

## ASHRAE's MISSION & VISION

### Mission

To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields.

### Vision

A healthy and sustainable built environment for all.

### Editorial Team

Ir. Leong Siew Meng

Ir. Dr. Khoo Chun Yong

\* \* \* \* \*

### MASHRAE Secretariat:

Unit 518 Block A,  
Kelana Business Centre,  
97, Jalan SS7/2,  
47301 Petaling Jaya,  
Selangor Darul Ehsan.

- + **ASHRAE Long Membership Awards Lists**
- + **ASHRAE Research Promotion Recognition Award 2020-2021**
- + **ASHRAE Malaysia Chapter 2021-2022 Scholarship Award**
- + **ASHRAE Malaysia Chapter Epidemic Task Force:  
Second Webinar on Ventilation and IAQ on COVID-19**
- + **GAC Reports, Library & Resources, and more.**

**ASHRAE Malaysia Chapter 36th Anniversary E-Book >>**



**ASHRAE Malaysia Chapter E-Exhibition >>**  
**4 January 2022 - 3 March 2022**



# GREETING FROM THE PRESIDENT

In August 2021, the Local Chapter Epidemic Task Force (ETF) of ASHRAE Malaysia Chapter organized a 2-day Webinar on *IAQ and Ventilation: Covid and Beyond and Non-Airborne Solutions*. It has attracted more than 400 participants from various countries and industries. The ETF is currently working closely with DOSH on the revision of the Guidance Note on IAQ during Pandemic. Since the launch of the ETF in August 2021, we have been receiving a number of enquiries. The follow-up webinar would take place on 20<sup>th</sup> January 2022 to address some of the enquiries raised to MASHRAE.

Despite the difficulties and uncertainties faced by most of the people throughout the world since the outbreak of the Covid-19, ASHRAE Malaysia Chapter continues to do our best to assist our members and move forward together with the industries. I am proud that our members are actively assisting government agencies in the drafting guidelines and standards that will benefit the public and local industries, including the involvement in drafting the Guidance Note on IAQ during Pandemic (DOSH), IEQ Standard (JKR & SIRIM), ICOP IAQ (DOSH), Guidelines on Ventilation in the Healthcare Setting to Reduce the Transmission of Respiratory Pathogens (KKM), and more. With this, I would also like to welcome more volunteers among our members to join us in moving our industry to better future.

ASHRAE Malaysia Chapter is celebrating its 36th Anniversary this year. We are hosting our first ever E-Exhibition from 4<sup>th</sup> January 2022 to 3<sup>rd</sup> March 2022. I would like to invite you and your friends to visit our E-Exhibition. Hopefully, we will be having more opportunities to meet physically in near future.

Stay safe, healthy, and happy always.



**Ts. Dr. King Yeong Jin**  
**President ASHRAE**  
**Malaysia Chapter**  
**2021-2022**

# E-Exhibition @ 4 January - 3 March 2022

Hosted by ASHRAE Malaysia Chapter

ANNOUNCEMENT



Click this image to e-Exhibition Hall



## ASHRAE Malaysia Chapter 36<sup>th</sup> Anniversary E-Book

ASHRAE Malaysia Chapter published the second E-book to mark its 36<sup>th</sup> Anniversary celebration.

[Link to ASHRAE Malaysia Chapter 36th Anniversary E-Book](#)



May this lunar new year bring all of us happiness, success, good fortune and affluence in health and wealth.

Stay safe, healthy, vigilant and follow SOP.

**Happy Chinese New Year!**

**恭喜發財**

Best wishes from  
Ts. Dr. King Yeong Jin  
President ASHRAE Malaysia Chapter  
2021 - 2022

# ASHRAE Malaysia Chapter Epidemic Task Force: Second Webinar on Ventilation and IAQ on COVID-19

EVENT



In August 2021, ASHRAE Malaysia Chapter organised a 2-day Webinar on “IAQ and Ventilation: Covid and Beyond and Non-Airborne Solutions”, to disseminate information on the various prevailing and emerging technologies available to meet the DOSH Pandemic Guidelines. ASHRAE Malaysia Chapter Epidemic Task Force plans to organise a second webinar in January 2022.

Since then, ASHRAE Malaysia Chapter has been inundated with requests for more technical related information and specific ventilation compliance applications for each type of setting.

This IAQ Webinar 2.0 was successfully conducted on 20 January 2022 under the chairmanship of Ir. Chen Thiam Leong and provided answers and solutions to comply with the DOSH Ventilation Guide of 10 L/s per person, and much more. 112 participants attended this webinar, where the Deputy DG of DOSH, Ir. Hj Mohd Hatta Bin Zakaria gave the opening address.

Participants were given a free MASHRAE Ventilation Calculator (MVC tool) and a tutorial to determine the different options to meet the 10 L/s per person equivalent for different settings of premises served by both Centralised and Non-centralised Air-conditioning Systems. The Calculator allowed the users to input Capex for comparison against the auto-generated energy increments for the different combinations of strategies selected.



**Ts. Dr. King Yeong Jin**  
*MASHRAE President*



**Tee Tone Vei**  
*MASHRAE President Elect*



**Ir. Ng Yong Kong**



**Ir. Chen Thiam Leong**



**Ir. Leong Siew Meng**



**Ir. Ahmad Izdihar**



**Ts. Ng Wen Bin**



**Ir. Lam Kim Seong,**



**Ir. Au Chong Hun**

*(Continued to next page)*

# ASHRAE Malaysia Chapter Epidemic Task Force: Second Webinar on Ventilation and IAQ on COVID-19

EVENT



(Continued from last page)

## PROGRAM

0830	Signing-in & ASHRAE video
0900	Opening Address by DOSH KP, Ir. Zailee Bin Dollah
0915	Paper 1 How to assess existing building indoor IAQ-Ventilation condition with regards to Covid-19 in conjunction with the 10 L/s per person guideline? Audit and solutions to be considered. Speaker: Ir. TL Chen
0945	Paper 2 Effective use of CO2 monitoring system for mitigation of COVID-19 aerosol transmission (Demand control ventilation need not be “disabled”?; What is the safe CO2 level?; Is there a correlation between CO2 level and COVID viral load?) Speaker: Ts. Ng Wen Bin
1015	Paper 3 Determining Total Equivalent Ventilation of Dilution, Filtration and Sterilization Strategies for Mitigation of Aerosol Transmission. Speaker: Ir. Ahmad Izdihar
1045	Break

[Click Here to Register](#)

DATE: 20<sup>th</sup> January 2022  
TIME : 8:30AM - 4:30PM

**MASHRAE Member: RM50**  
**Others: RM100**  
**Overseas : USD25**

**Email:** [mashrae.my@gmail.com](mailto:mashrae.my@gmail.com)  
**Website :** [www.ashrae.org.my](http://www.ashrae.org.my)

**Contact Us for more info :**  
011-15744931 (CIK NUR)

*\*\*Invoice will be issued  
within 3 days upon registration.  
Registration will be approved  
upon payment  
(paypal account is not required)*

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## **PROGRAM**

1100	Paper 4 Epidemic resiliency readiness: Practical solutions for small (shoplot type) premises with non-centralised air-cond system. Speakers: Ir. Leong Siew Meng & Ir. Ng Yong Kong
1145	Paper 5 How to ascertain spare capacity of cooling coil and fan capacity for increased ventilation and upgraded filter? A summarised commissioning guide. Speaker: Ir. Lam Kim Seong
1215	Paper 6 Design strategies & solutions for different setting of school, places of worship, offices, healthcare, etc. - with Centralised and Non-centralised HVAC system. Budget 2022 Government Incentives - applicable to improving ventilation of premises to mitigate Covid-19? Speaker: Mr. Tee Tone Vei
1300	Break
1400	Paper 7 Ionisation - electronic air cleaning technology: Myths and Facts Speaker: Ts. Dr King Yeong Jin
1430	Paper 8 Introduction to MASHRAE Ventilation Calculator (MVC) with tutorial on applications for Centralised and Non-centralised Air-conditioning Systems. Speaker: Ir. Au Chong Hun
1600	Q&A



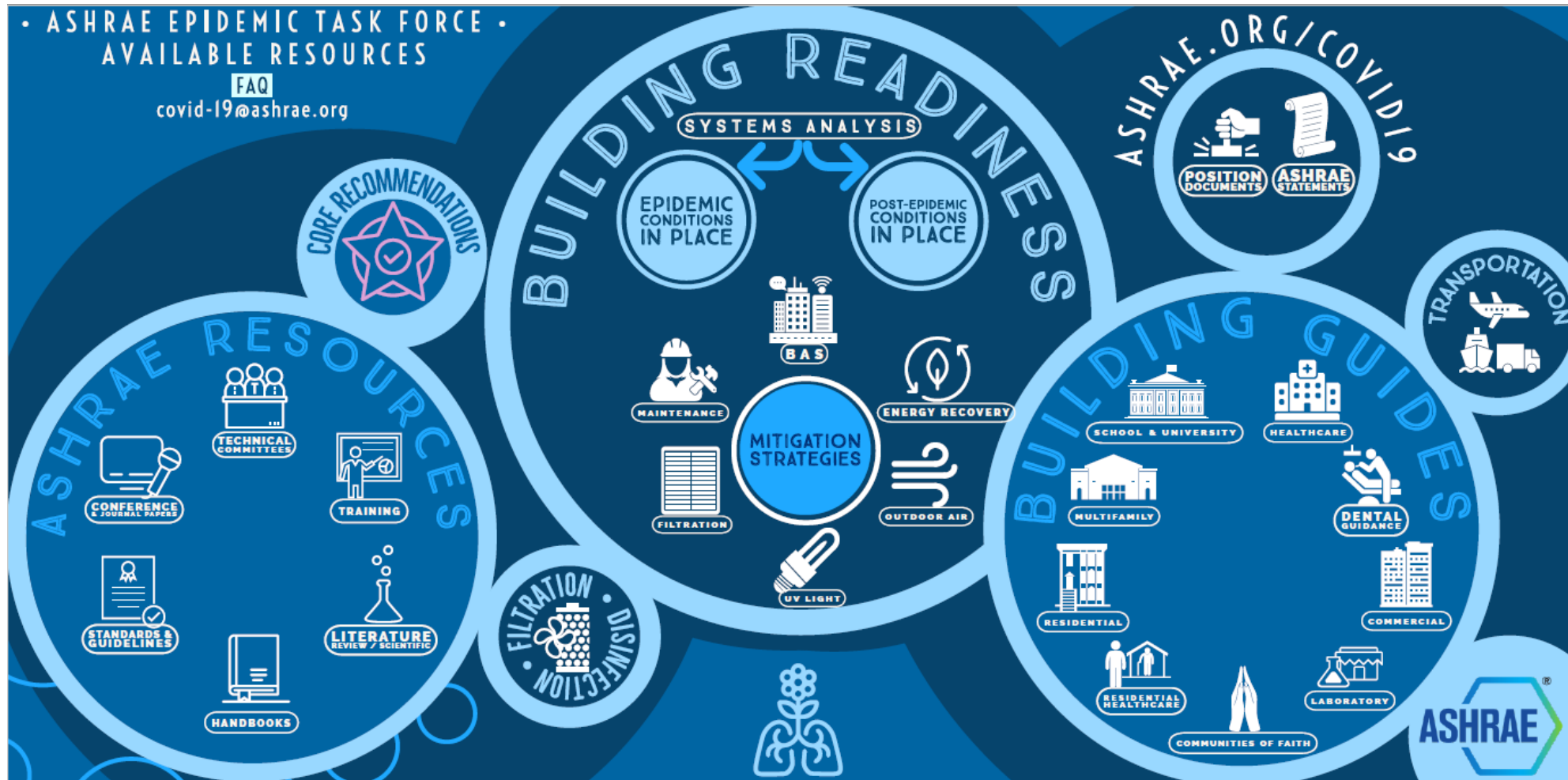
**Another milestone achieved by  
ASHRAE Malaysia Chapter!**

ASHRAE Malaysia Chapter is now the registered training provider under the Human Resources Development Fund (HRDF) Malaysia, the agency under The Ministry of Human Resources Malaysia.

**ASHRAE EPIDEMIC TASK FORCE** is formed to deploy ASHRAE's technical resources to address current pandemic and future epidemics: -

- HVAC System Operation during Building Shutdown
- How to Return the HVAC System to Normal Operation
- Operating of Heating/Cooling System in Home
- Healthcare Facilities, Commercial, Residential, Schools and Universities, Residential, Transportation
- Riding Mass Transit and Airlines
- Upgrading Filters and Use of Air Cleaners
- Ventilation Systems
- Exhaust Systems
- Filtration and Disinfection
- BAS and Access Control Systems
- Elevator Control
- Water Systems
- Air Conditioning and Heating

For more information, visit to [www.ashrae.org/covid19](http://www.ashrae.org/covid19)



*ASHRAE infographic of technical resources for effective dissemination of information from the ASHRAE Epidemic Task Force.*

In line with the establishment of the ASHRAE Epidemic Task Force and the recent release of the DOSH IAQ Pandemic Guidelines, [ASHRAE Malaysia Chapter](#) is establishing the **local chapter Epidemic Task Force** which will deploy ASHRAE's technical resources to address the challenges of the current pandemic and future epidemics as it relates to the effects of heating, ventilation, and air-conditioning systems on disease transmission in healthcare facilities, the workplace, home, public and recreational environments.

The primary role of the task force is to maintain communication with members, industry partners, building owners, facility operators, government agencies and the general public. Specific responsibilities of the task force include:

- Serving as a clearing house to review all technical questions and requests for technical guidance submitted to ASHRAE Malaysia Chapter
- Coordinating activities of ASHRAE's internal resources
- Partnering with and monitoring the activities of external organizations.
- Reviewing, organizing, consolidating and publishing clear and concise summaries with citations of the most relevant information available to the built environment from time to time.

*ASHRAE is a global, grassroots organization of more than 57,000 members in 130 countries, so we have boots on the ground around the world. Our members take the initiatives to help wherever they are and are already addressing the COVID-19 pandemic. When called upon by circumstances to assist in situations such as the COVID-19 pandemic, they act within their spheres of competence to do whatever they can to help.*

Members of the ASHRAE **local chapter Epidemic Task Force** are as follows:

- Ir. Chen Thiam Leong,  
*Chapter Past President*
- Ir. Ng Yong Kong,  
*Past Region XIII Director & Regional Chair*
- Ir. Leong Siew Meng,  
*Chapter Past President*
- Ir. Low Han Guan, Den,  
*Chapter Past President*
- Ir. Lam Kim Seong,  
*Chapter Past President*
- Ts. Dr. King Yeong Jin,  
*Chapter President*
- Ts. Ng Wen Bin,  
*Chapter Immediate Past President*
- Tee Tone Vei,  
*Chapter President Elect*

# Thank You For Your Support

RESEARCH  
PROMOTION



On behalf of ASHRAE MALAYSIA CHAPTER, we would like to thank you for your on-going financial support of ASHRAE and its program **ASHRAE RESEARCH PROMOTION RECOGNITION AWARD 2020/21**

## HONOR ROLL OF INVESTORS

### MAJOR DONORS BRONZE (USD 500)

American Air Filter  
Manufacturing Sdn Bhd  
Bitzer (South East Asia) Sdn Bhd  
Daikin Group of Companies  
(Malaysia)  
Emerson Commercial &  
Residential Solutions  
Trox Malaysia Sdn Bhd

### HONOR ROLL DONORS (USD 150)

Ir. Den Low Han Guan  
Mr. Ng Kah Choong  
Ts. Ng Wen Bin  
Ts. Dr. Yeong Jin King  
Mr. Law Kok Zhen  
Mr. Chea Swei Keong

### DONORS (USD 10 – USD 149)

Ir. Chen Thiam Leong  
Mr. Eng Ee Seong  
Mr. Lim Tiong San  
Mr. Lim See Boon  
Mr. Mohd Zaid bin Zainal Abidin  
Mr. Poh Kai Sin

# Do you know?

RESEARCH  
PROMOTION



ASHRAE funded the ASHRAE RESEARCH PROGRAM which is the backbone of the Handbooks, Journal, Standards & Certification

This program funds more than 80 investigative projects around the world. It is supported by more than 100 member-led Technical Committees (TCs), each with their own specialty and sub-specialty.



We need your support for continuous development of technical information to create standards and guidelines, which serve as the basis for testing and design practices around the world. **100%** of all research donations go to Research!

Research Promotion Committee will be organising **MP&RP Night** in coming **March 2022**. Do check out our website, [www.ashrae.org.my](http://www.ashrae.org.my) for the latest announcement and updates on Research Promotion

For more information on research promotion & how you can support, contact our local chapter RP chair at **+6012-6610859** (TS Lim)

Support us at [www.ashrae.org/contribute](http://www.ashrae.org/contribute)

# ASHRAE Long Membership Awards Lists

MEMBERSHIP  
PROMOTION



Membership	Year of Election	Name	Membership Number	Member Grade
55 Years	1966	Mr. King-Liong Chong, PE	130032	Life Member
		Mr. Chong Jin Neo	535032	Life Member
45 Years	1976	Mr. Fatt H. Wong	810918	Life Member
40 Years	1981	Mr. Wai Tak Leong, PE	431460	Life Member
35 Years	1986	Mr. Chee-Hong Lum	2035091	Life Member
		Mr. Chee Kien Tan	2044142	Associate
30 Years	1991	Mr. Kenneth W C Gong	5043251	Member
		Mr. Han Guan Den Low, PE	5045769	Member
25 Years	1996	Mr. Wee Keong Yap, PE	5147359	Member
20 Years	2001	Mr. Suei Keong Chea	7974289	Member
		Mr. Ching Loon Ong, PE	7976114	Member

# ASHRAE Long Membership Awards Lists

MEMBERSHIP  
PROMOTION



Membership	Year of Election	Name	Membership Number	Member Grade
15 Years	2006	Mr. Hou Yin Chan	8083932	Member
		Mr. Francis Sie Loung Chieng	8088878	Member
		Mr. Lee Teck Heng	8088337	Member
		Mr. Kok Haw Kong	8080097	Member
		Mr. Robert Wei Tan	8079963	Associate
		Mr. Yu Chai Tan	8088311	Member
		Prof. Dr. Yat Huang Yau	8085337	Member
10 Years	2011	Mr. Shiridharan Ganesan Muthi	8194458	Associate
		Dr. Kristofer Ho Suan	8191809	Associate
		Dr. Yeong Jin King	8195714	Member
		Mr. See Boon Lim	8070269	Member
		Mr. Albert Lim Ting-Yew, Ing	5073990	Associate

The annual ASHRAE Malaysia Chapter Scholarship was established by a financial donation by one of the Past Presidents of ASHRAE Malaysia in 2019. The goal is to provide financial support to deserving students for their undergraduate degree in Engineering. Under this Scholarship, ASHRAE Malaysia Student Branch Members can apply for a scholarship with the value of USD 1,500. It is hoped that this gives an inspiration to everyone to give back to the industry as well as to pave the way for our future engineers.



## CONGRATULATIONS TO OUR 2021-2022 SCHOLARSHIP WINNER

Scholarship Recipient : **Mr. GOH Hong Sheng**

Membership No. : 8411807

Institution : University of Malaya

Course : Bachelor of Mechanical Engineering

Special thanks to our 2021 - 2022 ASHRAE Malaysia Chapter Scholarship Committee:

1. Committee Chair: Mr. Bernard Loh Soon Wah
2. MASHRAE Past President 1: Ir. Den Low Han Guan
3. MASHRAE Past President 2: Mr. Chea Swei Keong
4. Research Promotion Chapter Chair: Mr. Lim Tiong San
5. Student Affairs Chapter Chair: Ms. Cheong Yun Kim

# Board of Governors' Meeting No. 4 (Session 2021/22)

On 26<sup>th</sup> October 2021, the Board of Governors' Meeting No. 4 was held via Zoom Platform. A total of 30 committee members attended the meeting. The President, Ts. Dr. King Yeong Jin called the meeting to order at 5:30 p.m.

The agenda discussed:

- 1) Financial report
- 2) PAOE 2021-22
- 3) Activities report and Chapter Chairs' updates including Kuching Section and Penang Section
- 4) Chapter operation
- 5) Region XIII matters
  - a. RPM-2 2021/22 will be held at Shangri La Far Eastern Hotel in Tainan, Taiwan on 4<sup>th</sup> & 5<sup>th</sup> June 2022.
  - b. CRC-2022 & RPM-1 2022/23 will be held in Waseda University, Tokyo, Japan on 19<sup>th</sup> ~ 21<sup>th</sup> August 2022.
  - c. CRC-2023 & RPM-1 2023/24 will be held in Taiwan on 18<sup>th</sup> – 20<sup>th</sup> August 2023.
  - d. CRC-2024 & RPM-2 2022/23 will be held in Macao, China.
  - e. 17<sup>th</sup> APCBE (2023 in Malaysia) - Ts. Ng Wen Bin, the organising chair, received proposals from BOG for searching the potential mode of organizing the conference.
  - f. Bilateral Virtual Meeting with Singapore Chapter will be held on 13<sup>th</sup> November 2021 via virtual platform.
- 6) REVAC AEAN M&E Show : 9-11 November 2021 at MITEC, KL. – half-day seminar matters.
- 7) Malaysia Engineering Convention & Exhibition: might be rescheduled to March 2022.
- 8) Annual Dinner 2021 will be replaced by E-Exhibition and E-book – Sponsorship matters.
- 9) Industry events.

The meeting was adjourned at 7:34 p.m.

# Board of Governors' Meeting No. 5 (Session 2021/22)

On 16<sup>th</sup> November 2021, the Board of Governors' Meeting No. 5 was held via Zoom Platform. A total of 25 committee members attended the meeting. The President, Ts. Dr. King Yeong Jin called the meeting to order at 5:30 p.m.

The agenda discussed:

- 1) Financial report
- 2) PAOE 2021-22
- 3) Activities report and Chapter Chairs' updates including Kuching Section and Penang Section
- 4) Chapter operation
- 5) Region XIII matters
  - a. RPM-2 2021/22 will be held in National Cheng-Kung University, Tainan, Taiwan on 11<sup>th</sup> June 2022.
  - b. CRC-2022 & RPM-1 2022/23 will be held in Waseda University, Tokyo, Japan on 19<sup>th</sup> ~ 21<sup>th</sup> August 2022; & registration matters.
  - c. 16<sup>th</sup> APCBE (2021 in Macao) - Ts. Ng Wen Bin reported the deadline for abstract submission is 15<sup>th</sup> January 2022 and status of abstracts received.
  - d. Bilateral Virtual Meeting with Singapore Chapter was held on 13<sup>th</sup> November 2021 via Zoom virtual platform and 15 and 12 committees from Malaysia Chapter & Singapore attended the meeting, respectively.
- 6) REVAC AEAN M&E Show : 9-11 November 2021 at MITEC, KL. – updates on half-day seminar matters.
- 7) Malaysia Engineering Convention & Exhibition: might be rescheduled to March 2022. Re-launching will be held at KLCC on 30<sup>th</sup> November 2022.
- 8) ASHRAE Malaysia Chapter 36<sup>th</sup> Anniversary: updates on E-Exhibition and E-book – Sponsorship matters.
- 9) Industry events.

The meeting was adjourned at 7:03 p.m.

# Board of Governors' Meeting No. 6 (Session 2021/22)

On 28<sup>th</sup> December 2021, the Board of Governors' Meeting No. 6 was held via Zoom Platform. A total of 34 committee members attended the meeting. The President, Ts. Dr. King Yeong Jin called the meeting to order at 5:30 p.m.

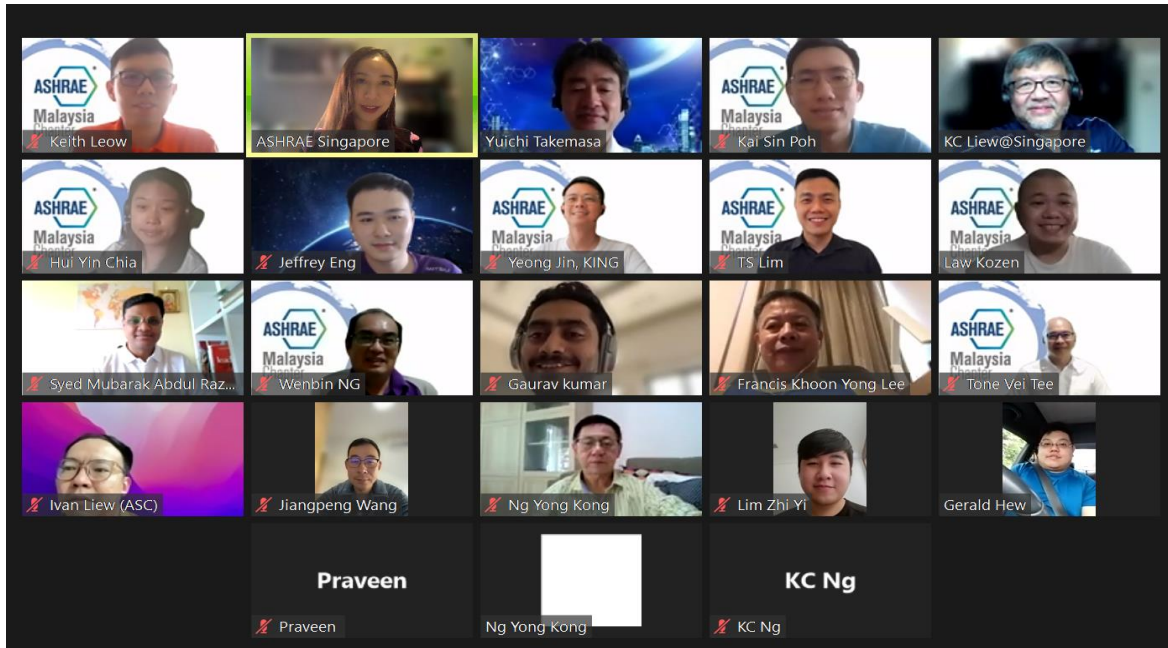
The agenda discussed:

- 1) Financial report
- 2) PAOE 2021-22
- 3) Activities report and Chapter Chairs' updates including Kuching Section and Penang Section
- 4) Chapter operation
- 5) Malaysia Engineering Convention & Exhibition: Rescheduled to March 2022.
- 6) ASHRAE Malaysia Chapter 36<sup>th</sup> Anniversary: updates on E-Exhibition and E-book – Sponsorship matters.
- 7) Chapter Epidemic Task Force dialogue meeting with DOSH conducted on 21 December 2021.
- 8) Industry events.

The meeting was adjourned at 8:00 p.m.



# 32<sup>nd</sup> Bilateral Meeting (Session 2021/22) between Malaysia & Singapore Chapters



On 13 November 2021, the 32<sup>nd</sup> Bilateral Meeting between ASHRAE Malaysia Chapter and ASHRAE Singapore Chapter was held via Microsoft Teams Platform. As the host of the event, a total of 11 committee members from ASHRAE Singapore Chapter attended the meeting. Meanwhile, a total of 12 committee members from ASHRAE Malaysia Chapter attended the meeting. The chairperson of this meeting, Dr. Yang Junjing of ASHRAE Singapore Chapter called the meeting to order at 2:00p.m.

## Highlights of 32<sup>nd</sup> Bilateral Meeting:

- A brief self-introduction of attendees.
- Confirmation of 31<sup>st</sup> Bilateral Meeting Minutes.
- MOU signed between both chapters is valid until Dec. 2025.
- CTTC – collaboration on webinar should be continued.
- Student Activities – challenging situations for physical events to get in touch with student members.
- YEA – to explore virtual site visit.
- Membership Promotion & Research Promotion – challenges in organizing physical events for membership recruitment & RP fund raising.
- GAC – exchanged ideas on efforts poured in engaging with respective government during the pandemic situation.
- APCBE – options to make the conference more attractive were discussed.
- Region XIII officers - Five members from Malaysia Chapter. & two members from Singapore Chapter.
- Next Meeting – Malaysia Chapter would be the host of 33<sup>rd</sup> Bilateral Meeting.
- The meeting was adjourned at 4.00 p.m.

# List of webinars/Seminars/Courses To Date

## Webinars/Seminars/Courses completed between 1st July 2021 to mid of January 2022:

1. Acson Webinar 4th Module on 23 July 2021 by Ts. Ng Wen Bin
2. Sponsor Webinar (Belimo) on 7 July 2021.
3. Acson Webinar 5th Module on 28 July 2021 by Ng Wen Bin
4. Sponsor Webinar (Belimo) on 28 July 2021.
5. ENGINEER Power Talk: Managing High Efficiency Building Towards Sustainability Approach on 17 August 2021 at 3pm. Speakers are Ir. Cheng Yew Leong, Ts. Dr. Hui Kar Hoou, and Ts. Ir. Siow Jat Shern. Total of 200 participants has participated in the talk.
6. Webinar on Covid-19 & Beyond IAQ Ventilation Airborne & Non-Airborne Solution on 18 & 19 August 2021.
7. Sponsored Webinar (Daikin) on 23rd September 2021 - COP vs. NPLV/MPLV Webinar (as per to date 108 total participants)
8. Sponsored Webinar by (Johnson Control) will be held on 5th October 2021 (Previously scheduled on 14 September 2021) - The Design Choice Of Today Webinar (as per to date 60 participants registered)
9. Acson Webinar Wednesday, 29th September 2021 from 10am - 12pm by Mr. Chang CK - Duct Design, Air Flow, and Its Distribution
10. Module 7 – Refrigeration and Future Refrigerants 27 Oct. 2021.
11. Super 8: 1st November 2021, Theme: Building Readiness, The speakers is: DL: Om Taneja, Ir. Lam Kim Seong, Ir. Ng Yong Kong. (This is the joint webinar with ASHRAE Singapore Chapter).
12. Webinar on Refrigerant Regulatory by CTT & Refrigeration Committee will be held on Wednesday, 3rd November 2021 from 3pm to 4pm. The Sponsors for this webinar are NRS Process Systems Sdn Bhd and Aurora Chemicals Sdn Bhd. Special invited Speakers: Mdm. Mashitah Binti Darus from Department Of Environment; Ts. Ng Wen Bin; Mr. Chew Soon Jin and Mr. Lawrence Kam.
13. Supplier Webinar: Sponsor by ADF  
Theme: Generation of Wireless Network, Cloud & AI Technologies in Smart Management System.  
Speakers: Mr David Glover & Ms. Samaneh Nadali.
14. Acson Webinar Wednesday, 24th November 2021 from 10am - 12pm by Ts. Dr. King Yeong Jin - Design Guidelines for Noise and Vibration Control related to HVAC Systems
15. 4<sup>th</sup> SEDA ACMV Training, 1 & 2 December 2021
16. 5<sup>th</sup> SEDA ACMV Training, 5 & 6 January 2022
17. ASHRAE Malaysia Chapter Epidemic Task Force: Second Webinar on Ventilation and IAQ on COVID-19, 20 January 2022

# Building Readiness in HVAC Industry

CHAPTER  
TECHNOLOGY  
TRANSFER



In Collaboration  
Organized by

ASEAN SUPER  
**International ICW  
Construction Week**

ASHRAE Malaysia Chapter  
informa markets

**Dr. Om Taneja**  
ASHRAE Distinguished Lecturer  
ASHRAE

**Ir. Lam Kim Seong**  
ASHRAE Past President  
ASHRAE

**Ir. Ng Yong Kong**  
ASHRAE Region XIII  
ASHRAE

**Ir. Tony Cheng**  
ASHRAE CTTC Subcommittee  
ASHRAE

On 1<sup>st</sup> November 2021, a webinar entitled Building Readiness in HVAC Industry was held. Three speakers, namely Dr. Om Taneja, ASHRAE Distinguished Lecturer, Ir. Lam Kim Seong, Past President of ASHRAE Malaysia Chapter and Ir. Ng Yong Kong, Past DRC of ASHRAE Region XIII were invited to share on the topic that interested all participants of this webinar, included the technology applied for maintaining safe, healthy, resilient and comfortable occupancy in building in this dynamic situation, the effect of air movement & replacement, ventilation rate, etc. considerations that might contribute to both the airborne and non-airborne transmissions and building readiness for reopening after lockdown. Ir. Tony Cheng, CTTC Subcommittee of ASHRAE Malaysia Chapter was the moderator of this half-day webinar.

## BUILDING READINESS IN HVAC INDUSTRY

1<sup>ST</sup> NOVEMBER 2021

- 10:00am - 10:03am** — Introduction and Housekeeping Rules
- 10:08am - 11:00am** — Technologies for Maintaining Safe, Healthy, Resilient and Comfortable Occupancy in Buildings' Before, During, and After Potential Viral, Bacterial and Environmental & Collateral incidents  
By Dr. Om Taneja, ASHRAE Distinguished Lecturer
- 11:00am - 11:30am** — Airborne & Non-Airborne Transmission - The Effect of Air Movement, Air Replacement, Ventilation Rate, Recirculated Air, Air Flushing, Air Stagnation, Temperature and Humidity  
By Ir. Lam Kim Seong, MASHRAE Past President
- 11:30am - 12:00pm** — Building Readiness for Reopening After Lockdown  
By Ir. Ng Yong Kong, Past Director and Regional Chair, ASHRAE Region XIII  
Moderator:  
By Ir. Tony Cheng, ASHRAE CTTC Sub-committee
- 12:00pm - 12:30pm** — Q & A Session
- 12:30pm** — Closing by Organizing Chairman / Session end

\*programme updated as of 18 October 2021

SUPPORTED BY



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HOSTED BY



# Energy Efficiency Management for Air-Conditioning and Mechanical Ventilation (ACMV) Training Course

On 1-2 December 2021 and 5-6 January 2022, ASHRAE Malaysia Chapter conducted the 4<sup>th</sup> and 5<sup>th</sup> Energy Efficiency Management for Air-Conditioning and Mechanical Ventilation (ACMV) training course at the Secretariat of ASHRAE Malaysia Chapter, Kelana Jaya. This training course is supported by Sustainable Energy Development Authority (SEDA) Malaysia, and is HRDF claimable. Ir. Chen Thiam Leong, Ir. Ng Yong Kong and Mr. Lim Tiong San were invited as the trainers as both of them possess expertise in the ACMV field with years of experience. A total of 25 and 27 participants joined the two-days training course, respectively.

The objectives of this training are: (a) To increase awareness on the energy efficiency practices and saving measure in building ACMV system for building operators/engineers; and (b) To provide knowledge on efficient management of ACMV system.

The training adopted a combination of approaches, which included formal presentations, interactive discussion, group discussion and case studies. The participants were introduced to the types of ACMV systems, principles of refrigeration and the refrigerant related matters, energy efficiency management practices and saving measure in building ACMV system that can be implemented in their workplace. The participants were also exposed to the understanding on cooling load & load profile and the lessons learnt from the past real-life case studies. In addition, the trainers shared generously their wealth of experiences with the participants and encouraged the participants to implement knowledge gained in this training, to know about various practical aspects of energy management not only at the participants' workplace but also at their home.



# SmartStart Program for Graduate Member

MEMBERSHIP PROMOTION

& YEA



## What is the SmartStart program?

Simply put, it's the best way for ASHRAE student members to receive the many benefits of Associate grade membership after finishing college. SmartStart is a 3 year program that allows Student members to transfer to Associate grade membership at a rate that is recent-graduate friendly.

**Prices as of July 1, 2020:** SmartStart participants who join or renew after this date will be part of the new dues structure. Participants who only paid for one year upon transferring their membership will renew based on this new dues structure. New program prices are (for 3 years respectively): \$25 (+) \$85 (+) \$115= \$225 for 3 years.

The Developing Economies pricing (\$15 + \$45 + \$60 = \$120) is open to those residing in countries considered to be "Low Income" & "Lower Middle Income" by the World Bank. [Visit the World Bank's Web site for a list of low income /lower middle income countries.](#)

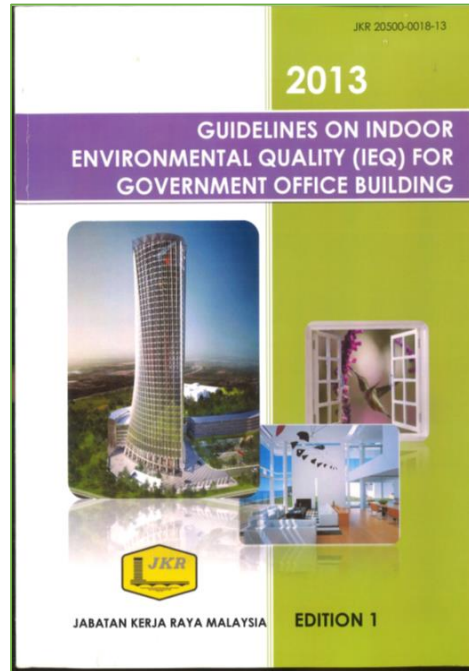
By submitting this application you are agreeing to abide by the ASHRAE Code of Ethics, found at [ashrae.org/codeofethics](http://ashrae.org/codeofethics).

**Please note that the SmartStart program is for current ASHRAE Student members who have been a Student member for at least one year.**

## Why Transfer to Associate Membership?

List of Associate Membership Benefits: -

- **Dedicated events and resources** for young professionals are offered at the chapter and Society level through the Young Engineers in ASHRAE (YEA) program.
- Tremendous **networking opportunities** through chapter events, committee participation, volunteering, attending conferences, and more.
- **The ASHRAExChange** – participate in the online forum that brings together members from across the world to discuss design, construction, operation, and support of the built environment.
- **The ASHRAE Handbook** — the indispensable, industry-wide resource for all HVAC&R professionals.
- **ASHRAE Journal** — this monthly resource is the most trusted technical magazine in the HVAC&R community.
- **High Performing Buildings** — the quarterly magazine for innovation in building technology design and operation.
- **HVAC Industry News** — a weekly news resource keeping ASHRAE members abreast of the latest industry news.
- **Bookstore** — Access to, and discounts on, more than 300 of the industry's **leading technical publications**.



## 2021 Project Committee on JKR Standard on Indoor Environmental Quality (IEQ)

Date/Time : 26<sup>th</sup> August 2021, 14:30~17:45 via virtual meeting

Organizer : SIRIM, JKR, Ministry of Human Resources (MOHR) and Ministry of Health (MOH) Malaysia, University Malaya, Chemistry Department.

Attended : SIRIM, JKR, Ministry of Human Resources (MOHR) and Ministry of Health (MOH) Malaysia, University Malaya, Chemistry Department. Dept. of Occupational Safety and Health (DOSH), AECCOM, Chemistry Institute of Malaysia, University Malaya, ASHRAE Malaysia Chapter (Representative: Ir. Ng Yong Kong).

### Agenda:

1. To update the current 2013 JKR GUIDELINES on IEQ. Chapter 6,7 & 8 were being discussed and updated.
2. There were some detailed discussion on acoustics.
3. This shall be the final draft and will be out for Public Review and Comment for a month.

Ir. Ng Yong Kong was invited to join this working group as he was previously involved in the 2013 guidelines on Indoor Environmental Quality (IEQ) for Government Office Building.



## MOU Signing Session for the Collaboration Agreement between ASHRAE Malaysia Chapter and ENGINEER 2021

Date/Time : 26<sup>th</sup> October 2021, 15:00~16:00

Organizer : C.I.S. Networks Sdn Bhd

ASHRAE Malaysia Chapter Representatives:

Ir. Ng Yong Kong, Ir. Keith Leow Chee Huan, Mr. Poh Kai Sin

C.I.S. Networks Sdn Bhd Representatives:

Dato' Vincent Lim, Stacy Ng, Linda Leoni, Jason Lim



### Report:

Collaboration Agreement Between MASHRAE and ENGINEER 2021 which is the 1st Malaysia Engineering Exhibition and Conference. ENGINEER will be a key event organised under the umbrella of the annual IEM Convention 2021 that includes exhibition, conferences, forums, gala dinner and grand awards night. Further discussion on the collaboration and the postponement of the physical event due to the uncertainty of the current Covid-19 condition is Malaysia between MASHRAE and CIS Networks Sdn Bhd. The event will be likely to postponed to March 2022. One of the key collaborating event is the ASHRAE conference in conjunction with ENGINEER 2021.

## 3rd ASEAN 5+J Workshop

Thailand, Vietnam, Malaysia, Indonesia, Philippines and Japan. (Singapore as Observer)

Date/Time : 12<sup>th</sup> November 2021, 14:30~17:45 via virtual meeting

Title : Sustainable air-conditioning design for new normal practice during Covid19 pandemic in conjunction with Energy Efficiency, Safety and Low GWP Refrigerant Consideration.

Organizer : Malaysian Air Conditioning & Refrigeration Association (MACRA)

ASHRAE Malaysia Chapter Representative: Mr. Chea Swei Keong

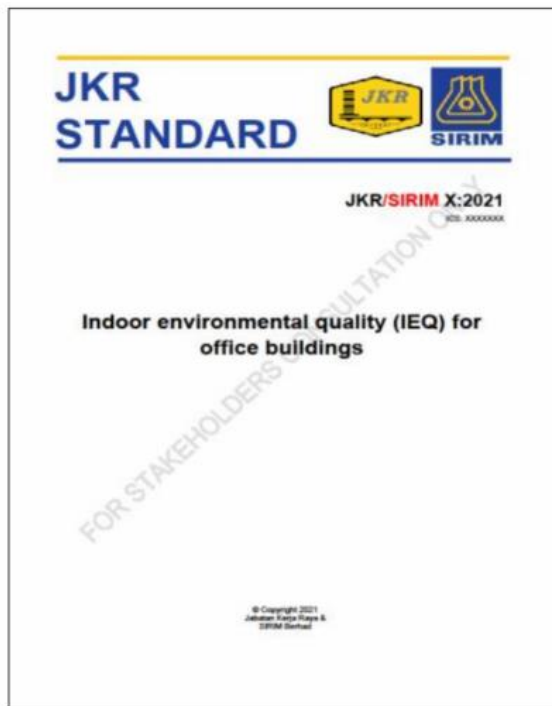
Other Rep. : The Japan Refrigeration and Air Conditioning Industry Association (JRAIA)  
Gabungan Perusahaan Industri Elektronik dan Alat-Alat Listrik Rumah Tangga Indonesia (GABEL)  
Vietnam Society of Refrigeration and Air Conditioning Engineers School of Heat Engineering and Refrigeration (SHEER)  
Air Conditioning and Refrigeration of the Federation of Thai Industries  
Malaysian Air Conditioning & Refrigeration Association (MACRA)

Agenda : Improve Environment and Reduction of Global Warming through the following actions:  
1. HFC Refrigerant Phase Down based on Kigali Amendment.  
2. Energy Efficiency and Energy Conservation

Basic Concept of ASEAN 5+J Workshop :

1. Workshop will be held annually, to be hosted by 5 countries in rotation.
2. Host will arrange and manage all logistics for the meeting which include meeting venue and reception.
3. Host will bear the cost of the meeting and reception.
4. Participating countries will bear the travel and accommodation expenses of the members of each country.
5. At least 1 member is requested to attend the workshop from each country, max 3 members in average.





## JKR Standard on Indoor Environmental Quality (IEQ) for Office Buildings - Stakeholder Consultation

Date/Time : 8<sup>th</sup> October 2021, 10:00~12:30

Organizer : SIRIM & JKR

Attended : JKR, SIRIM, DOSH, stakeholders from private sectors, Representatives from ASHRAE Malaysia Chapter (Mr. Chea Swei Keong & Ir. Ng Yong Kong)

Reference : ASHRAE Standard 62.1, 111, 55, 52.2, 90.1; ASHRAE Handbook on Noise/Sound and Vibration Control; MS 1525:2019; Uniform Building by Law; JKR Guidelines on the Prevention of Molds Growth in Buildings; Industry Code of Practice on Indoor Air Quality (DOSH).

### Objectives of JKR Standard:

1. To provide general guidance on improving the indoor environment quality for air-conditioned office buildings based on selected parameters in accordance with the current technical requirements and best practices for better comfort and wellbeing of occupants; and
2. To educate, promote and create awareness among the stakeholders on indoor environmental quality of air-conditioned office buildings.

### Objective of Stakeholder Session:

1. To provide a venue for stakeholders to be briefed on the draft standard; and
2. To seek feedback and review from relevant stakeholders on the draft standard developed.

## ASHRAE Malaysia Chapter-DOSH Dialogue

Date/Time : 21<sup>st</sup> December 2021, 10:30 AM

Organizer : DOSH, Ministry of Human Resources,  
Ministry of Human Resources, Malaysia

ASHRAE Malaysia Chapter Representative :  
Dr. King Yeong Jin, Ts. Ng Wen Bin,  
Ir. Chen Thiam Leong, Ir. Ng Yong Kong,  
Mr. Tee Tone Vei, Ir. Den Low, Ir. Keith Leow and Ir. Leong Siew Meng

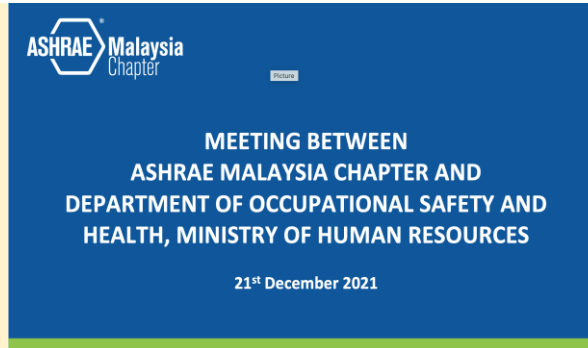
Other Rep.: DOSH KP, Ir. Zailee bin Dollah and Ir. Mokhtar bin Sabtu

Agenda : To introduce ASHRAE and Malaysia Chapter, and explore areas that the local chapter can assist DOSH

How MASHRAE be able to assist DOSH in reviewing and updating the Pandemic Guidelines on Ventilation with updated information to cope with the presence of virus variants?

1. How MASHRAE be able to work with DOSH to disseminate detailed applications related to design, retrofit, etc. on Ventilation in particular for existing premises?
2. Any other matters that MASHRAE can assist DOSH?

*(Continued on next page)*



**GUIDANCE NOTE ON VENTILATION & INDOOR AIR QUALITY FOR NON-RESIDENTIAL SETTINGS DURING COVID-19 PANDEMIC**

**1 Air-conditioned With Mechanical Ventilation (Centralized Air Conditioning System)**

**SYSTEM EVALUATION**  
 Ensure all components are maintained  
 Increase outdoor fresh air ventilation  
 Check filter and change frequently  
 Reduce Occupant density

**SYSTEM MAINTENANCE**  
 Building water system shall be flushed and maintained properly  
 Daily inspect - Components (Filter MERV 13 or higher etc. HEPA filter)  
 Re-entrant fan continuously (negative pressure adjacent rooms)  
 Temperature: 25°C-26 °C  
 Relative Humidity: 40% - 70%

**2 Air-conditioned Spaces Without Fresh Air Supply (Non-Centralized Air Conditioning System)**

- ❖ Open windows and doors (to allow natural ventilation/ fresh air)
- ❖ Keep exhaust fans running to improve ventilation
- ❖ Use portable air cleaners (Recommended HEPA Filter)
- ❖ Ensure intact water seal in sanitary system and rectify crack if any

**3 Natural Ventilation Spaces**

- ❖ Open windows and doors (to allow natural ventilation/ fresh air)
- ❖ Purge the areas frequently (use fan toward windows and doors)
- ❖ Do not direct air flow of the fan directly from one person to another person
- ❖ Keep exhaust fans running to improve ventilation

For details, please scan this QR code:

Ministry of Human Resources Malaysia | Ministry of Health Malaysia

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## Report:

Following the successful launch of the DOSH Pandemic Ventilation Guidelines and MASHRAE's Webinar 1.0, there have been continuous requests to MASHRAE for technical related information.

Topics discussed:

1) Proposed application strategies by MASHRAE

### Stage 1:

How to assess existing building indoor IAQ-Ventilation condition with regards to Covid-19?

- a) Recommend (most practical) methodology to conduct an IAQ Assessment by conducting a walk-through inspection with selected IAQ component measurements.
- b) Conduct a quick inexpensive preliminary assessment using CO2 measurement to assess adequacy of Ventilation.
- c) Emphasis to avoid unnecessary full scale costly measurement of IAQ gaseous elements.
- d) Provide estimated professional fee range for such services, and who are such qualified service providers - DOSH registered IAQ Assessors or Professional Engineers (Mechanical)

*(Continued on next page)*

**GUIDANCE NOTE ON VENTILATION AND INDOOR AIR QUALITY (IAQ) FOR PUBLIC AREA SETTING DURING COVID-19 PANDEMIC**

- 1 ENGINEERING CONTROLS**
  - Increase outside-air ventilation
  - Increase air filtration
  - Adjust or reconfigure air flows
- 2 ADMINISTRATIVE CONTROLS**
  - Reduce crowd or occupancy
  - Limit the use of small spaces that are shared
- 3 RECONFIGURATION OF BUILDING SPACES AND FURNISHINGS**
  - Use partitions to reduce risks of transmission and minimize direct air flow between people.
- 4 CLEANING AND DISINFECTIONS**
  - Cleaning and disinfection is recommended where there has been a suspected or confirmed case of COVID-19 within the last 24 hours.
  - If more than 24 hours after suspected / confirmed cases, cleaning is enough unless there is high index transmission.
  - If more than 3 days have passed since a suspected / confirmed case, no additional cleaning then usual cleaning is required
  - Risk of transmission can be reduced by wearing masks consistently and correctly, practicing hand hygiene, cleaning, and taking other measures to maintain healthy facilities.

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## Report:

Following the successful launch of the DOSH Pandemic Ventilation Guidelines and MASHRAE's Webinar 1.0, there have been continuous requests to MASHRAE for technical related information.

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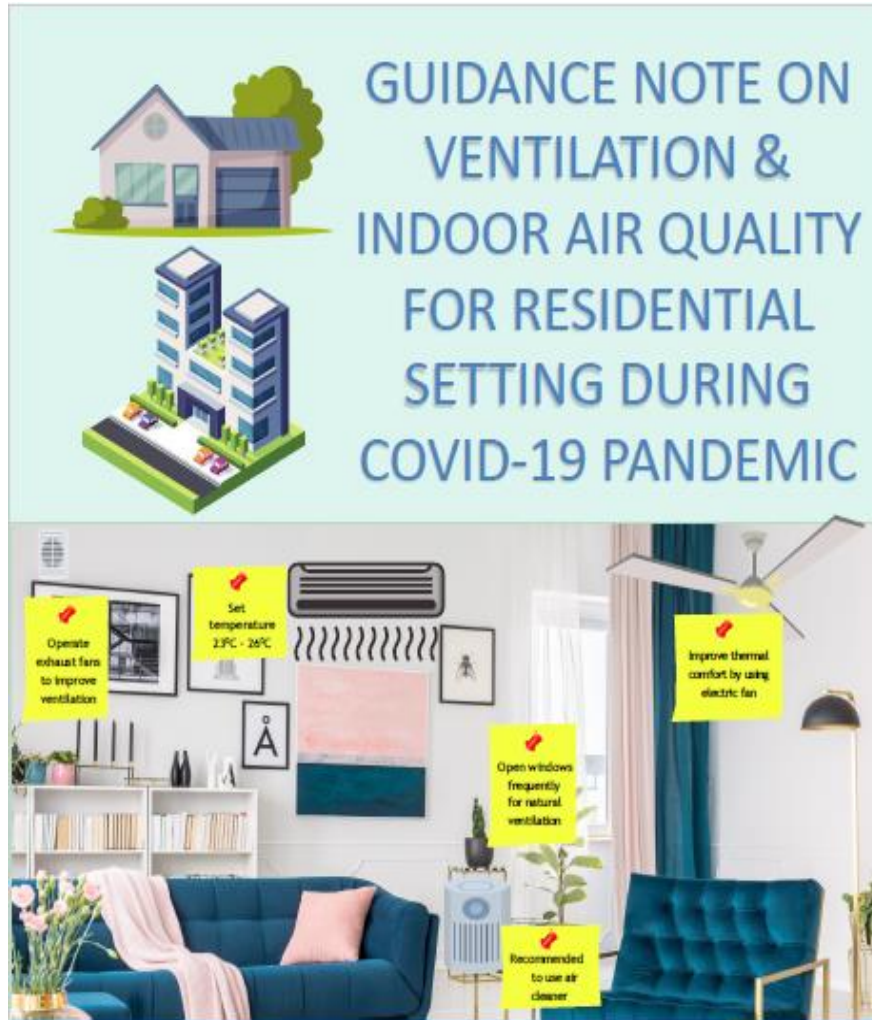
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- b) Conduct a quick inexpensive preliminary assessment using CO2 measurement to assess adequacy of Ventilation.
- c) Emphasis to avoid unnecessary full scale costly measurement of IAQ gaseous elements.
- d) Provide estimated professional fee range for such services, and who are such qualified service providers - DOSH registered IAQ Assessors or Professional Engineers (Mechanical)

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### GUIDANCE NOTE ON VENTILATION & INDOOR AIR QUALITY FOR RESIDENTIAL SETTING DURING COVID-19 PANDEMIC

- Operate exhaust fans to improve ventilation
- Set temperature 23°C - 26°C
- Improve thermal comfort by using electric fan
- Open windows frequently for natural ventilation
- Recommended to use air cleaner

#### General Guidance Applicable To All Homes (Landed Properties, Low/High Rise Apartments)

- ✓  Open windows to ventilate room spaces with clean outdoor air. Leave a small opening when air-conditioner is in operation.
- ✓  Operate electric fans to increase air movement and subsequently to enhance thermal comfort.
- ✓  Operate exhaust fans to improve ventilation.
- ✓  Highly recommended to set temperature between 23°C to 26°C.
- ✓  Highly recommended to maintain 40% to 70% relative humidity.
- ✓  Ensure water seal in sanitary system is intact and rectify crack, if any.
- ✓  Create an isolation space for sick, suspected or infected household members

#### ## Notes:

- ✦ When air-conditioners are not in use, open as many windows as possible, where practical, to ventilate your dwelling; especially in the mornings and evenings when the outdoor air is relatively cooler.
- ✦ Keeping a small opening in the window is recommended to allow for ventilation, provided it does not cause excessive infiltration of outdoor air when air-conditioner is in use.
- ✦ Consider installing an air ionizer capable of deactivating viruses in suitable air conditioning system.
- ✦ Avoid using the balcony in an apartment unit which is in close proximity with a neighbouring unit.



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Report: (Continued from previous page)

Stage 2:

- a) Site Audit & Improvement Solutions for IAQ-Ventilation to mitigate Covid-19. Stage 1 Assessment would determine if there is any need for a Stage 2 Audit.
- b) Provide recommended scope of works to be covered under the Stage 2 Audit report.
- c) Provide estimated professional fees for such services and highlight that any need to also address prevailing unsatisfactory indoor IEQ should not be part of the cost.
- d) Reminder that qualified service providers should be Professional Engineers (Mechanical).
- e) Provide 2 simplified case study template reports;
  - i) an office with central AHU air-conditioning, and
  - ii) a shophouse office or restaurant with split units

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**5 MEASURES FOR AIR-CONDITIONED PREMISES WITH MECHANICAL VENTILATION AIR CONDITIONING (MVAC)**

- Ensure MVAC system are fully functioning.
- Maximise ventilation for indoor air dilution.
- Maximise outdoor air intake and supply by setting.
- Minimise indoor air recirculation; use high-efficiency filters in AHUs to treat recirculated air

**6 MEASURES FOR NATURALLY VENTILATED PREMISES**

- Improve ventilation, consider adding window or wall mounted exhaust fans.
- Improve air supply and increase ventilation rate.

**7 MEASURES FOR ENCLOSED AIR-CONDITIONED PREMISES WITHOUT MECHANICAL VENTILATION PROVISION**

- Increase ventilation and air exchange rate.
- Install window-mounted exhaust fans.
- Use portable air cleaner in enclosed space.
- Ensure there are no leakage of air into any occupied space.

Portable air cleaner

MINISTRY OF HEALTH MALAYSIA      MINISTRY OF HUMAN RESOURCES

For details, please scan this QR code:

**GUIDANCE NOTE TO BUILDING OWNERS AND BUILDING MANagements ON VENTILATION AND INDOOR AIR QUALITY (IAQ) FOR HEALTHCARE FACILITIES SETTING DURING COVID-19 PANDEMIC**

**AIR-CONDITIONED FACILITIES WITH MECHANICAL VENTILATION**

- Minimize air recirculation
- Use high-efficiency filters
- Increase ventilation rate
- Reduce the max. room occupancy
- Modify airflow direction
- Use portable air cleaner

- To increase the ventilation rate according to system capabilities.
- Consider reducing the maximum room occupancy.
- Modify airflow direction by relocating supply and return air devices if necessary.
- Set recirculation air dampers to a minimum according to system capabilities if possible.
- Use high-efficiency filters (at least MERV14 or F8 is recommended) in AHUs.
- Consider to use air-cleaning technologies that be able to kill microbe in AHUs or ducting.
- Consider to use a stand-alone ai cleaner with appropriate filters if no other (short-term) strategy can be adopted.

Report: *(Continued from previous page)*

### Stage 3: Application & Implementation

(Summarise prevailing solutions and caution to addressing Ventilation)

- Increase OA and its potential impact to the cooling system - e.g. to prevent resultant high RH, increase indoor DB to sacrifice comfort? etc.
- Converting to (e.g.) MERV 13 will entail what modifications and the energy impact.  
Impact of UVC in AHU; Upper room UVGI; Far UVC; ESP filtration; ionisation; sterilization etc.  
Relate each solution to the various settings of Hospital, Hotel, Mall, Office, Shoplot, House, F&B, Pub, etc.
- Compare Capex of different technologies (including modification costs), Operating expense, Maintenance, Life span etc.
- Comparison of efficacy using equivalent CADR calculations.

DOSH KP accepted MASHRAE President's invitation to give a keynote address at the coming IAQ & Ventilation 2.0 Webinar to be held on 20 January 2022. DOSH KP expressed appreciation of MASHRE's offer of professional assistance. He reiterated that MASHRAE will be invited to participate in DOSH's updates of IAQ guidelines and other future works.

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## AIR-CONDITIONED FACILITIES WITHOUT FRESH AIR SUPPLY

The illustration shows a room with a nurse, a doctor, and beds. Sticky notes indicate strategies: 'Consider exhaust fans to increase air exchange', 'Open windows & doors frequently', 'Add dedicated outdoor air supply and/or exhaust', 'Modify the position of the split unit or FCUs', and 'Use portable air cleaner'.

- Open operable windows and doors as frequently as possible, unless outdoor/outside air quality is poor.
- Consider reducing the maximum room occupancy.
- Consider positioning extractor/mounted exhaust fans at windows to blow air outwards and increase air exchange.
- Consider adding dedicated outdoor air supply and/or exhaust.
- Modifying the position of the split unit or FCUs to direct the airflow to the less clean zone or install an extractor to control the airflow where AGP are performed.
- Consider to use a stand-alone air cleaner with appropriate filter if no other (short-term) strategy can be adopted.

## NATURAL VENTILATION FACILITIES

The illustration shows a room with a nurse, a doctor, and beds. Sticky notes indicate strategies: 'Consider potential new openings', 'Reduce the max. room occupancy', 'Use portable air cleaner', and 'Increase natural ventilation by using fans'.

- Assess the opening locations and opening surfaces considering potential new openings.
- Consider enabling cross ventilation rather than single-sided ventilation.
- Consider reducing the maximum room occupancy.
- The airflow direction should be from clean to less clean area.
- Increase natural ventilation with enhancement by fans.
- Consider to use a stand-alone air cleaner with appropriate filter if no other (short-term) strategy can be adopted.



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~ End of Report ~

## IEM 62<sup>nd</sup> Annual Dinner

Date/Time : 26<sup>th</sup> December 2021, 7:00 PM ~10:30 PM

Organizer : The Institution of Engineers, Malaysia (IEM)

Theme : Helping Engineers Achieving Resilience Together (HEART)

ASHRAE Malaysia Chapter Representative :

Ts. Dr. King Yeong Jin,

Ir. Ong Ching Loon (IEM President),

Ir. Den Low Han Guan,

Mr. Chea Swei Keong,

Ir. Dr. Khoo Chun Yong,

Mr. Law Kok Zhen

Ir. Lam Kim Seong,

Ir. Keith Leow Chee Huan,

Mr. Lai Ching Sheng,

### Report:

ASHRAE Malaysia Chapter was invited to join the 62<sup>nd</sup> Annual Dinner of The Institution of Engineers, Malaysia (IEM) with the theme entitled Helping Engineers Achieving Resilience Together(HEART).

Once again, many congratulations to IEM for successfully organized the IEM 62<sup>nd</sup> Annual Dinner during this dynamic situation.



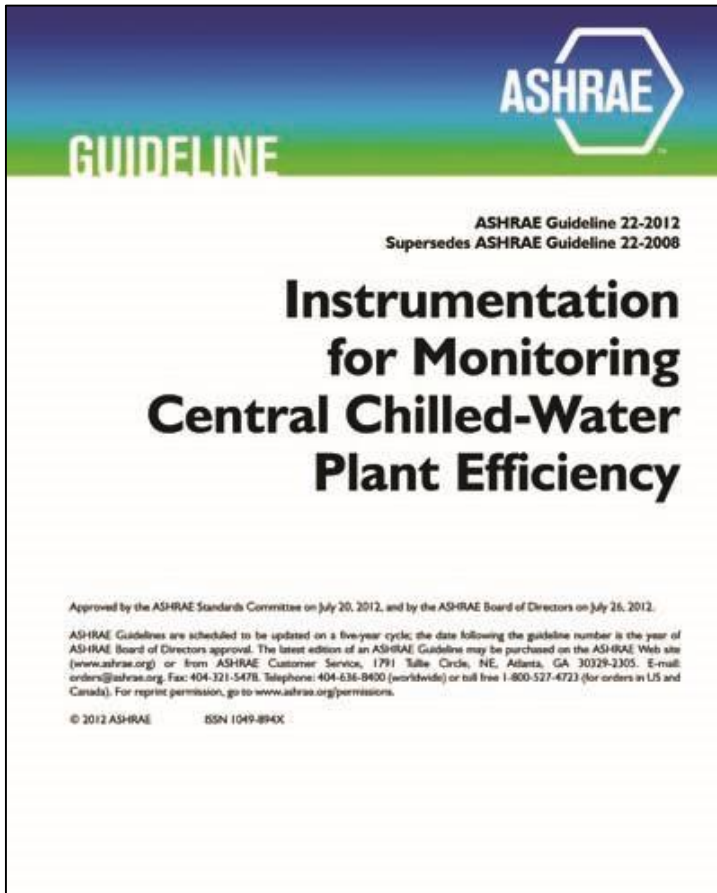
# What do we have in our library collections?

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## ASHRAE GUIDELINE 22-2012

### INSTRUMENTATION FOR MONITORING CENTRAL CHILLED-WATER PLANT EFFICIENCY



- Guideline 22 was developed by ASHRAE to provide a source of information on the instrumentation and collection of data needed for monitoring the efficiency of an electric-motor-driven central chilled-water plant. A minimum level of instrumentation quality is established to ensure that the calculated results of chilled-water plant efficiency are reasonable. Several levels of instrumentation are developed so that the user of this guideline can select that level that suits the needs of each installation.
- The basic purpose served by this guideline is to enable the user to continuously monitor chilled-water plant efficiency in order to aid in the operation and improvement of that particular chilled-water plant, not to establish a level of efficiency for all chilled-water plants. Therefore, the effort here is to improve individual plant efficiencies and not to establish an absolute efficiency that would serve as a minimum standard for all chilled-water plants.
- Guideline 22-2012 includes a Web link to a supplemental Excel spreadsheet with an example of the effects of energy use, Delta T, and variable flow for both COP and kW/ton calculations.
- Keywords: Chillers, evaporator pumps, condenser pumps, cooling towers, chilled-water.

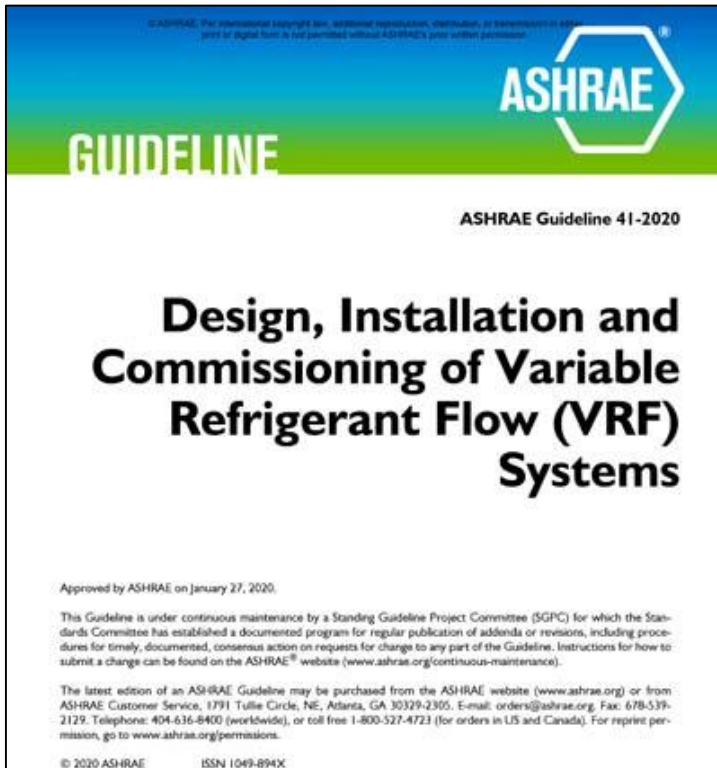
# What do we have in our library collections?

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## ASHRAE GUIDELINE 41-2020

### DESIGN, INSTALLATION AND COMMISSIONING OF VARIABLE REFRIGERANT FLOW (VRF) SYSTEMS



- Provides the procedures and design factors a design engineer should consider; the requirements and installation factors the installing contractor should consider; and the performance, commissioning, and operational factors the contractor and maintenance personnel should consider for a variable refrigerant flow (VRF) system.
- Intended for use with nonresidential building systems (including, but not limited to, hotels, office buildings, hospitals and other health care facilities, assisted living facilities, schools and universities, commercial buildings, industrial buildings, etc.) and centralized heating/cooling systems in multifamily residential buildings.
- Not intended for use with low-rise, single-family, residential buildings. Dual units of measurement.
- Keywords: Variable refrigerant flow (VRF) System

# Online Reading-Only-Version of Latest ASHRAE Publications is Available ! (1/2)

LIBRARY &  
RESOURCES



[Click this link to access to the online "Read-Only-Versions" of ASHRAE Standards & Guidelines](#)

## **Guidelines Available:**

- Guideline 1.4-2019, Preparing Systems Manuals for Facilities
- ASHRAE Guideline 11-2018, Field Testing of HVAC Control Components
- Guideline 12-2020, Managing the Risk of Legionellosis Associated with Building Water Systems
- Guideline 28-2016, Air Quality within Commercial Aircraft
- Guideline 29-2019, Guideline for the Risk Management of Public Health and Safety in Buildings
- Guideline 36-2018, High-Performance Sequences of Operation for HVAC Systems

## **Standards Available:**

- Standard 15-2019, Safety Standard for Refrigeration Systems
- Standard 34-2019, Designation and Safety Classification of Refrigerants
- Standard 55-2020, Thermal Environmental Conditions for Human Occupancy (ANSI Approved)
- Standard 62.1-2019, Ventilation for Acceptable Indoor Air Quality
- Standard 62.2-2019, Ventilation and Acceptable Indoor Air Quality in Residential Buildings
- ANSI/ASHRAE Standard 84-2020, Method of Testing Air-to-Air Heat/Energy Exchangers (ANSI Approved)

# Online Reading-Only-Version of Latest ASHRAE Publications is Available ! (2/2)

LIBRARY &  
RESOURCES



[Click this link to access to the online "Read-Only-Versions" of ASHRAE Standards & Guidelines](#)

## **Standards Available:**

- Standard 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings
- Standard 90.2-2018, Energy Efficient Design of Low-Rise Residential Buildings
- Standard 100-2018, Energy Efficiency in Existing Buildings
- Standard 111-2008 (RA 2017)-- Testing, Adjusting, and Balancing of Building HVAC Systems
- Standard 154-2016, Ventilation for Commercial Cooking Operations
- Standard 161-2018, Air Quality within Commercial Aircraft
- Standard 170-2021, Ventilation of Health Care Facilities
- Standard 180-2018, Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems (ACCA Co-sponsored)
- Standard 183-2007 (RA 2020), Peak Cooling and Heating Load Calculations in Buildings Except Low-Rise Residential Buildings (ACCA Co-sponsored)
- Standard 185.2-2020, Method of Testing Ultraviolet Lamps for Use in HVAC&R Units or Air Ducts to Inactivate Microorganisms on Irradiated Surfaces
- Standard 188-2018, Legionellosis: Risk Management for Building Water Systems
- Standard 189.1-2020, Standard for the Design of High-Performance Green Buildings
- Standard 211-2018, Standard for Commercial Building Energy Audits

ASHRAE is offering an **exciting new selection of member benefits for the 2021-2022 Society Year**. The expanded member benefit options are a direct result of member feedback and volunteer effort. They have been created to provide the best possible service to ASHRAE members and the industry.

## 2021-2022 New Member Benefit Selections

### WHAT?

- **New member benefit options** will be presented during the join and renewal process for qualifying members entering the Society Year 2021-22. These members will be asked to select one of the following as their annual membership benefit:
  1. Society Year's ASHRAE Handbook as a PDF;
  2. An ASHRAE Standard of the member's choosing, as a PDF
  3. A one-year subscription to an eLearning Course of the member's choosing
- Members will also be presented with the **option to add on additional benefits** for a small fee during the join or renewing process:
  1. Add a printed ASHRAE Handbook that will be shipped in June 2022, at a discounted rate of \$65 for US members, and \$84 for international members (shipping included in price).
  2. Add a Handbook Online Subscription at the discounted rate of \$49. This option is presented to renewing members only, as new members receive a complimentary subscription during their first year.

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previous page)

## 2021-2022 New Member Benefit Selections

### WHO?

- **Full Dues paying Member and Associate grades** who are renewing or joining for Society Year 2021-2022.
- These changes do not apply to members participating in the Developing Economies program, students, or Affiliate members

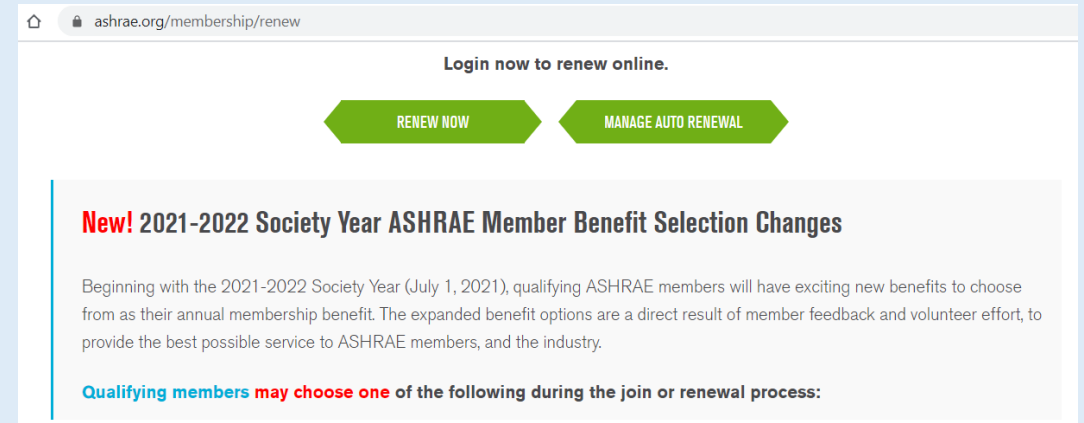
### WHEN?

- Members who begin **renewing** for the new Society Year **as early as 1<sup>st</sup> April 2021**, and this group will be presented with the new benefit options during their renewal process.
- Additionally, **new members who join after 1<sup>st</sup> June 2021** will be presented with the new benefit selection.

### WHERE?

- More information is available at <https://www.ashrae.org/membership/renew>.
- Additional questions can be directed to [membership@ashrae.org](mailto:membership@ashrae.org)

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The screenshot shows the ASHRAE membership renewal page. At the top, the URL is 'ashrae.org/membership/renew'. Below the URL, there is a prompt 'Login now to renew online.' with two green buttons: 'RENEW NOW' and 'MANAGE AUTO RENEWAL'. A prominent red heading reads 'New! 2021-2022 Society Year ASHRAE Member Benefit Selection Changes'. The text below explains that starting July 1, 2021, qualifying members will have new benefit options. A note states that qualifying members may choose one of the following during the join or renewal process.

*(Continued from previous page)*

## ASHRAE Membership Automatic Renewal Program

- You can cancel or edit your automatic renewal payment method at any time by visiting [autorenew.ashrae.org](http://autorenew.ashrae.org), or by calling ASHRAE Customer Service at 404-636-8400, or by updating your member profile through logging into [ashrae.org](http://ashrae.org).

## Get Your Membership Back

- If your membership was cancelled and you'd like to re-join simply fill out the online application. If you wish to keep your years of tenure by reinstating your membership...please contact ASHRAE staff. Each former member's situation is different, so we want to offer the most suitable reinstatement option. Contact the Member Contact Center at 800-527-4723 (US/Canada) or 404-636-8400 (International) and ask a representative about reinstating your membership. You can also send an email to [membership@ashrae.org](mailto:membership@ashrae.org), with the subject line of 'Membership Reinstatement.' If possible, include your former membership number.