the ozone layer. We appreciate the organization's dedication to the Montreal Protocol and its contribution to the success of the treaty," said Tina Birmpili, head of the Ozone Secretariat.

ASHRAE's partnership with UN Environment has been highly transparent and visible since it began and has been recognized with appreciation by governments around the world as well as the HVAC&R industry. Through ASHRAE's more than 56,000 members in more than 100 countries, the Society has mobilized its resources to develop, implement and support UN Environment and Montreal Protocol projects.

Most recently, ASHRAE and UN Environment launched a work plan titled, "Working Beyond High Global Warning Potential (GWP) Refrigerants." It is the organizations' fifth joint biennial work plan and is another tangible example of ASHRAE's dedication to promote the Montreal Protocol by leading the way in research to identify effective refrigerant alternatives with low GWP.

Another way ASHRAE is leading this charge is through its collaboration with the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and the U.S. Department of Energy (DOE). Through a $5.2 million joint investment, the three organizations are funding vital research to expedite findings and establish a more robust fact base about the properties and use of flammable refrigerants, which will also help update international standards.

ASHRAE Announces Formation of New European Region and Supporting Agreements with European Societies at Annual Conference

ATLANTA (June 28, 2017) – As part of its commitment to extend the Society's global reach and better support its membership, ASHRAE announced the formation of a new ASHRAE Region in Europe – Region XIV, which will begin July 1, 2017. With this new region will also come a new chapter in Ireland, which will be vitally important for industry collaboration throughout Europe.

Additionally, the Society announced two strategic partnership agreements with the signing of new Memorandums of Understanding (MoU) with high-profile European societies. The first is a trilateral agreement with the Chartered Institute of Building Services Engineers (CIBSE), which is based in the UK, and the Federation of European Heating, Ventilation and Air-Conditioning

associations (REHVA). REHVA is a federation of 26 European HVACR Societies with more than 100,000 members. The second MoU is directly between ASHRAE and REHVA.

Both agreements will increase the knowledge transfer from the societies between North America and Europe, and outline how the groups will work together more closely and with more defined parameters to continue furthering and promoting the advancements of HVAC&R technologies. These include but are not limited to: research; joint conferences and meetings; training and education programs; publication distribution and chapter collaboration.

These announcements were among many made during the inaugural address of incoming 2017-18 ASHRAE president, Bjarne W. Olesen, Ph.D., Fellow ASHRAE. During his speech, Olesen presented his presidential theme, which is "Extending Our Community." Through this theme, Olesen will focus on extending ASHRAE's global community, technological horizons and overall value to the Society's members.

The formation of the new region, along with these agreements, are directly in-line with the directives set forth by Olesen and will further equip ASHRAE to continue meeting and exceeding its members' expectations, as well as better anticipate them on a global scale.

"Extending our global community will acknowledge our interconnectedness and embrace our shared needs and objectives," Olesen said. "By creating a new region and strengthening our relationships with associate societies in Europe, our members will be even more empowered to continue producing and sharing technical guidance worldwide. This will, in turn, bolster our industry's global diversity as we work toward a more sustainable world."

Olesen also announced that the Society is establishing the ASHRAE Global Training Center for Global Excellence in Dubai, which will serve ASHRAE members and other building systems professionals in the Gulf Region and in surrounding areas.

The focus of the ASHRAE Global Training Center will be to make training conveniently available on a regular schedule that is curricula based. Training offered in the center will be customized and scalable, accounting for climate, culture, suppliers, energy sources, prices, codes and construction practices. The center's instructors will be engineers familiar with the intricacies of the Middle East. It is scheduled to open in September.

Further details about the ASHRAE Global Training Center will be announced in the coming weeks.

The Significance of a Revised Standard 90.1

ANSI/ASHRAE/IES Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, has been a benchmark and national model code for commercial buildings for over 40 years. With over 100 addenda incorporated since the 2013 edition, Standard 90.1-2016 has the potential to change the way buildings are built as these new modifications find their way into the world's energy codes.

Here are the 90.1-2016 updates you should know about.

Mechanical

- All requirements are updated to reflect new climate zones, based on ASHRAE Standard 169-2013, including a newly added Climate Zone 0.
- Replacement equipment like economizers and fan speed control now comply with additional requirements. (They were previously limited to new installations.)
- New requirements lower the threshold for variable fan control for cooling towers.
- Efficiency requirements for motors and transformers now align with DOE requirements.
- Addition of elevator efficiency requirements includes both usage category and efficiency class.
- 90.1 2016 includes new efficiency requirements for:
    - unitary rooftop products
    - packaged terminal air conditioners (PTAC)
    - variable refrigerant flow (VRF) exhaust fans and other products
    - pool dehumidification
    - dedicated outside air system (DOAS) equipment
    - variable chilled water flow/chilled water design coils DT of 15°F (8.3°C) or greater
    - hydronic economizers/economizer fault detection

Envelope

- Mandatory provisions include the addition of envelope verification in support of reduced air infiltration and increased requirements for air leakage of overhead coiling doors.
- Prescriptive requirements include increased stringency requirements for metal building roofs and walls, fenestration, and opaque doors.
- Requirements for Climate Zone 0 have been added for all assemblies.

- There is improved clarity in defining exterior walls to building orientation to clarify default assumptions for the effective R-value of air spaces and calculation procedures for insulating metal building walls.

Lighting

- Reduction in most of the lighting power density (LPD) limits for both exterior and interior lighting, based primarily on the availability of improved LED technology, is included in most of the space lighting models.
- Modified lighting control requirements add additional controls in some interior space types and exterior applications to allow easier application of the new advanced controls now available.

A Third Path to Compliance

Standard 90.1 has traditionally included two paths for compliance: **the prescriptive path** and **performance path**, also known as the Energy Cost Budget Method. The 2016 standard establishes **a third path**: a stable whole building performance method.

Before the 2016 edition of Standard 90.1, only ECB was approved for demonstrating minimum compliance with the standard. Beginning with the 2016 edition, Appendix G becomes a second performance path option for compliance with Standard 90.1.

This will enable the same building energy models that are used for code compliance to be used for beyond code programs, such as the USGBC's LEED®, saving modeling costs and providing credit for good design decisions that are available through the Appendix G approach but are not ECB.

In addition, baseline design is now fixed at a stable level of performance set approximately equal to 90.1-2004. Compliance with new versions of the standard will simply require a reduced Performance Cost Index (PCI). A PCI of one is equal to the 2004 baseline, and a PCI of zero is a net-zero energy cost building. Using this approach, buildings of any era can be rated using the same method.

What we Know

Under continuous maintenance, Standard 90.1 is an evolving document. Above is what designers, architects, and engineers need to know **right now.**

You have the opportunity to increase the number of buildings modeled and positively affect the energy landscape of buildings. For those who are using the standard as the minimum

requirements, the efficiency gains and increased stringency will ensure buildings are more energy efficient and cost-effective.

UPCOMING REGION II EVENTS

- Day on the Hill , Ottawa (**Date TBD, June 2018)**
- 2017 ASHRAE Winter Conference Regional Dinner (combined with Region XI), Chicago, IL, **Sunday January 21** –Park Grill (**Millennium Park, 11 N Michigan Ave, Chicago, IL, 60602**)
- Chapters Regional Conference (CRC) ,Windsor, ON - **Aug 24-26** (Caesars Windsor Casino)
- 2022 ASHRAE Annual Meeting, Toronto (**June 2022**) in celebration of chapter's 100th anniversary

UPCOMING SOCIETY EVENTS

- 2018 -
Jan 20 to 24, 2018 = ASHRAE Winter Conference - Chicago, IL (ashrae.org)
Jan 22 to 24, 2018 = AHR Expo - Chicago, IL (ahrexpo.com)
Mar 21 to 23, 2018 = Canadian Mechanical & Plumbing Exposition - Metro Toronto Convention Centre (cmpxshow.ca)
June 23-27, 2018 = ASHRAE Annual Conference - Houston, TX

- 2019 -
Jan 12-16, 2019 = ASHRAE Winter Conference - Atlanta, GA
June 22-26, 2019 = ASHRAE Annual Conference - Kansas City, MO

- 2020 -
Feb 1-5, 2020 = ASHRAE Winter Conference - Orlando, FL

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