ASHRAE Pakistan Chapter

ISSUE 03

INNOVAIR

ASHRAE PAKISTAN YEAR BOOK
2024-2025

INNOVATION
LEADING HVAC TECHNOLOGIES AND BREAKTHROUGHS

COMMUNITY
CELEBRATING CHAPTER ACHIEVEMENTS AND SHARED EXPERIENCES

GROWTH
ADVANCING IMPACT, EXPANDING KNOWLEDGE, AND INSPIRING FUTURE LEADERS

ASHRAE Pakistan Chapter

HVACR TRENDS
EXPO - TECH TALK - FORUMS

THE FUTURE OF HVACR IS HERE

HVACR TRENDS 5.0

KARACHI 28-29 NOVEMBER 2025

Smart Decarbonization: Integrating AI, Innovation, and Sustainability in Pakistan

Organized by

ASHRAE Pakistan Chapter

Supported by

ACEP Association of Consulting Engineers Pakistan
CESS PAKISTAN
IEP PAKISTAN 1948
IWA the international water association
YOUNG WATER PROFESSIONALS PAKISTAN
REAP RENEWABLE ENERGY ASSOCIATION PAKISTAN
PSPP
PAKISTAN BUSINESS FORUM
FIRE PROTECTION ASSOCIATION OF PAKISTA

InnovAIR

PUBLISHER

BRG - Business Relay Group

Printed at Riz Printers

ASHRAE Pakistan Chapter

P27-C, Lane No. 11, Phase-6, DHA Karachi
Tel:+92 321 824 1652
www.ashraepakistan.com

President's Message

— A Year of Growth, Impact, and Unity

It gives me immense pleasure to present to you the ASHRAE Pakistan Chapter's 2024-2025 Yearbook. This edition is not merely a recap of the events and milestones we've achieved—it is a reflection of the dedication, collaboration, and spirit that define our community.

This year has been historic for us. We proudly hosted the first-ever **ASHRAE RAL CRC** in Karachi, an achievement that not only elevated our presence regionally but also showcased Pakistan's growing leadership in the global HVACR community.

In parallel, the successful execution of the **HVACR Trends 4.0** Exhibition and Conference highlighted our commitment to innovation and industry-focused engagement. Each year, this platform spotlights a key sector or emerging challenge within the HVACR landscape—this time fostering dialogue on sustainable design solutions and advancing technical collaboration across stakeholders.

Our chapter's activities extended beyond conferences. Through impactful training programs, student involvement, international representation, and meaningful partnerships—such as with NEDUET, IEP, CESS and PBF—we reinforced our dedication to safety, education, and professional development.

I am deeply grateful to our Board of Governors, volunteers, sponsors, and every member who played a role in making this year exceptional. Your support, passion, and professionalism are what drive our success.

Let us continue to build on this momentum and strive toward a smarter, safer, and more sustainable future.

Mahmood Ahmed
President 2024-2025
ASHRAE Pakistan Chapter

Editor's *Note*

— Capturing the Pulse of a Transformative Year

Faraz KHAN
Newsletter Editor
Communication Chair

Welcome to the third issue of our annual newsletter, InnovAIR – ASHRAE Pakistan Yearbook 2024-2025. This publication aims to bring together the highlights, voices, and impact of an inspiring year.

As the Communications Chair, I have had the privilege of witnessing first-hand the energy and dedication our members bring to every initiative. From groundbreaking technical conferences to collaborative trainings, from the CRC 2024 planning to student-driven innovation—each effort deserves to be celebrated and shared.

This year also featured the HVACR Trends 4.0 Exhibition and Conference, which spotlighted sustainable HVAC solutions tailored for key industrial sectors—strengthening our industry engagement and technical discourse.

This yearbook is not just a look back—it is a blueprint for the future. Inside, you'll find stories of leadership, community outreach, technical excellence, and the people who make it all happen. It also honors our sponsors and partners, whose support makes our vision a reality.

Thank you to everyone who contributed content, photographs, ideas, and feedback. This is your platform, and I invite you all to help shape it in the years ahead.

Here's to building a stronger, smarter, and more connected ASHRAE community in Pakistan.

Mission Statement
Our mission is to document, celebrate, and advance the work of ASHRAE Pakistan Chapter by showcasing innovation, collaboration, and technical excellence. Through this yearbook, we aim to inform, inspire, and connect our members while promoting sustainable practices in the built environment.

Sustainability Statement
This magazine is designed with environmental responsibility in mind, encouraging digital distribution and minimal printing to reduce paper waste and carbon footprint.

ASHRAE Pakistan Chapter

Board of Governors

SY 2024-2025

Mahmood Ahmad
PRESIDENT

Shuja Khalid
PRESIDENT ELECT

Ibad Hasan
VICE PRESIDENT

Dr. Uzair
GENERAL SECRETARY

2024-2025

Asif Khan
TREASURER

Mohsin ul Haq
MEMBER BOG

Mohammad Hamid
MEMBER BOG

Muhammad Omer Khan
IMMEDIATE PAST PRESIDENT

www.ashraepakistan.com

Contents Overview

ASRHRAE REGION-AT-LARGE CRC 2024: A HISTORIC FIRST FOR PAKISTAN

Governance, innovation, and culture came together at CRC 2024 Karachi

M. Abbas Sajid
General Chair
CRC 2024 Karachi

The year 2024 marked a defining chapter for ASHRAE Pakistan as the country proudly hosted the Region-at-Large Chapter Regional Conference (CRC) for the very first time. Held in Karachi from October 4–7, 2024, the event welcomed more than 120 delegates from over 20 countries, making it one of the most diverse CRCs in the region's history.

CRC is the highest-level regional gathering within ASHRAE. It brings together chapter leaders, regional officers, and members for a blend of governance, leadership training, technical dialogue, and fellowship. Hosting such an event was both an honor and a milestone for the Pakistan Chapter, reflecting its growing role in the global ASHRAE network.

Leadership, Learning, and Decisions in Motion

Over the four days, CRC 2024 offered a comprehensive agenda that combined business sessions, caucus meetings, committee trainings, and technical programming.

Delegates reviewed regional reports, debated motions, and took part in governance processes that shape the direction of Region-at-Large.

The business sessions were marked by structured discussions and transparent decision-making, while the caucus meetings provided a forum for leadership nominations and long-term planning. Specialized committee workshops supported chapter leaders in strengthening areas such as membership promotion, student activities, and government affairs.

The conference also featured an industry-focused technical program dedicated to sustainable HVACR solutions for the textile sector — a vital industry for Pakistan and South Asia. Papers and panel discussions by international experts and local engineers explored strategies for energy efficiency, decarbonization, and innovation in manufacturing, ensuring the technical component of CRC was both timely and impactful.

A Global Gathering with Regional Relevance

CRC 2024 stood out for its diversity of participation. Delegates arrived from across the Middle East, Africa, South Asia, and Turkey, bringing a wide spectrum of perspectives. The presence of ASHRAE's senior leadership alongside long-serving Pakistan Chapter figures gave the event both credibility and continuity, while first-time delegates gained exposure to the society's regional governance at its highest level.
This dynamic mix enriched discussions, with regional challenges viewed through a global lens. For Pakistan, it also signaled recognition within the international ASHRAE community, as the chapter successfully hosted an event of such scale and complexity.

A Global Gathering with Regional Relevance

CRC 2024 stood out for its diversity of participation. Delegates arrived from across the Middle East, Africa, South Asia, and Turkey, bringing a wide spectrum of perspectives. The presence of ASHRAE's senior leadership alongside long-serving Pakistan Chapter figures gave the event both credibility and continuity, while first-time delegates gained exposure to the society's regional governance at its highest level.
This dynamic mix enriched discussions, with regional challenges viewed through a global lens. For Pakistan, it also signaled recognition within the international ASHRAE community, as the chapter successfully hosted an event of such scale and complexity.

Culture and Fellowship

In addition to governance and technical dialogue, CRC 2024 highlighted the importance of fellowship and cultural exchange. Delegates experienced Pakistan's warmth and hospitality through memorable social events. A welcome dinner by the sea offered a scenic and relaxed opening, while a cultural evening featuring a fashion show made history as the first of its kind in any CRC. A lively sports night added another first, bringing delegates together in friendly competition.

These gatherings allowed delegates to connect beyond the meeting rooms, strengthening personal bonds and creating memories that will last well beyond the conference. For many international participants, it was also a unique opportunity to experience the culture and vibrancy of Karachi — the City of Lights.

A Milestone with Lasting Impact

CRC 2024 in Karachi was not only a significant achievement for the host chapter but also a memorable experience for the entire Region-at-Large. The event successfully balanced governance with technical depth and cultural exchange, leaving a strong impression on all who attended.

The decisions made, the knowledge shared, and the friendships built during the four days have already begun to influence ongoing work across chapters in Region-at-Large. As delegates reflected on their time in Karachi, many acknowledged the conference as a benchmark — an event that combined professionalism with hospitality and set a strong example for future CRCs.

FACES OF LEADERSHIP

CRC 2024 came alive through the dedication of leaders who shaped its vision and execution:

Basel Anbari – Director & Regional Chair (DRC)
His presence symbolized the event's significance, guiding strategic direction and reinforcing unity across Region-at-Large.

Farooq Mehboob – Presidential Member & Tamgha-e-Imtiaz Recipient
A global ASHRAE icon, his legacy and mentorship added immense prestige to CRC 2024.

Muhammad Abbas Sajid – General Chair, CRC 2024
The driving force behind the event, orchestrating every detail from planning to execution with unmatched leadership.

Adeeba Mehboob – Co-Chair & RMCR
Ensured diversity, engagement, and structure in programming, while moderating technical sessions.

Mahmood Ahmad – President, ASHRAE Pakistan Chapter (2024–25)
Provided local leadership, ensuring the event reflected Pakistan's context and aspirations.

Faraz Khan – Strategic Lead & Project Manager, CRC 2024
Architect of the event framework, overseeing logistics, communications, and delegate experience.

Voices from the Conference Room

"I've attended many CRCs, but the level of organization, hospitality, and professionalism shown here in Karachi is beyond impressive."
— RVC Attendee, Region-at-Large

"Pakistan has raised the bar for CRCs. The cultural inclusion, venue selection, and execution were exemplary."
— Senior ASHRAE Leader

INSIDE CRC 2024: A FOUR-DAY JOURNEY

CRC 2024 unfolded as a choreographed experience where governance, technical knowledge, and culture came together seamlessly.

Day 1 – Welcome to Karachi
Delegates were greeted with warmth from the moment they landed. A special Caucus Orientation at the ASHRAE Pakistan Chapter Office set the stage, followed by a breathtaking Welcome Dinner at Emaar Beach, where the Arabian Sea breeze, live music, and traditional BBQ offered a first taste of Pakistani hospitality.

Day 2 – Business & Innovation
Mornings began with committee training sessions while the HVACR Trends 4.0 Expo ran parallel at Marriott Hotel, highlighting sustainable solutions for South Asia's textile industry. The first official Business Session commenced at Mövenpick, followed by a vibrant Cultural Night & Fashion Show that made history as ASHRAE's first-ever fashion showcase.

Day 3 – Decisions & Sports
With formal motions, elections, and reports at the Business Meeting, the day reflected CRC's governance strength. The evening transformed into high-energy camaraderie at the Sports Night in Legends Arena, featuring futsal, cricket, volleyball, and tug-of-war — a first for Region-at-Large CRCs.

Day 4 – Closing with Impact
The final Business Session & RPM concluded with planning for the region's future. The Awards Luncheon honored chapters and individuals for their outstanding contributions, before the Review Meeting reflected on lessons learned.

- 20+ countries represented
- 128 total delegates (incl. companions)
- 3 full business sessions conducted
- Training Workshops
- Parallel HVACR Trends 4.0 Expo

CRC PROCEEDINGS

Governance in Motion: Inside the Caucus Orientation and Business Sessions of CRC 2024

Beyond the technical brilliance and cultural highlights, CRC 2024's true foundation lay in its governance sessions—where leadership was forged, decisions debated, and the region's future mapped.

Orientation: Laying the Groundwork for Leadership

The CRC 2024 Orientation Session, held at the ASHRAE Pakistan Chapter Office, welcomed both first-time and returning delegates. It provided a practical introduction to parliamentary procedure, CRC mechanics, and chapter responsibilities.

Designed to build confidence and engagement, the session emphasized structured collaboration, regional ethics, and the role of chapters in unified representation.

"You could feel the energy in the room—the sense that we weren't just attendees; we were contributors to a bigger vision." — First-time Delegate, Cairo Chapter

Caucus Sessions: Strategy Behind Closed Doors

Following orientation, the Caucus Sessions convened as exclusive strategy forums. Delegates deliberated on nominations, committee roles, policy priorities, and regional recommendations—essential to ASHRAE's democratic framework.

Key Highlights:

- Nomination Success: All RVC and regional positions successfully filled
- Ethics First: A new Regional Ethics Committee formed to uphold transparent leadership
- Leadership Development: Senior members mentored newer chapters on succession planning

"The sessions were about clarity and coordination, ensuring every chapter had a role in shaping the region's direction." — Caucus Moderator, Falcon Chapter

CRC PROCEEDINGS

Business Sessions: Where Decisions Take Flight

Spanning three days at Mövenpick Hotel, the Business Sessions served as CRC's heartbeat. Delegates came together to approve motions, review chapter reports, conduct financial reviews, and address regional challenges.

Sessions followed parliamentary procedure while encouraging open floor discussions—every voice was invited and valued. Remote participation from Lebanon and other chapters unable to travel ensured inclusivity.

Hot Topics Discussed:

- **DEI Integration**: Appointment of new DEI Chairs and initiatives to increase female participation in Boards of Governors
- **Communications Growth:** ECC reported 20%+ growth across Facebook, LinkedIn, YouTube, and Instagram through multilingual strategies
- **Financial Planning:** 2024–25 budget approved, with calls for greater grassroots funding
- **Chapter Development:** Strong emphasis on student membership, youth engagement, and inter-chapter mentorship
- **Audit Review:** Regional Audit Committee presented a clean Q1 report despite fund realignments

Review Meeting: Lessons, Reflections, and Roadmaps
The final governance session provided a candid debrief for RAL officers, RVCs, and the host chapter. Delegates evaluated operational flow, logistics, and participation, ensuring collective learning for future CRCs.

Discussion Points:

- Registration and hospitality exceeded expectations
- Digital tools streamlined session management and communications
- Companion engagement and advance scheduling noted as improvement areas
- Hybrid models proposed for wider participation

SHAPING THE FUTURE- THE PRESIDENTIAL LUNCHEON

Celebrating Leadership, Shaping Tomorrow's Legacy

One of the most distinguished moments of CRC 2024 was the Presidential Luncheon, held in the elegant Ballroom B of Mövenpick Hotel Karachi. The gathering brought together ASHRAE dignitaries, regional leaders, and chapter representatives to celebrate leadership, reflect on legacy, and look ahead to new opportunities.

In his welcome remarks, Muhammad Abbas Sajid, General Chair of CRC 2024, highlighted the pride of hosting the conference in Pakistan for the first time: "CRC 2024 is not just a milestone—it is a message: Pakistan is ready to lead with purpose and partnership."

The keynote address was delivered by Dennis Knight, Presidential Member and Fellow ASHRAE, whose remarks focused on sustainability and the importance of preparing a future-ready workforce. He emphasized mentorship, educational pipelines, and data-driven building performance, while reminding participants:

"Leadership is not about the titles we wear, but the legacy we build by empowering others to innovate and thrive."

CELEBRATING EXCELLENCE- AWARDS LUNCH

Honoring Excellence, Inspiring Future Leaders

The ASHRAE Region-at-Large (RAL) CRC 2024 drew to a memorable close with the Awards Lunch, held in the grand ballroom of Hotel Mövenpick, Karachi. The event served as a vibrant celebration of excellence, honoring the commitment and achievements of members and chapters across the region.

Awards were presented in diverse categories—Chapter Performance, Student Activities, Government Affairs, Membership Promotion, CTTC, and YEA—each recognizing a unique dimension of ASHRAE's mission.

What made the occasion particularly meaningful was the recognition of both long-serving volunteers and rising young professionals, underscoring the intergenerational strength of the ASHRAE community.

Leaders and delegates from Pakistan, India, UAE, Saudi Arabia, Egypt, Turkey, and beyond were present, applauding the dedication of peers who continue to advance sustainability, education, and professional growth within the HVAC&R industry.

More than a ceremony, the Awards Lunch reaffirmed ASHRAE's values of innovation, service, and integrity. It left participants inspired not just by past accomplishments but by the collective responsibility to shape the future of the built environment.

CRC 2024 SOCIAL EVENTS

Celebrating Culture and Camaraderie

Beyond the business sessions and technical presentations, CRC 2024 Karachi was defined by its warmth, hospitality, and unforgettable social experiences. These events transformed the conference from a formal gathering into a celebration of identity, connection, and regional pride. The three standout social functions—the **Beach Dinner**, **Fashion Show**, and **Sports Night**—offered unique moments that deepened bonds among delegates and showcased the vibrant soul of Pakistan

CRC 2024 SOCIAL EVENTS

Emaar Beach Welcome Dinner

A Sunset to Remember

Held on the shores of the majestic Arabian Sea, the Emaar Beach Dinner on the opening night set the perfect tone for CRC 2024. As the sun dipped into the horizon, painting the sky in shades of orange and gold, delegates were welcomed by soft ocean breezes, the sound of waves, and the aroma of sizzling Pakistani BBQ.

The evening unfolded as a multisensory celebration—live traditional music, vibrant fireworks, camel rides, and dune buggy adventures transformed the beach into a cultural carnival. It was more than a dinner; it was an experience that captured the essence of Karachi's coastal charm while bringing professionals from over 20 countries together in a spirit of warmth and camaraderie.

CRC 2024 SOCIAL EVENTS

Sports Night at Legends Arena

Game On, History Made

Day 3 of CRC 2024 brought a surge of energy with the first-ever sports night in ASHRAE Region-at-Large—a landmark evening filled with competition, laughter, and team spirit.

Hosted at the vibrant Legends Arena, the program featured cage cricket, football, futsal, volleyball, and the highly anticipated Tug-of-War contest, where chapters battled with passion and pride. The arena echoed with cheers, food stalls buzzed with activity, and music added to the atmosphere of celebration.
The night wasn't just about games—it embodied the essence of CRC 2024: unity, friendship, and the joy of shared purpose. It was a historic addition to the CRC tradition, blending professional bonds with the lighter spirit of play.

CRC 2024 SOCIAL EVENTS

The ASHRAE Fashion Show

Fashion Show at ASHRAE RAL CRC 2024 – A Celebration of Culture and Creativity

Beenish Sajid
Fashion Show Producer

The ASHRAE Region-at-Large Chapter Regional Conference (RAL CRC) 2024, hosted in Karachi, was a landmark event that brought together industry leaders, engineers, and global dignitaries. While the primary focus of the CRC was on technical sessions, awards, and strategic discussions, the organizers also placed special emphasis on showcasing the cultural vibrancy of Pakistan. Among the social highlights was the Fashion Show, which captivated audiences with its elegance and creativity. The event was made possible through the vision and leadership of **Beenish Sajid,** whose dedication transformed an ambitious idea into one of the most memorable highlights of the conference.

CRC 2024 SOCIAL EVENTS

The ASHRAE Fashion Show

Planning and Execution

Arranging a fashion show within the tight schedule of an international engineering conference was no small task. Beenish Sajid's managerial acumen and attention to detail allowed her to put together the show in a remarkably short span of time. She brought together a diverse team of budding designers, stylists, models, and stage professionals, ensuring that every aspect of the event—from choreography to lighting—was carefully managed.

The theme was designed to highlight Pakistan's cultural richness fused with contemporary fashion trends. By engaging young designers, Beenish not only created a visually stunning show but also gave emerging talent a platform to present their work to an audience of international delegates.

Highlights of the Show

- Showcasing Emerging Designers: The runway featured collections from new and upcoming designers, reflecting a blend of tradition and modernity.
- Cultural Heritage on Display: Outfits drew inspiration from Pakistan's regional textiles, embroidery styles, and classic motifs, proudly displaying the country's cultural diversity.
- Participation of ASHRAE Dignitaries: A unique highlight of the evening was the creation of custom-made costumes for ASHRAE dignitaries, who themselves joined the catwalk. Their enthusiastic participation delighted the audience, breaking barriers between hosts and guests while adding an unforgettable personal touch to the event.
- Professional Presentation: With well-timed choreography, elegant lighting effects, and vibrant music, the show brought a professional polish that rivaled established fashion events.

Audience Engagement: Delegates from across the Region-at-Large were captivated by the spectacle, many remarking that it was a refreshing complement to the technical focus of the event.

The fashion show was more than entertainment—it was a powerful example of cultural diplomacy. It allowed international delegates to experience Pakistan beyond its technical and industrial expertise, offering them a glimpse into its artistic and creative spirit.

The participation of ASHRAE dignitaries on the catwalk added an element of fun, warmth, and inclusivity, making the event stand out in the history of CRCs. For the young designers involved, the show was a career-defining platform, giving them visibility among an influential audience. For ASHRAE, it demonstrated how conferences can blend professional excellence with cultural enrichment, creating an environment where participants build deeper connections.

The Fashion Show at ASHRAE RAL CRC 2024, orchestrated by Beenish Sajid, will be remembered as a milestone in the history of the conference. Her ability to conceptualize, organize, and deliver such a spectacular event in a short time is a testament to her creativity, leadership, and dedication. The show not only added glamour and elegance to the gathering but also elevated Pakistan's image on an international stage—leaving a lasting impression of hospitality, artistry, and cultural pride.

By involving ASHRAE dignitaries as participants on the runway, the event became a true celebration of unity, friendship, and cultural exchange—an achievement that will be fondly remembered by all who attended.

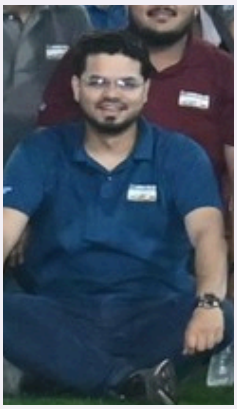
THE HANDS THAT BUILD

This team worked tirelessly on the ground to make CRC 2024 Karachi a comfortable and memorable experience for all participants


Dr. Muhammad Uzair


Mohsin ul Haq


Shuja Khalid


Mohammad Hamid


Arsalan Khan

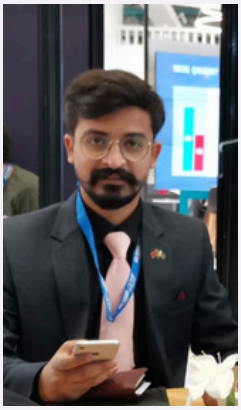

Abdul Rehman Piprani


Asif Khan


Khalid Syed


Shoaib Hassan


Abdul Rehman Piprani


Abdul Rafay Khan


Khirzar Khan


Beenish Sajid


Kiran Sajid

Our heartfelt thanks also go to the dedicated members and ASHRAE Student Branch volunteers in Karachi, whose unseen efforts made CRC 2024 possible

INSIGHTS FROM HVACR TRENDS 4.0

Innovative HVAC Solutions for Sustainable Textile Manufacturing

HVACR Trends 4.0 brought global experts, industry leaders, and facility managers together in Karachi to explore innovative HVAC solutions driving sustainability in Pakistan's textile sector.

The HVACR Trends 4.0 Conference and Exhibition, held on October 4–5, 2024, at the Marriott Hotel Karachi, convened leading industry professionals, academics, and international experts under the theme: "For Sustainable Textile Manufacturing: Innovative HVAC Solutions for the Textile Industry of Pakistan."

With Pakistan's textile industry contributing nearly 60% to national exports and serving as the country's economic backbone, the conference spotlighted the urgent need for energy efficiency, sustainability, and innovative HVAC technologies to future-proof this vital sector.

Opening Ceremony
Day 1 began with a formal inaugural session in the Crystal Ballroom. Following recitation of the Holy Quran and the National Anthem, Engr. Omer Khan, Chairman of the Organizing Committee, welcomed delegates with opening remarks.

Engr. Mahmood Ahmad, President of ASHRAE Pakistan Chapter, emphasized the role of innovation and collaboration in addressing textile industry challenges. Mr. Dennis Knight, ASHRAE President, delivered the Presidential Address, while ASHRAE Presidential Member Mr. Farooq Mehboob presented the keynote address.

The Chief Guest, H.E. Cemal Sangu, Consul General of Turkey in Karachi, highlighted the significance of Pakistan–Turkey collaboration in industrial advancement. The ceremony concluded with a presentation of souvenirs and the ribbon-cutting, formally opening the exhibition floor.

Technical Sessions — Day 1

- Prof. Tim Wentz (University of Nebraska–Lincoln, USA): Back to the Future—The HVACR Industry in 2030 and Its Potential Impact on Pakistan's Textile and Apparel Industry
- Mehdi Hassan (Kohinoor Mills Ltd., Pakistan): Smart Utility Management in the Textile Sector

Technical Sessions — Day 2
Day 2 opened with:

- Mick Schwedler (ASHRAE Past President): Upgrading Existing Chilled Water Systems
- Farhan Mehboob: The Benefits of Going Green: People, Profit, Planet

Panel Discussion
Transition to Renewable Energy — Pathway for the Textile Sector

Moderated by Adeeba Mehboob, the 45-minute session featured:

- Fahim I. Siddiqui, CEO, FND
- Muneer S. Godil, MD, MMG Engineering
- Mick Schwedler, ASHRAE Presidential Member
- Sarah Maston, Colliers Project Leaders, USA
- Shahab Ahmed, AGI Denim

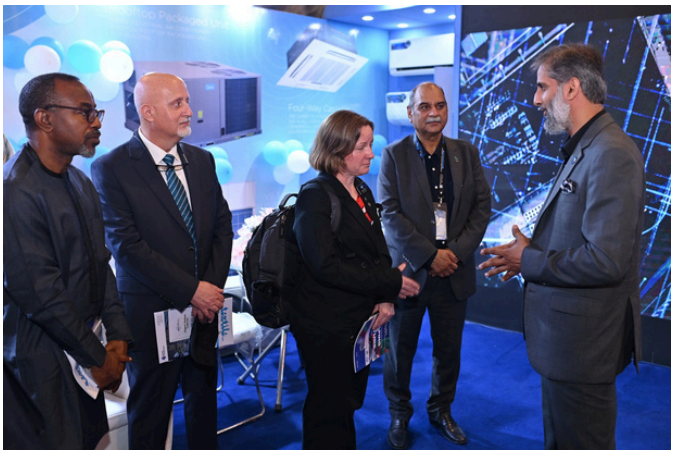
Panelists explored renewable integration, decarbonization strategies, and policy pathways, emphasizing that sustainable transformation requires persistence, partnerships, and performance.

"What we need isn't just policy—but persistence, partnerships, and performance."
— Sarah Maston, Panelist, HVACR Trends 4.0

HVACR Trends 4.0 Photo Gallery

Cheif Guest: H.E. Cemal Sangu, Consul General of Türkiye in Karachi.
Dennis Knight, Sarah Matson, Fahim Siddiqui, Abbas Sajid, Omer Khan, Shuja Khalid

HVACR Trends 4.0 Photo Gallery



Afternoon Papers — Technical Depth

- Muneer Godil: Conservation of Utilities in the Textile Sector
- Dr. Hafsa (NTU): Analysis of Sustainable Resource Management
- Tuna Yesilmark: Compact and Modular Textile Ventilation Systems with Smart IoT

Key Outcomes and Takeaways

- 8 technical papers presented
- 6-member expert panel discussion on renewable energy transition
- Active participation from consultants, facility managers, and academia
- Professional Development Hour (PDH) certificates awarded to all delegates

Closing Remarks

The conference concluded with acknowledgments from the organizing committee, recognizing presenters, sponsors, and delegates for their contributions. HVACR Trends 4.0 successfully positioned itself as a platform for knowledge exchange, industry collaboration, and sustainable innovation—supporting Pakistan's transition toward a resilient and energy-efficient textile sector.

Exhibition Showcase

Alongside the technical sessions, the exhibition featured top industry players presenting state-of-the-art HVACR solutions designed for the textile sector. The displays highlighted innovations in energy-efficient cooling, advanced ventilation systems, indoor air quality improvement, and smart utility management. Live demonstrations allowed delegates to engage directly with new technologies and explore practical applications for sustainable textile manufacturing. The exhibition floor also served as a networking hub, fostering dialogue between consultants, facility managers, engineers, and decision-makers on the future of HVACR in Pakistan's industrial landscape.

HVACR Trends 4.0 Photo Gallery

HVACR Trends 4.0 Organizing Committee

Omer KHAN
Chairman Organizing Committee

Ibad Hasan
Convener Exhibitors and Sponsorship

Faraz Khan
Chief Event Coordinator

Asif Khan
Conference Moderator

At a Glance: HVACR Trends 4.0

Dates: October 4–5, 2024
Venue: Marriott Hotel, Karachi
Theme: For Sustainable Textile Manufacturing — Innovative HVAC Solutions for Pakistan's Textile Industry

Highlights

- 2-Day Conference + Exhibition
- 8 Technical Papers
- 6 Distinguished Panelists
- 1 Expert Panel on Renewable Energy
- 100% Delegate Attendance Confirmed
- PDH Certificates Awarded

Participants

- International ASHRAE Experts
- Leading Consultants & Engineers
- Facility Managers & Textile Industry Leaders
- Academic and Research Professionals

HVACR Trends 4.0 Sponsors

Diamond Sponsors

ICEBERG INDUSTRIES
MEGA ENGINEERS CO M&P Contractor
AMCON GROUP OF COMPANIES
MIA Group of Companies

Gold Sponsors

GREAVES AIRCONDITIONING PRIVATE LIMITED

Sliver Plus Sponsors

HYBRID BUILDING SOLUTIONS (Pvt.) Limited
GROUP Crescent Corporation
SmartClimate

Sliver Sponsors

REHMAN ENGINEERING WORKS Since 1948 The Largest "Valve" Manufacturing Company In Pakistan
mecatech
MMSC
NOVVES

ASHRAE Pakistan Chapter

HVACR TRENDS
EXPO - TECH TALK - FORUMS

THE FUTURE OF HVACR IS HERE

HVACR TRENDS 5.0

KARACHI 28-29 NOVEMBER 2025

Smart Decarbonization: Integrating AI, Innovation, and Sustainability in Pakistan

Organized by

ASHRAE Pakistan Chapter

Supported by

ACEP Association of Consulting Engineers Pakistan
CESS PAKISTAN
IEP PAKISTAN 1948
IWA the international water association
YOUNG WATER PROFESSIONALS PAKISTAN
REAP RENEWABLE ENERGY ASSOCIATION PAKISTAN
PSPP
PAKISTAN BUSINESS FORUM
FIRE PROTECTION ASSOCIATION OF PAKISTA

(SY 2024-2025)

HONORS & AWARDS

Celebrating the achievements of our Chapter and members who have made us proud this year. Their dedication and excellence continue to strengthen ASHRAE Pakistan's presence locally and globally.

GLOBAL RECOGNITIONS:

1

Engr. Muhammad Abbas Sajid

Past President ASHRAE Pakistan Chapter
Regional Nominating Member

DISTINGUISHED SERVICE AWARD

ASHRAE Society, at ASHRAE Summer Conference - Phoenix , USA

2

Engr. Fahim I. Siddiqui

Past President ASHRAE Pakistan Chapter

FELLOW ASHRAE

ASHRAE recognized the remarkable contributions of its members to the Society and the built environment at the 2025 Winter Conference in Orlando.

HONORS & AWARDS

NATIONAL AWARD

3

Engr. Farooq Mehboob

Past President ASHRAE Pakistan Chapter
Presidential Member ASHRAE Society

SITARA-I-IMTIAZ
Government of Pakistan

HONORS & RECOGNITION BY CHAPTER

CHAPTER BEST PERFORMANCE AWARD

ASHRAE Pakistan Chapter honored members for their outstanding performance during SY 2024–2025 at CRC 2024, Karachi.

4

Muhammad Omer Khan

BOG Member (immediate Past President)

5

Ibad Hasan

Vice President

6

Faraz Muhammad Khan

Chapter Communications Committee Chair

LEGACY ETCHED IN STONE: NED UNIVERSITY DEDICATES BOARD ROOM TO ENGR. M. ABBAS SAJID

A Moment of Pride for ASHRAE Pakistan
The ASHRAE Pakistan Chapter celebrates a momentous occasion as one of its founding pillars, **Engr. Muhammad Abbas Sajid**, is honored by his alma mater, the NED University of Engineering & Technology (NEDUET). In a landmark decision, the University Syndicate has officially renamed the conference room in the Department of Mechanical Engineering as the "**Engr. M. Abbas Sajid Board Room**."

This prestigious honor, approved via Resolution No. SYN-212.4(g) and inaugurated by Vice-Chancellor Dr. Sarosh Hashmat Lodi on March 21, 2025, is a testament to Engr. Sajid's immense contributions to his university. For the ASHRAE Pakistan Chapter, it is a source of tremendous pride, as it reflects the same caliber of leadership and dedication that he brought to our society.

As a founding member and Past President of ASHRAE Pakistan, Engr. Sajid's visionary work was instrumental in establishing and nurturing our chapter.

His efforts helped build a foundation for excellence, education, and collaboration that continues to benefit every member.

This permanent tribute at NEDUET is not just an honor for Engr. Sajid; it is a recognition of the values we strive to uphold as engineers and as members of ASHRAE. We congratulate our esteemed colleague on this well-deserved accolade and take pride in his achievements, which continue to inspire us all.

With great admiration,

The ASHRAE Pakistan Chapter

Research & Perspectives

Curated contributions from experts and professionals

1- Promoting Energy Optimization through HVAC in Pharmaceutical Plants
2-Harnessing Artificial Intelligence in HVAC Contracting: Opportunities and Future Potential
3- Cooling the Planet Responsibly
4-Emerging Technologies in the Built Environment

Article

Muhammad Waqas Jafri

Promoting Energy Optimization through HVAC in Pharmaceutical Plants

By Muhammad Waqas Jafri, COO – FND Consulting Engineers

Pharma's Promise, Pharma's Challenge

A Growing Industry at a Crossroads

The pharmaceutical sector in Pakistan is undergoing swift expansion. Presently, it constitutes a domestic market surpassing PKR 1 trillion (approximately USD 3.4 billion) and maintains an annual growth rate of 12–15%. This progression is driven by factors such as rapid population increase, urbanisation, and a rising awareness of healthcare. Internationally, Pakistan's exports achieved USD 600 million in FY2025, with short-term aspirations to exceed the USD 1 billion threshold.

Local pharmaceutical companies are currently at the forefront in the fields of branded generics and contract manufacturing, demonstrating that Pakistani pharmaceutical firms are capable of competing with international entities. However, a pressing reality remains: the future trajectory involves not only enhancing capacity but also ensuring that such expansion is sustainable, cost-effective, and adheres to rigorous international standards.

The Triple Threat of Pharma Manufacturing

Every industry has its pain points. For pharma in Pakistan, they can be summed up in what I call the "**Three Es**":

- **Expenses** – Escalating inflation is eating into operating budgets.
- **Energy** – Energy costs have ballooned into the single most significant recurring expenditure.
- **Exports** – Compliance with WHO, EU-GMP, USFDA, and other regulatory bodies is non-negotiable, often requiring expensive retrofits.

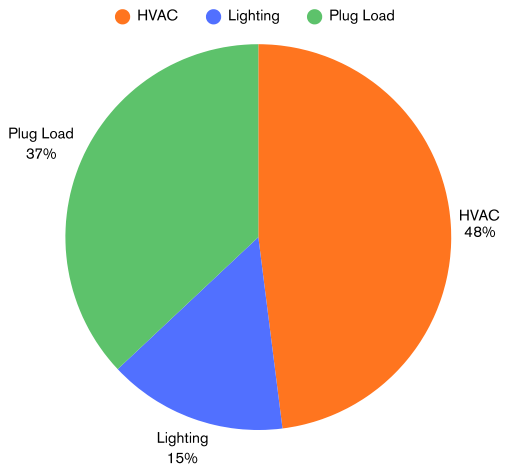
Globally, pharmaceutical plants spend **billions of dollars annually** on energy consumption. In the U.S. alone, this number exceeds **USD 1 billion every year**. For Pakistan, already grappling with chronic energy shortages, this threat is magnified. Without addressing energy efficiency, local manufacturers risk being priced out of global competition.

HVAC – The Energy Hungry Giant

Why HVAC Matters in Pharma

At the heart of every pharmaceutical plant lies its **HVAC system**. Unlike commercial buildings, where HVAC provides comfort, in pharma, it performs a life-critical role:

- **Protecting product quality** by maintaining strict temperature, humidity, and pressure conditions.
- **Ensuring cleanroom classifications** that prevent contamination.
- **Safeguarding employees and the environment** from harmful exposures.



Nevertheless, this safety is associated with a significant cost: HVAC systems can constitute up to 50% of the total energy consumption within a pharmaceutical facility. An improperly optimised system not only escalates energy expenses but also imposes additional capital expenditure (CAPEX) through oversized chillers, pumps, and air-handling units.

From Expense to Strategic Asset

The good news is that HVAC optimisation is not only possible, but also **strategically transformative**. Modern best practices can deliver double wins: reducing **CAPEX through more innovative design** and lowering **OPEX through efficient operation.**

Some of the most impactful interventions include:

- **Efficient Chillers:** Screw or centrifugal chillers with high COP and variable speed operation outperform outdated absorption chillers.
- **More innovative chilled water systems:** including variable flow chilled water distribution, correctly sized piping, and IE3 motors, can reduce pumping energy by 30% or more.
- **Air Handling Units (AHUs):** Eurovent-certified AHUs with lower face velocities, EC fans, and VFDs drastically reduce fan energy.
- **Modular Construction:** Pre-engineered HVAC modules shorten project timelines by 30–35% while ensuring compliance.
- **Demand Control Ventilation (DCV):** Intelligent sensors linked to Building Management Systems (BMS) dynamically modulate airflow based on occupancy, air quality, and process requirements.

The Role of Technology

Beyond design practices, **technology is reshaping HVAC operations in pharma:**

- **Variable Frequency Drives (VFDs)** regulate the speed of pumps, fans, and chillers, eliminating wasted energy.
- **Energy Recovery Systems,** such as heat wheels and run-around coils, reuse energy that would otherwise be wasted, reducing utility bills by up to 20%.
- **Smart controls and monitoring** enable 24/7 visibility, automatically adjusting system performance to reduce costs and improve reliability.

- **Artificial Intelligence (AI)** is now being used to predict equipment failures, optimise set points, and ensure compliance—turning data into savings.

The 3R Framework: A Roadmap for Savings

Energy optimisation in pharmaceutical HVAC can be distilled into a simple yet powerful model—**the 3R Framework:**

- **Reduce:** Begin by minimising demand. Something as simple as widening humidity tolerance from 40–50% to 30–70% can significantly reduce energy use without requiring capital investment.
- **Recover:** Capture waste energy through exhaust recovery systems and reintegrate it into the process.
- **Recharge:** Transition towards renewable sources, such as solar PV, to sustainably power HVAC systems.

And always remember the fourth **"R": Re-assess**. Continuous assessment ensures that efficiency measures remain relevant and practical as technology continues to evolve.

Export Readiness Through Energy Efficiency

Energy-efficient HVAC systems are no longer a luxury —they are a competitive necessity. Lower operating costs translate directly into:

- **More substantial margins** in domestic sales.
- **Improved pricing** for international tenders and toll manufacturing contracts.
- **Enhanced credibility** with regulators and buyers concerned with sustainability.

By embracing energy optimisation, Pakistan's pharmaceutical industry can achieve a rare dual advantage: lower costs at home and greater competitiveness abroad.

Efficiency as a Journey

The journey toward efficiency is never complete. Each year, new technologies, standards, and regulatory requirements will emerge. The challenge—and the opportunity—lies in **continuous improvement.**

For pharma manufacturers, HVAC is no longer just a cost centre. With the right strategies, it becomes a **strategic asset powering growth, sustainability, and exports.**

Writer's Profile:

Mr. Muhammad Waqas Jafri – COO at Fahim, Nanji & de Souza (FND) (Pvt) Ltd Consulting Engineers

Mr. Muhammad Waqas Jafri holds a Graduate (2006) & Post-graduate degree (2010) in Mechanical Engineering from NED University of Engineering & Technology.

He started his career working with Fahim, Nanji & de Souza (FND) Consulting Engineers in 2007 as a Project Engineer & has been associated with the firm since then & He is now working in the capacity of Chief Operating Officer.

Mr. Jafri has been exposed to international projects in the Middle East (Qatar) where he has worked from 2011-2014 on the design & execution of various HVAC Projects, from airport extensions & crew accommodations to projects as critical as flight simulators.

Presently at FND, he & his team members majorly focus on the industrial & pharma sector.

A MOMENT OF COLLABORATION

ASHRAE RAL LEADERS CONFER

Nathiagali - Pakistan

Article

Muhammad Abbas Sajid

Harnessing Artificial Intelligence in HVAC Contracting: Opportunities and Future Potential

By Muhammad Abbas Sajid P.E, CEO– Engineering Services

The HVAC (Heating, Ventilation, and Air Conditioning) industry is undergoing a transformative shift, driven by the integration of cutting-edge technologies—foremost among them, Artificial Intelligence (AI). Traditionally reliant on manual assessments, reactive maintenance, and experience-based design, HVAC contracting is now embracing data-driven intelligence that promises to redefine efficiency, sustainability, and client satisfaction.

Predictive Maintenance and Equipment Monitoring

One of the most significant applications of AI in HVAC is predictive maintenance. Instead of adhering to routine maintenance schedules or responding to system failures, AI algorithms analyze real-time data from sensors embedded in HVAC units. By monitoring parameters like temperature, pressure, airflow, and energy consumption, AI can detect anomalies, anticipate equipment malfunctions, and schedule maintenance proactively. This minimizes downtime, extends equipment lifespan, and reduces costs—benefits that appeal to both contractors and their clients.

Contractors can integrate AI-enabled diagnostic tools that automatically generate alerts and service recommendations. This approach not only streamlines operations but also improves customer trust by preventing unexpected system failures.

Smart System Design and Load Calculation

HVAC system design often depends on complex calculations involving building orientation, occupancy, insulation, and environmental conditions. AI can enhance this process by analyzing historical climate data, occupancy patterns, and energy usage trends to optimize system sizing and layout. This results in more efficient systems tailored precisely to the client's needs, reducing energy waste and improving comfort levels.

Moreover, AI-powered software tools can simulate various design configurations quickly, allowing contractors to compare performance scenarios and select the most effective solution.

Energy Efficiency and Optimization

AI algorithms are instrumental in energy management and optimization. For commercial buildings, AI can learn usage patterns and adjust system operations in real-time to reduce energy consumption. This dynamic control results in lower utility costs and reduced carbon footprints, aligning HVAC solutions with sustainability goals.

Contractors can use AI platforms to offer clients data-driven energy audits and recommend retrofitting or upgrading systems with intelligent control solutions. Smart thermostats and AI-based building management systems (BMS) continuously learn user behavior and environmental changes, making HVAC systems more responsive and efficient.

Enhanced Fault Detection and Diagnostics

AI enhances fault detection and diagnostics (FDD) through machine learning models that recognize early signs of system degradation. These models can identify issues such as refrigerant leaks, airflow obstructions, or sensor faults long before they become critical. By automating the diagnostic process, AI reduces dependency on manual inspections and improves service accuracy.

For contractors, integrating AI-based FDD tools enables faster troubleshooting, improved service quality, and better customer retention.

Intelligent Quoting and Job Estimation

Estimating HVAC project costs and timelines is traditionally a labor-intensive process. AI can streamline this by using past project data, market pricing trends, and material costs to generate accurate job quotes and timelines. Natural language processing (NLP) tools can even extract relevant information from blueprints and specifications to assist in project planning.

This not only saves time for contractors but also enhances competitiveness by ensuring transparent and precise client communication.

Virtual Assistants and Customer Support

AI-powered virtual assistants and chatbots are revolutionizing customer service in HVAC contracting. These tools can handle inquiries, schedule appointments, provide troubleshooting guidance, and offer 24/7 support. Contractors can integrate these assistants on websites, mobile apps, or call centers to enhance customer engagement and reduce administrative workload.

Workforce Training and Knowledge Sharing

AI can also be used to develop interactive training platforms for HVAC technicians. Virtual simulations and AI-driven tutorials can replicate real-world service scenarios, helping new technicians gain practical experience in a risk-free environment. Furthermore, AI systems can store and analyze data from past service calls to build a continuously growing knowledge base for the entire workforce.

Conclusion

AI is not just a trend—it is a transformative force that will define the future of HVAC contracting. From predictive maintenance and smart system design to customer engagement and energy optimization, AI offers contractors powerful tools to improve service delivery, reduce operational costs, and provide value-added solutions.

As adoption grows, HVAC professionals who embrace AI early will be better positioned to lead in a competitive, innovation-driven marketplace. For contractors, the path forward is clear: leverage AI not as a replacement for human expertise, but as an augmentation that enhances performance, insight, and impact.

Article

Faraz Muhammad KHAN

Cooling the Planet Responsibly

Innovations, Incentives, and Institutional Action for a Sustainable Future

By Faraz Muhammad Khan, Co-Chair, Government Affairs Committee
ASHRAE Pakistan Chapter

Climate change is no longer a forecast—it is a lived experience. As global temperatures climb and heatwaves intensify, the demand for reliable cooling is becoming a public health imperative and an infrastructure necessity.

From vaccine preservation in remote clinics to productivity in high-rise office buildings, modern economies and vulnerable populations alike depend on cooling systems. Yet this very dependence poses a paradox: cooling mitigates the symptoms of climate change but often contributes to its cause through inefficient systems and climate-damaging refrigerants.

For governments and policy leaders, the central question is no longer whether to invest in cooling, but how to make it sustainable, inclusive, and climate-aligned.

Why Cooling Must Evolve

By 2050, an estimated 5.6 billion people will live in regions where cooling is essential for survival. Already, South Asia, the Middle East, and parts of Sub-Saharan Africa are experiencing sharp increases in heat-related mortality, food spoilage, and productivity losses.
Unregulated expansion of conventional HVACR (Heating, Ventilation, Air Conditioning, and Refrigeration) technologies threatens:

- Unsustainable spikes in electricity demand
- Escalating emissions from high-GWP refrigerants
- Grid instability, especially in low- and middle-income countries

Governments must urgently respond with a dual focus: expanding access to cooling while reducing its environmental footprint.

Government Incentives Driving Change

Many countries, recognizing the looming crisis, are rolling out policy frameworks and financial incentives to support the transition to efficient, climate-friendly cooling solutions.
Governments and developers are now exploring models like cooling as a service (CaaS), where infrastructure providers manage and operate energy-efficient cooling technologies, reducing capital costs for end users.

1. Regulatory Tools

Minimum Energy Performance Standards (MEPS):
Countries like Pakistan, India, Bangladesh, and have introduced MEPS for air conditioners and refrigerators, helping phase out inefficient models from the market.

National Cooling Action Plans (NCAPs):
India led the way with its 2019 NCAP, followed by similar efforts across the region. These blueprints align national policies with global climate agreements like the Kigali Amendment under the Montreal Protocol.

Import Restrictions on High-GWP Refrigerants:
Through licensing and quota systems, many countries are restricting imports of refrigerants like R-22 and promoting alternatives like R-32, ammonia, and CO_2.

2. Financial & Tax Incentives

Green Building Subsidies:
Malaysia, Thailand, and the UAE offer rebates and low-interest financing for developers meeting green building certifications (LEED, EDGE, etc.).

Solar Cooling Subsidies:
Pakistan's Alternative Energy Development Board (AEDB) and various provincial energy departments are piloting solar HVAC grants in rural and peri-urban areas.

Carbon Market Mechanisms:
Through voluntary carbon credits and Article 6 frameworks under the Paris Agreement, countries are incentivizing clean cooling investments by enabling international financing for verified GHG reductions.

Success Stories: Where Policy and Practice Align

Rwanda: A Model in Africa
Rwanda's leadership on the Kigali Amendment and national enforcement of MEPS for cooling appliances demonstrates how even resource-constrained countries can lead climate-friendly transitions with effective policy and donor partnerships.

Dubai: District Cooling Pioneer
Dubai's Empower utility has created one of the world's largest district cooling networks, serving over 100,000 buildings. Regulatory mandates for new developments to connect to centralized cooling plants have led to 50% energy savings compared to traditional systems.

India: Residential Cooling Challenge
India's collaboration with Energy Efficiency Services Limited (EESL) and the World Bank has enabled bulk procurement and market transformation for super-efficient air conditioners, reducing upfront costs by over 20%.

Pakistan: Gradual but Growing Momentum
Pakistan's NEECA, ENERCON, and provincial authorities have initiated awareness programs and pilot retrofits. While the Kigali commitment is in place, capacity-building and financial de-risking mechanisms are still evolving.

Technology and Market Innovations

Refrigerant Shift and Kigali Amendment Implementation

Transitioning from high-GWP refrigerants like R-22 to natural and low-GWP alternatives is accelerating.

Governments can ease this shift through tax exemptions, training programs, and infrastructure for safe handling and recovery.

Smart cooling systems, powered by IoT and AI, offer real-time optimization and can cut energy use by up to 30% in commercial buildings. These innovations are transforming the way sustainable HVAC design is approached in hot-climate regions.

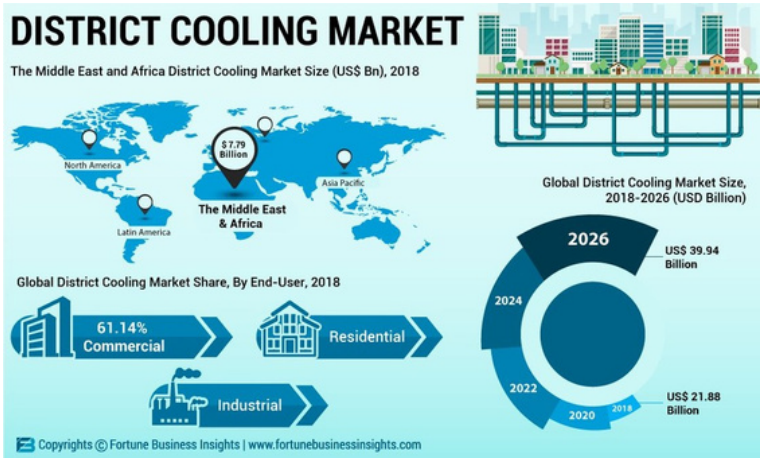
Efficiency Through Smart Cooling Systems and Sustainable HVAC Design

Inverter-based systems and VRF are now mainstream, but adoption remains slow in budget-sensitive markets.

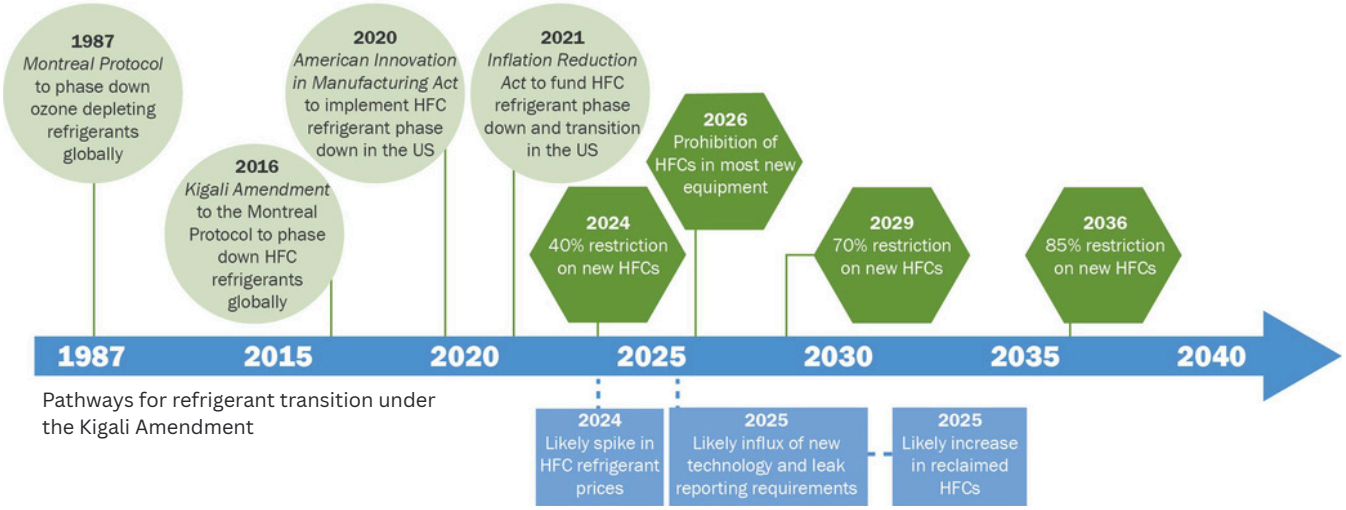
Digital monitoring, AI control, and predictive maintenance can enhance savings but require policy support for smart metering and IoT integration.

Passive and Hybrid Cooling

Rooftop reflectivity incentives, cool roof mandates, and building codes that integrate cross-ventilation, green walls, and shading devices can halve cooling loads.



Comparison of cooling incentives across different regions: Source PR Newswire



Pathways for refrigerant transition under the Kigali Amendment

Barriers and Institutional Challenges

Despite the momentum, the cooling transition faces systemic hurdles:

- High upfront costs for efficient systems remain a barrier for households and SMEs.
- Lack of enforcement in building energy codes and product labeling limits market transformation.
- Skilled workforce shortages slow the deployment of advanced systems.
- Weak inter-agency coordination often fragments national strategies.

These issues underscore the need for a whole-of-government approach involving energy, environment, health, housing, and industrial development departments.

Community-Level Innovation: Cooling for All

Beyond buildings and industries, the cooling revolution must extend to underserved and vulnerable communities.

- **Community Cooling Hubs:** Shared, solar-powered air-conditioned spaces in low-income neighborhoods can provide daytime relief during extreme heat.

- **Thermal Storage Initiatives:** Pilots in Southeast Asia demonstrate that ice-based storage systems can drastically reduce peak demand in commercial districts.
- **Behavioral Nudges:** Public campaigns encouraging thermostat settings at 26°C and promoting shade, insulation, and maintenance can lead to significant energy savings.

International Partnerships: The Way Forward

Global support is critical for scaling national cooling efforts. Initiatives like the UNEP Cool Coalition, Clean Cooling Partnership, and CCAC provide technical, financial, and policy tools, while also backing **Kigali Amendment implementation**.

This ensures a coordinated shift from high-GWP refrigerants. Furthermore, regional cooperation, particularly in South Asia; can powerfully accelerate progress by fostering knowledge exchange and localized solutions for shared challenges.

References

- *International Energy Agency. (2018). The future of cooling: Opportunities for energy-efficient air conditioning. Paris: IEA.*
- *Sustainable Energy for All (SEforALL). (2022). Chilling prospects: The role of National Cooling Action Plans. Retrieved from https://www.seforall.org/data-stories/role-of-national-cooling-action-plans*
- *World Bank. (2022). Climate investment opportunities in India's cooling sector. Washington, DC: World Bank. Retrieved from https://www.gfdrr.org/en/publication/climate-investment-opportunities-indias-cooling-sector*
- *India Cooling Action Plan. (2019). Ozone Cell, Government of India. Retrieved from https://ozonecell.nic.in/wp-content/uploads/2019/03/INDIA-COOLING-ACTION-PLAN-e-circulation-version080319.pdf*
- *Bringing Super Efficient Air Conditioners to the Market. (2025). RMI / Global Cooling Efficiency Accelerator. Retrieved from https://rmi.org/insight/bringing-super-efficient-air-conditioners-to-the-market*

Conclusion: From Climate Crisis to Policy Opportunity

Cooling is no longer a peripheral issue—it is central to health security, economic productivity, and climate justice.

The HVACR industry has delivered innovative tools. It is now the responsibility of governments and international institutions to provide the enabling environment:

- Policies that enforce efficiency and refrigerant transition
- Incentives that make innovation affordable
- Awareness that empowers people to make climate-smart choices

The global South, including countries like Pakistan, has an opportunity not to replicate the energy-intensive paths of the past, but to leapfrog to sustainable, inclusive, and equitable cooling systems.

We can cool the planet—not by consuming more, but by thinking smarter. The time to act is now.

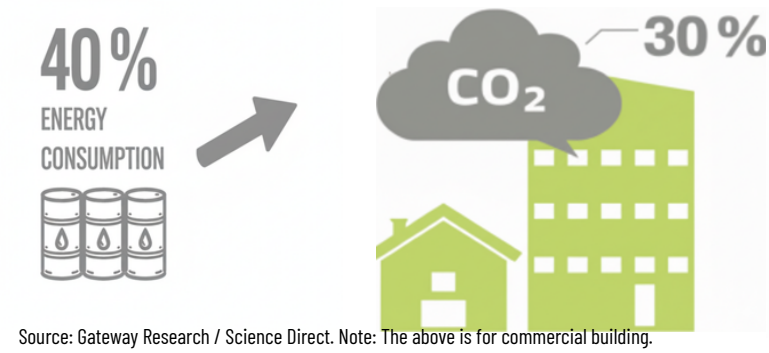
Article

Zeeshan A.Siddiqui

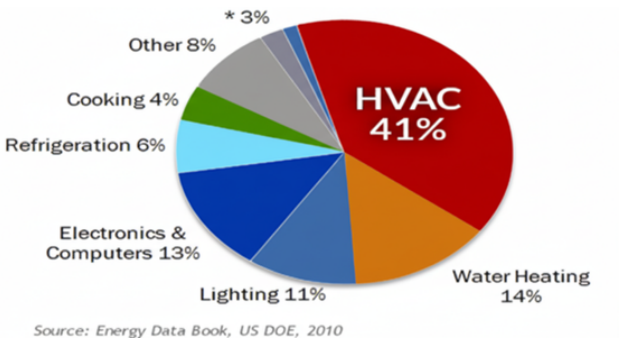
EMERGING TECHNOLOGIES IN THE BUILT ENVIRONMENT

By Zeeshan Ahmed Siddiqui, PE, RRL (Region-At-Large)

Harness the power of emerging technologies to drive innovation, enhance efficiency, and create sustainability. This is essential to drive innovation and meet contemporary challenges. HVAC typically **consumes energy about 40%** of the total building consumption, depending on the climate, application and building use.



Source: Gateway Research / Science Direct. Note: The above is for commercial building.



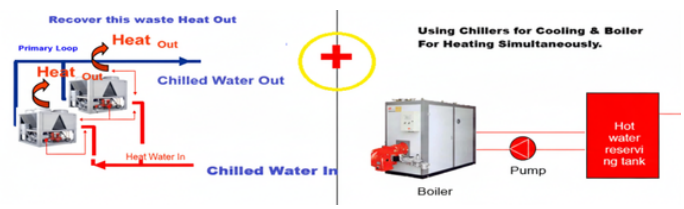
Source: Energy Data Book, US DOE, 2010

In this article, the focus is on innovative solutions that enhance energy efficiency, leverage renewable energy sources, and promote long-term environmental and economic sustainability, as follows:

Chilled Water System is providing solutions that not only meet the cooling demands of today's industries but contribute to a more sustainable solutions. In today's world, climate change is significantly altering ambient conditions such as high ambient temperature, and humidity. To ensure thermal comfort and maintain appropriate relative humidity (R.H.) levels, it has become essential to incorporate simultaneously hot water coils or electric heaters for critical applications such as **hospitality, healthcare facilities, pharmaceutical, textile industries, data centers etc**.

ASHRAE Standard 90.1 guidelines limit the options available to control humidity levels by using additional electric heater or hot water coils. See the below details to understand it.

Hot & Humid Climate – if chillers use to produce chilled water and simultaneously either use boiler or electric heater to produce hot water to maintain require temperature and R.H. In this situation, giving two inputs and get the require results which results low COP and high emission of Carbon Dioxide.



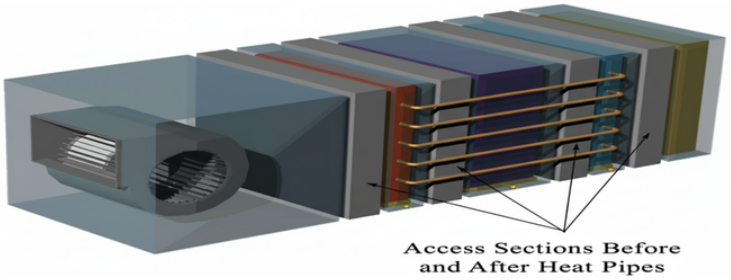
During **Summer Season**, Air Cooled Chillers are available at site then recover the heat from air cooled condenser and produces hot water around 60 °C. And even Water-Cooled Chillers are available to produce hot water and simultaneously produces chilled water that would be benefitable to the overall system of plant room. This may produce above 60 °C.

These chillers will help to save the operational cost and assist to decarbonization of the plant room.

$$COP_{total} = \frac{Heat_{Out} + Heat_{In}}{Work_{In}}$$

In case, heat recovery option, from chiller, is not available then Heat Pipe is a good option to maintain the R.H. The only requirement for a heat pipe to function is a temperature difference between the two ends of the circuits. There will be some additional pressure drops but advantage is no power required to acquire the defined results for specific applications.

There are other heat recovery methods and combinations available, and those have pros and cons. Designers should keep in mind the climate zone and application to choose the heat recovery method. ASHRAE standards refer to wrap around heat pipes as energy recovery in series.

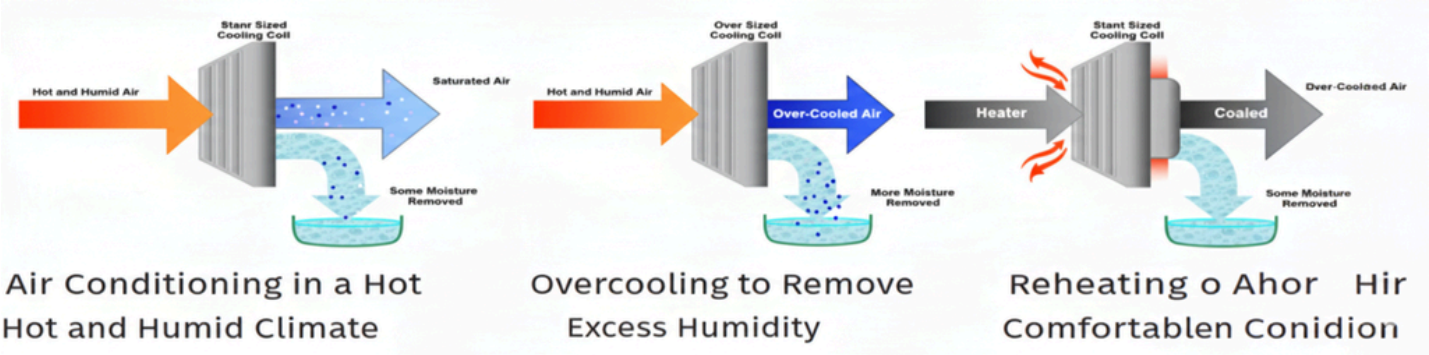


Current **ASHRAE Standard 90.1** does not allow simultaneously cooling and heating (Electric Heater / Boiler) unless 75% of the energy used for reheating is a site recovered energy. This exception does not apply to computer rooms.

Example - Selection of AHU through AHU Selection Software

Without H.P. and With H.P. - 10,000 CFM from 104°F DB / 84.2 °F WB to 57.02°F DB / 56.12°F WB requires **320 KW** (total capacity), but from 91.4°F DB / 81.32°F WB only requires **284.09 KW**, for a **11.3 Tons** (around 11.3%) heat pipe **cooling savings**. The heat pipes also save **37.3 KW** of reheating.

There is an additional pressure drop 82 Pa. Selected IE3 Motor and same input KW.



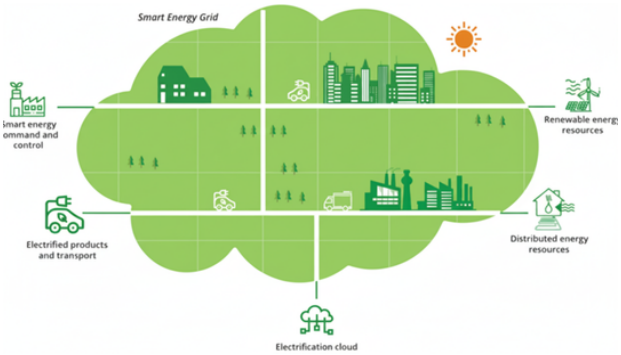
Air Conditioning in a Hot Hot and Humid Climate

Overcooling to Remove Excess Humidity

Reheating o Ahor Hir Comfortablen Conidion

Another latest technology – Renewables and Electrification

Source – Armstrong / Thoughtworks



By 2050, it's projected that nearly 70% of people will live in urban areas and keep the planet from warming more than 1.5°C above pre-industrial levels as outlined in the Paris Agreement.
There are four key

- Reducing greenhouse gas emissions from the combustion of fossil fuels is the first and foundational step.
- Improving energy efficiency across all sectors helps lower overall energy demand.
- Adopting renewable energy sources such as solar, wind, and hydropower.
- System integration is the most critical aspect, ensuring that all components work together efficiently to optimize overall energy performance and minimize emissions.

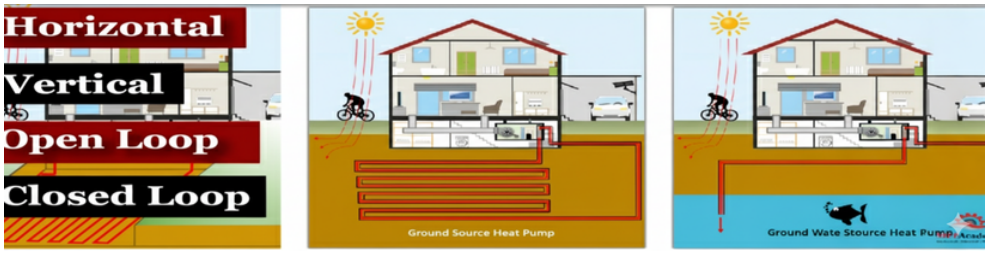
This article emphasizes the utilization of the latest technology in the HVAC industry, particularly those that leverage the stable and relatively constant temperatures of the earth.

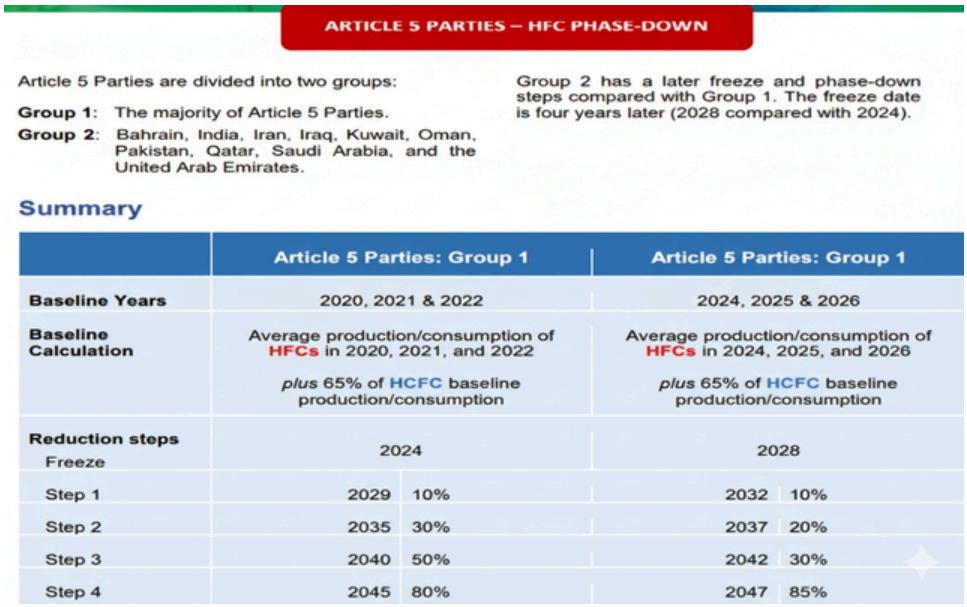
By using the ground as both a heat source and a heat sink, modern HVAC systems can provide highly efficient solutions for heating, cooling, and domestic hot water. One of the most efficient heating and cooling systems available i.e. **Ground source heat pumps** (also known as geothermal heat pumps)

Ground Source Heat Pump is utilizing the ground water which is stable round the year and protect environment. Ground Source Heat Pumps produces cooling and heating according to the requirement and depends on the availability for loop systems such as horizontal and vertical which are closed-loop systems, and the other type of system is the open-loop option.

Ground Source Heat Pumps is available to produce Hot Water only through Heat Exchangers for Sanitary purpose such as kitchen and shower. Dual Source Heat Pumps are available with smart controls which select the mode either air or ground source and reduce the running cost.

Description	GSHP	Traditional AC
Heat Rejection Source	Under Ground	Outside air
Energy Efficiency	Very High (COP is > 4.0)	Average (COP is just Above 2.0)
Emissions	Towards Net zero	High





ARTICLE 5 PARTIES – HFC PHASE-DOWN

Article 5 Parties are divided into two groups:

Group 1: The majority of Article 5 Parties.

Group 2: Bahrain, India, Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, and the United Arab Emirates.

Group 2 has a later freeze and phase-down steps compared with Group 1. The freeze date is four years later (2028 compared with 2024).

Summary

	Article 5 Parties: Group 1		Article 5 Parties: Group 1	
Baseline Years	2020, 2021 & 2022		2024, 2025 & 2026	
Baseline Calculation	Average production/consumption of HFCs in 2020, 2021, and 2022 *plus* 65% of HCFC baseline production/consumption		Average production/consumption of HFCs in 2024, 2025, and 2026 *plus* 65% of HCFC baseline production/consumption	
Reduction steps Freeze	2024		2028	
Step 1	2029	10%	2032	10%
Step 2	2035	30%	2037	20%
Step 3	2040	50%	2042	30%
Step 4	2045	80%	2047	85%

Ground Source Heat Pumps (GSHPs) are a valuable tool in achieving Net Zero Energy Buildings (**NZEBs**). In addition to their high energy efficiency, GSHPs offer several key benefits, including quiet operation, long service life, and lower operational costs, making them an ideal solution for sustainable building design.

Third, the adoption of **new refrigerants** is a critical focus in today's world to minimize greenhouse gas emissions and combat climate change.

ASHRAE Standard 15 specifies requirements for the safe design, construction, installation, and operation of refrigeration systems.

ASHRAE Standard 34 establishes a uniform system for assigning reference numbers, safety classifications, and refrigerant concentration limits to refrigerants.

Refrigerants can have a huge impact on climate (Indirect Emissions) due to:

Ozone Depletion Potential (ODP)
Global Warming Potential (GWP)

Article 5 Parties, Kigali Amendment, are divided into two groups, with Group 1 including the majority and Group 2 including countries like Bahrain, UAE, India, Pakistan, and others with a later freeze date (2028 instead of 2024).

The below table shows the availability of Low GWP New Refrigerants for different type of HVAC Equipment:

Sr. No.	Application	Available LOW GWP Refrigerants
1	Domestic Refrigerators	R-600a (Isobutane), R-290 (Propane)
2	Automotive AC	R-1234yf
3	Industrial / Low temp	Ammonia (R-717), CO_2 (R-744)
4	VRF systems	R-32
5	Screw Chillers	R-454B, R454C, R1234ze (E)
6	Centrifugal Chillers	R513A, R514A, R515B, R1233zd (E)

ASHRAE Standard 15 —particularly for **A2L** (slightly flammable) / **A3** refrigerants — it ensures life safety, protects property from damage, and supports performance and sustainability, providing a long-term solution.

The concentration of refrigerant in a complete discharge of each independent circuit of high-probability systems shall not exceed the amounts shown in **ASHRAE Standard 34**. A refrigerant leak detector must be installed.

Please select the right new low GWP Refrigerants (new & retrofit projects) as mentioned key factors:

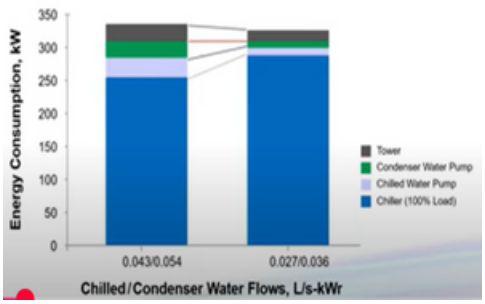
System Part Load Value is a key point - In addition to above, designers / engineers must understand the behaviour of chillers not only at full load but also at part load conditions, including how multiple chillers operate in combination with cooling towers (if applicable), pumps, varying ambient conditions throughout the year, and hot water requirements. The goal is to ensure the system runs at its optimum operating point. It is not sufficient to evaluate only the power input of a single chiller at full load or rely solely on the IPLV / NPLV.

SPLV accounts for optimizing chiller performance at specific load conditions—reflecting actual cooling or heating demand—while also reducing the load on boilers, cooling towers, and pumps, and enabling the effective use of waste heat resources with support of chiller plant management system (PMS).

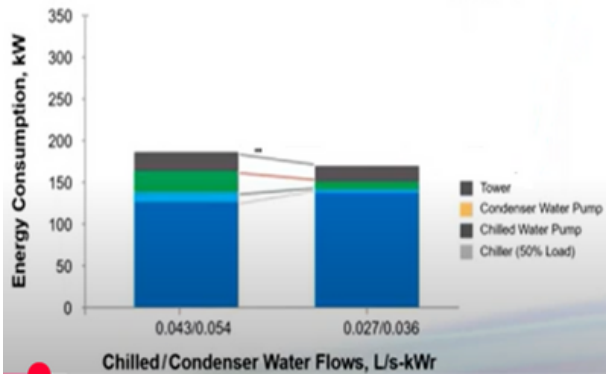
Traditional Vs Green Guide – SPLV Comparison :

- Only Consider Delta T High, Reduce Flow & Delta P of flow.
- Get overall more savings!!!

Chiller Plant works at 100% Load



Chiller Plant works at 50% Load



Conclusion:

Collaboration among designers, engineers, facility managers, installers, and investors is essential to address each project's unique requirements.

Renewable energy is key to decarbonizing buildings, while technologies like cogeneration, ground source heat pumps, and combined heating-cooling machines enhance industrial energy efficiency.

Sustainable HVAC design requires low-GWP refrigerants, as even minor leaks of high-GWP refrigerants can negate efficiency gains and cause property damage. Selecting refrigerants with zero ODP and low GWP is therefore critical.

Systems should comply with international standards such as ASHRAE 15 & 34, ISO 5149, or EN 378 to ensure safety and environmental responsibility.

Integrating chiller plant management systems (CPM) automates HVAC operations, improves indoor comfort, and reduces maintenance and operational costs.

Ultimately, such strategies allow investors to future-proof their assets while contributing to a low-carbon, resilient, and sustainable future.

Together, we can build a more sustainable future for our planet!

IN MEMORIAM

Mr. Khalid Iqbal
President 2014-2015

Passed away on
28-07-2025

Mr.Ainul Abedin
President 2003-2004

Passed away on
22-04-2024

Mahmoud ul Haq
President 2019-2020

Passed away on
28-2-2024

We remember and honor the invaluable contributions of our Past Presidents.
Their leadership and legacy will forever remain a guiding light for ASHRAE Pakistan.

ASHRAE® Pakistan Chapter

ASHRAE® Pakistan Chapter

Technical Programs

SY 2024-2025

Scan to read post-event reports & extended content online.

Innovations in Hygienic HVAC Design

May 23, 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

On May 23, 2025, the ASHRAE Pakistan Chapter hosted a high-impact technical session in Karachi titled "**Innovations in Hygienic HVAC Design**." The session was led by **Mr. Ali Can GÖNCÜ**, Technical Director at GONAIR, a globally recognized expert with over two decades of international experience in HVAC solutions for healthcare and cleanroom environments.

Lean Six Sigma Yellow Belt Training

Certified Full-Day Workshop on Process Excellence and Quality Management

May 24, 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

In its continued effort to enhance technical capacity and professional development among engineering professionals, ASHRAE Pakistan Chapter successfully conducted a full-day certified workshop on **Lean Six Sigma Yellow Belt Training**. The workshop attracted engineers, quality managers, and operational leaders from various domains of the built environment.

Expert in Focus:

Engr. Asad Kazim

Internationally renowned expert and seasoned trainer in process improvement tools, including Kaizen, DMAIC, VSM, and CTQs. With decades of consulting experience across North America and the Middle East, Engr. Kazim brought unparalleled insights into process optimization frameworks tailored for technical and engineering industries.

Building Safety & Ventilation Systems Seminar

A Technical Success by ASHRAE Pakistan & CESS

April 15, 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

On April 15, 2025, the ASHRAE Pakistan Chapter, in collaboration with the Center for Environment and Social Sustainability (CESS), Pakistan, successfully hosted a highly informative technical seminar titled "**Building Safety & Ventilation Systems**". The event brought together professionals, engineers, and academics from across the building and construction sectors.

Expert in Focus:

Massoud Etminan
System Sales Engineer
Novenco Building & Industry, Netherland

Topics Covered

- Stairwell Pressurization Systems
- Smoke Extraction Systems
- Impulse Ventilation Systems

Project Reporting by MS Power BI

15 February 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

The ASHRAE Pakistan Chapter organized an insightful session on "**Project Reporting by MS Power BI**". Led by Zeeshan Ahmed Siddiqui, the session focused on utilizing MS Power BI for efficient data visualization and project reporting.

Expert in Focus:

Zeeshan Ahmed Siddiqui

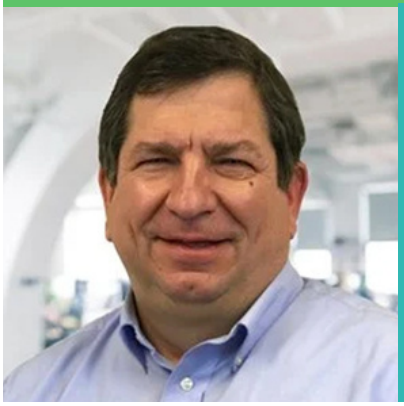
Project Manager Engineering Services

KYENOTE PRESENTATIONS

Distinguished Lecturers Program

April 07, 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

Designing the Built Environment to Prevent Pandemics



By: Mr. Vincent Sakraida

ASHRAE Distinguished Lecturer | HVAC Design Expert | Co-Author, Cleanroom Design Guide

Topics Covered:

- ✅ Virus transmission and infection pathways
- ✅ Environmental factors affecting airborne diseases
- ✅ How HVAC & building design can mitigate pandemic risks

About the Speaker:
With 40+ years in HVAC system design, Vincent Sakraida is a thought leader in cleanrooms, laboratories, data centers, and healthcare facilities. As Vice Chairman of ASHRAE's Clean Space Committee, he co-authored the ASHRAE Cleanroom Design Guide and contributed to the ASHRAE Epidemic Task Force – aboratory Subcommittee.

HVAC Systems Design for Airborne Infection Control in Healthcare Facilities

By: Mr. Wei Sun, P.E.

ASHRAE Fellow | Global Cleanroom Expert | Principal Author, ASHRAE Design Guide for Cleanrooms

Topics Covered:

- ✅ HVAC guidelines for operating rooms & isolation units
- ✅ Airborne infection control strategies
- ✅ Standards for critical-care and protective environments

About the Speaker:
A globally recognized expert in cleanroom and healthcare facility design, Mr. Wei Sun has led ASHRAE committees, authored industry-defining guidelines, and received ASHRAE's Distinguished & Exceptional Service Awards.

DISTINGUISHED LECTURERS PROGRAM

ASHRAE Distinguished Lecturers Visit NED University

Sessions Held at STEM Center Upgraded by ASHRAE

The ASHRAE Pakistan Chapter hosted two Distinguished Lecturers at NED University of Engineering & Technology, where students attended technical sessions at the newly upgraded STEM Center, a facility enhanced through ASHRAE's support.

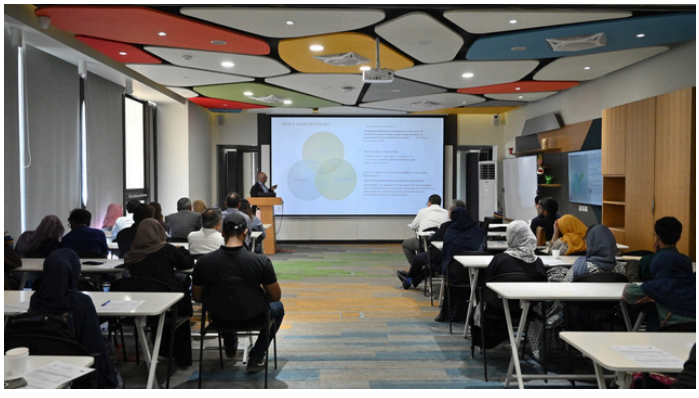
Designing the Built Environment to Prevent Pandemics
By Mr. Vincent Sakraida

HVAC Systems Design for Airborne Infection Control in Healthcare Facilities
By Mr. Wei Sun, P.E.

A Valuable Learning Experience

The lectures exposed students to international best practices, real-world case studies, and expert insights; equipping them with knowledge beyond textbooks. This initiative reflects ASHRAE Pakistan Chapter's continued commitment to education, knowledge-sharing, and professional growth for the next generation of engineers.

DISTINGUISHED LECTURERS PROGRAM

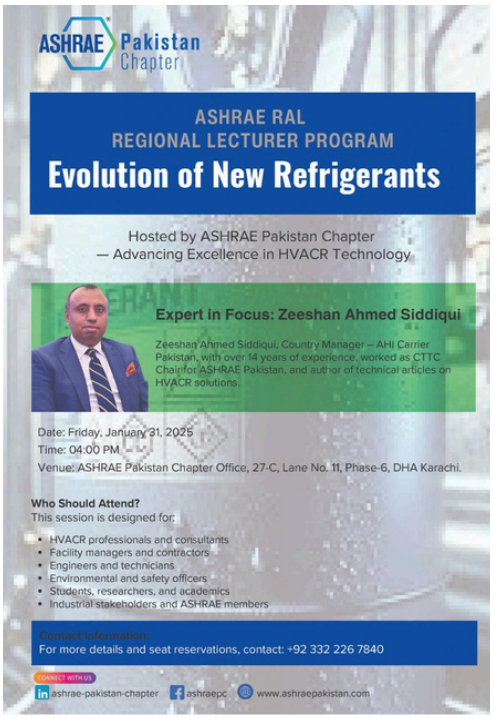


Evolution of New Refrigerants

ASHRAE RAL Regional Lecturer Program

January 31, 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

The ASHRAE Pakistan Chapter hosted a highly informative session on the "**Evolution of New Refrigerants**" as part of the **ASHRAE RAL (Regional Lecturer) Program**. Featuring Zeeshan Ahmed Siddiqui, a leading expert, the event covered advancements, challenges, and future trends in refrigerant technology.



Expert in Focus:

Zeeshan Ahmed Siddiqui, PE, RRL (Region-At-Large)

Key Takeaways from the Lecture

- Historical Context of Refrigerants
- Transition to Environmentally Friendly Refrigerants
- Challenges in Adopting New Refrigerants
- Innovations and Future Trends

The session highlighted the importance of sustainable refrigerants. Mr. Siddiqui called for innovation and collaboration to balance environmental, safety, and economic factors.

Life & Fire Safety Hazards of New Refrigerants

January 17, 2025 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

The ASHRAE Pakistan Chapter hosted an in-depth seminar on "**Life & Fire Safety Hazards of New Refrigerants**", focusing on the challenges and opportunities posed by the HVACR industry's transition to low-global warming potential (GWP) refrigerants. The event attracted a diverse audience of HVACR professionals, engineers, consultants, and students, all eager to learn about the safety risks, regulatory frameworks, and solutions associated with these refrigerants.

Expert in Focus:

Tariq Moen

Founder and Director Training, Fire Protection Association of Pakistan (FPAP)

Key Takeaways from the Lecture

- **Safety is a Priority**: As the industry adopts low-GWP refrigerants, safety risks must be proactively addressed through proper training, updated codes, and robust system designs.
- **Regulatory Awareness**: Compliance with international standards ensures safe and sustainable implementation of these refrigerants.
- **Innovation Drives Safety**: Adopting advanced fire safety technologies and practices is critical to meeting the challenges posed by new refrigerants.
- **Collaboration is Essential**: Stakeholders must work together to address safety risks and promote sustainable practices across the HVACR value chain.

Utilizing 30% Free Cooling Termodeck for Enhanced Energy Efficiency

July 26, 2024 | ASHRAE Pakistan Chapter - Lecture Hall, Karachi

The ASHRAE Pakistan Chapter hosted an expert talk on July 26, 2024, focusing on innovative HVAC strategies to achieve energy efficiency through the Termodeck system. The event educated professionals on leveraging 30% free cooling through thermal mass utilization.

Expert in Focus:

Yousuf Hasan
CEO YH Associates | Past President ASHRAE Pakistan

- Free Cooling Fundamentals: Leveraging outdoor air temperature differentials
- Termodeck Architecture: Hollow-core concrete slab integration
- Hybrid System Optimization: Combining passive and active HVAC systems
- Climate-Responsive Controls: Smart automation strategies

Outcomes

The session demonstrated Termodeck's viability for Pakistan's climate, showing potential for 30% energy savings through proper implementation. Key focus areas included:

- Thermal mass synchronization strategies
- Hybrid system optimization techniques
- Climate-responsive control algorithms

Technical Events in Collaboration with IEP

ASHRAE Pakistan Chapter, in collaboration with the Institution of Engineers, Pakistan (IEP), organized a series of technical sessions and seminars that brought engineers, academics, and industry professionals together. These initiatives strengthened professional ties and reaffirmed our shared commitment to advancing engineering excellence and addressing emerging challenges in the field.

Completed Events (2024–2025)

- 7th & 8th June 2024:
  9th International Electrical Engineering Conference (IEEC-2024)
- 7th September 2024:
  12th International Conference on Occupational Health, Safety & Environment (12ICOHSE-2024)
- 8th & 9th Nov 2024:
  14th International Civil Engineering Conference (ICEC-2024)
- 18th & 19th Dec 2024:
  4th International Conference on Advanced Material & Process Engineering (APME-2024)
- 25th & 26th April 2025:
  14th International Mechanical Engineering Conference (14UNEC-2025)
- 2nd & 3rd May 2025:
  4th International Biomedical and Digital Health Conference (4IBDC-2025)
- 26th July 2025:
  3th International Conference on Occupational Health, Safety & Environment (13ICOHSE-2025)
- 29th & 30th Aug 2025:
  10th International Electrical Engineering Conference (IEEC-2025)

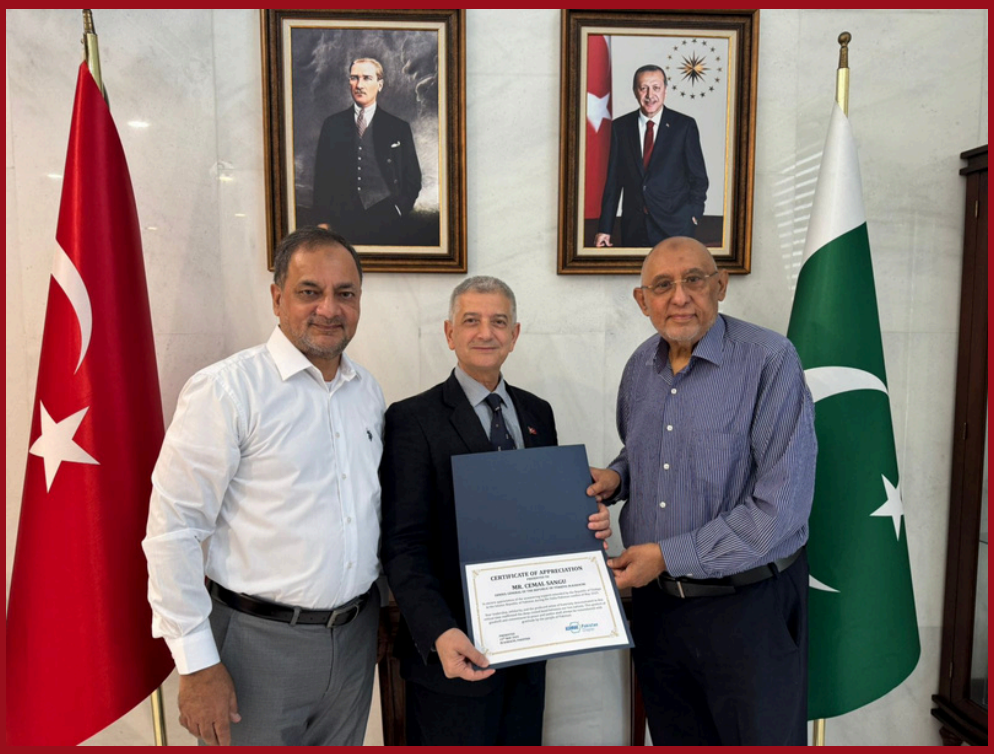
Upcoming Events – 2025

- 7th & 8th Nov 2025:
  15th International Civil Engineering Conference (15ICEC-2025)

16 MAY 2025

When Friendship Speaks Louder Than Words

In a solemn yet uplifting moment, the ASHRAE Pakistan Chapter had the privilege of presenting a Certificate of Appreciation to Mr. Cemal Sangu, Consul General of the Republic of Türkiye in Karachi. This recognition was bestowed in acknowledgment of Türkiye's steadfast support during a period of profound national challenge.



While words often fall short in capturing the depth of solidarity, gestures of friendship during testing times leave an indelible mark. Türkiye's response stood as a shining example of brotherhood in diplomacy, reminding us that true allies reveal themselves when circumstances weigh heavily on a nation's spirit.

By honoring Mr. Cemal Sangu, we celebrate not only his personal leadership and empathy, but also the enduring bond between Pakistan and Türkiye — a bond that transcends politics, nurtures hope, and reaffirms our shared commitment to peace and resilience.

We extend our heartfelt thanks to Mr. Cemal Sangu for his unwavering dedication and for embodying the timeless values of goodwill, mutual respect, and friendship between our two nations.

ASHRAE Pakistan Chapter

Collaborations & MoUs

SY 2024-2025

In line with ASHRAE's mission to **advance the arts and sciences of heating, ventilation, air conditioning, refrigeration**, and related human factors, the **ASHRAE Pakistan Chapter** has actively pursued collaborations with leading organizations. These agreements are designed to foster **research, knowledge-sharing, technical training, student development, and industry growth.**

ASHRAE Pakistan Chapter and CESS Join Forces to Advance Sustainability

On 8th April 2025, in a significant move to promote sustainable practices, the ASHRAE Pakistan Chapter has signed a Memorandum of Understanding (MOU) with the **Centre for Environment and Social Sustainability** (CESS) at NED University.

This collaboration unites the technical expertise of ASHRAE in HVACR (Heating, Ventilation, Air Conditioning, and Refrigeration) with CESS's strong focus on environmental research, policy, and capacity building.

The partnership aims to develop joint initiatives that advance sustainable solutions in building systems, climate adaptation, and environmental management.

By combining forces, the two organizations are poised to drive innovation, enhance professional training, and contribute to a more sustainable future for Pakistan.

ASHRAE Pakistan Chapter and APTMA Forge Alliance to Spotlight HVACR Innovation

Faisalabad, Pakistan – August 13, 2024 – In a significant step for the industry, the ASHRAE Pakistan Chapter and the All Pakistan Textile Mills Association (APTMA) solidified a collaborative partnership during a meeting held in Faisalabad. The primary outcome of this engagement is APTMA's official endorsement and support for the upcoming HVACR Trends Exhibition & Conference.

This collaboration connects ASHRAE's technical expertise in heating, ventilation, air conditioning, and refrigeration with APTMA's pivotal role in Pakistan's textile sector. The partnership is designed to enhance the event's impact, focusing on the latest sustainable and energy-efficient HVACR technologies that are vital for the competitiveness and environmental performance of the textile industry.

The joint effort aims to provide a crucial platform for knowledge exchange, showcasing innovations that drive both operational efficiency and sustainability within Pakistan's industrial landscape.

Faisalabad Chamber Throws Weight Behind HVACR Trends Event

Faisalabad, Pakistan – On 12th August 2024, the Faisalabad Chamber of Commerce and Industry (FCCI) formally pledged its institutional support for the HVACR Trends Exhibition & Conference, adding substantial momentum to the industry gathering.

This alliance brings together technical expertise in climate control technologies with the Chamber's deep-rooted connections across Punjab's commercial heartland. The partnership will focus on curating content that addresses real-world operational challenges while showcasing innovations in energy-efficient climate management solutions.

The collaboration signals a growing consensus among business leaders about the strategic importance of modern HVACR systems in boosting industrial efficiency and sustainable growth. By joining this initiative, FCCI reinforces its commitment to facilitating knowledge-sharing and technological advancement among its member enterprises.

This endorsement from one of Pakistan's most influential chambers of commerce is expected to significantly elevate participant engagement and commercial relevance of the event, creating meaningful opportunities for technology providers and industrial users alike.

The announcement underscores the critical junction where industrial development meets environmental responsibility, positioning the HVACR Trends Exhibition & Conference as a must-attend event for forward-thinking businesses.

Business Forum (PBF) Joins Hands for HVACR Trends Exhibition & Conference

Karachi, Pakistan – The ASHRAE Pakistan Chapter has announced a strategic collaboration with the Pakistan Business Forum (PBF) to bolster the upcoming HVACR Trends Exhibition & Conference.

This partnership unites ASHRAE's technical leadership in the HVACR industry with PBF's extensive network and advocacy for the broader business community in Pakistan. The alliance is set to significantly widen the reach and impact of the event, connecting advanced HVACR technologies with diverse industrial and commercial sectors.

By combining forces, the organizations aim to foster cross-sector dialogue, promote the adoption of energy-efficient solutions, and highlight the critical role of modern HVACR systems in enhancing Pakistan's industrial productivity and sustainable economic growth.

ASHRAE Pakistan Chapter Immortalizes Engr. Anwar Saadat's Legacy with the Upgraded Research Centre

In an inspiring fusion of legacy, learning, and leadership, ASHRAE Pakistan Chapter has turned a page in the history of engineering education by upgrading and renaming the Mechanical (HVACR) Lab at NED University of Engineering & Technology, Karachi, as the **Anwar Saadat Research Centre**. This remarkable transformation pays tribute to Engr. Anwar Saadat (Late) — a true visionary, Past President of ASHRAE Pakistan (2007–2008), and one of the most respected pioneers of the HVACR industry in Pakistan.

A Global Inauguration with Unmatched Presence

The upgraded lab was officially inaugurated on October 3, 2024, by Mr. Dennis M. Knight, PE, President of ASHRAE Society, in the presence of a historic gathering of global HVACR leadership. The momentous event featured a powerful delegation, including:

- Mr. Farooq Mehboob, Past President ASHRAE
- Mr. Tim Wentz and Mr. Mick Schwedler, PE, Past Presidents ASHRAE
- Mr. Jeff Littleton, Executive Vice President & Chief Staff Officer
- Ms. Sarah Matson, Treasurer ASHRAE
- Mr. Basel Anbari, PE, Director & Regional Chair (Region-at-Large)
- Ms. Adeeba Mehboob, Region Members Council Representative
- Engr. Abbas Sajid, PE, Regional Nominating Member
- Mr. Mahmood Ahmad, PE, President, ASHRAE Pakistan Chapter (2024–2025)

This unprecedented convergence of ASHRAE's leadership in Pakistan marked a bold new era — placing NED University and Pakistan's HVACR talent on the international map of engineering innovation.

A Family's Emotional Tribute — A Nation's Moment of Pride

On April 11, 2024, the family of Engr. Anwar Saadat (Late) paid an emotional visit to the university where his legacy now lives on. The family toured the Anwar Saadat Research Centre, the Haptics – Human Robotics & Condition Monitoring Lab, and the Engr. Muhammad Abbas Sajid Board Room, witnessing firsthand how ASHRAE Pakistan had not only honored Engr. Saadat's name but also elevated the future of engineering learning.




Glimpses from the Inauguration of the Anwar Saadat Research Centre


The family of Engr. Anwar Saadat (Late) paid an emotional visit to the university

Distinguished Lecturers Vincent Sakraida & Wei Sun Visit the Center

ASHRAE Pakistan Chapter **SCHOLARSHIP PROGRAM**

ASHRAE Pakistan Chapter Marks 15 Years of Scholarship Support at NED University – 34 Students Awarded in 2024-2025.

THE MEMBERS' IFTAR DINNER, ORGANIZED BY ASHRAE PAKISTAN CHAPTER ON 26 MARCH 2025, BROUGHT TOGETHER MEMBERS FOR AN EVENING OF FELLOWSHIP, REFLECTION, AND CELEBRATION

THE EXHIBITORS' THANK YOU MEET AT HVACR TRENDS 5.0 WAS ORGANIZED TO EXPRESS OUR GRATITUDE TO SPONSORS AND EXHIBITORS FOR THEIR SUPPORT IN MAKING THE EVENT A SUCCESS. 12.12.2024

Industry Dinner: Dialogue, Fellowship, and Community Building

22 May 2025 – Huo Guo Restaurant, Karachi

The ASHRAE Pakistan Chapter hosted an exclusive industry networking dinner, bringing together its Board of Governors, senior engineers, consultants, and long-standing members for a meaningful evening of exchange and fellowship.

In his address, President Mahmood Ahmad underscored the importance of a collaborative professional community and outlined the Chapter's renewed focus on technical education, regional outreach, and cross-sector engagement. The dinner served as a valuable platform for members to connect, discuss shared challenges, and explore future initiatives aligned with ASHRAE's global goals.






ASHRAE Pakistan Chapter Welcomes the New ASHRAE Ghana Chapter

The global ASHRAE community welcomes the formation of the ASHRAE Ghana Chapter, an important step in promoting sustainable building practices and modern HVAC&R solutions in the region.

To support this exciting launch, Mr. Sajid Abbas, Regional Nominating Member (RNM) from ASHRAE Pakistan Chapter, visited Accra, Ghana to engage with the founding members. During his visit, he conducted detailed training sessions covering ASHRAE's technical standards, core principles, and best practices in energy efficiency, indoor air quality, and sustainable building design. These sessions provided the new chapter with practical tools and insights to address local HVAC&R and sustainability challenges effectively.

The ASHRAE Pakistan Chapter extends a warm welcome to its colleagues in Ghana and celebrates this milestone as a testament to the power of collaboration within the global ASHRAE family. With this new chapter, professionals in Ghana now have a platform to exchange knowledge, advance innovative solutions, and contribute to building a more sustainable future.

Celebrating New Leadership: ASHRAE Pakistan Chapter BOG Installation 2024-2025

The ASHRAE Pakistan Chapter proudly welcomed its Board of Governors (BOG) for the 2024–2025 session during a memorable installation ceremony held on Friday, 16th August 2024. The event marked a new chapter in the chapter's journey, reflecting a renewed commitment to advancing the HVACR industry in Pakistan.

The ceremony featured the swearing-in of the new office bearers, accompanied by inspirational speeches from distinguished industry leaders. It was a moment of pride, celebration, and shared commitment to excellence within the professional community.

The ASHRAE Pakistan Chapter looks forward to the vision and initiatives of this dynamic team, confident that their guidance will strengthen professional development, foster innovation, and enhance collaboration across the HVACR community in Pakistan.

The newly inducted leadership team is:

- President: Mahmood Ahmed
- President Elect: Shuja Khalid
- Vice President: Ibad Hasan
- General Secretary: Dr. Uzair
- Treasurer: Muhammad Asif Khan
- Members BOG: Mohsin ul Haq, Muhammad Hamid, Muhammad Omer Khan






INSPIRING THE FUTURE OF HVAC&R

STUDENT MEMBERSHIP ORIENTATION SESSION

The ASHRAE Pakistan Chapter proudly hosted a Student Membership Orientation Session at its Lecture Hall, Chapter Office.

The session was led by Dr. Muhammad Uzair, PhD, General Secretary and Chair of Student Affairs, ASHRAE Pakistan Chapter.

PARTICIPATING INSTITUTIONS

DHA Suffa University
NED University of Engineering & Technology
NUST (National University of Sciences & Technology)

STUDENTS LEARNED ABOUT

ASHRAE's mission and global network
Benefits of student membership
Opportunities for training, research, and international exposure
Career growth in HVAC&R through ASHRAE involvement

ASHRAE Pakistan Chapter

Communication & Media

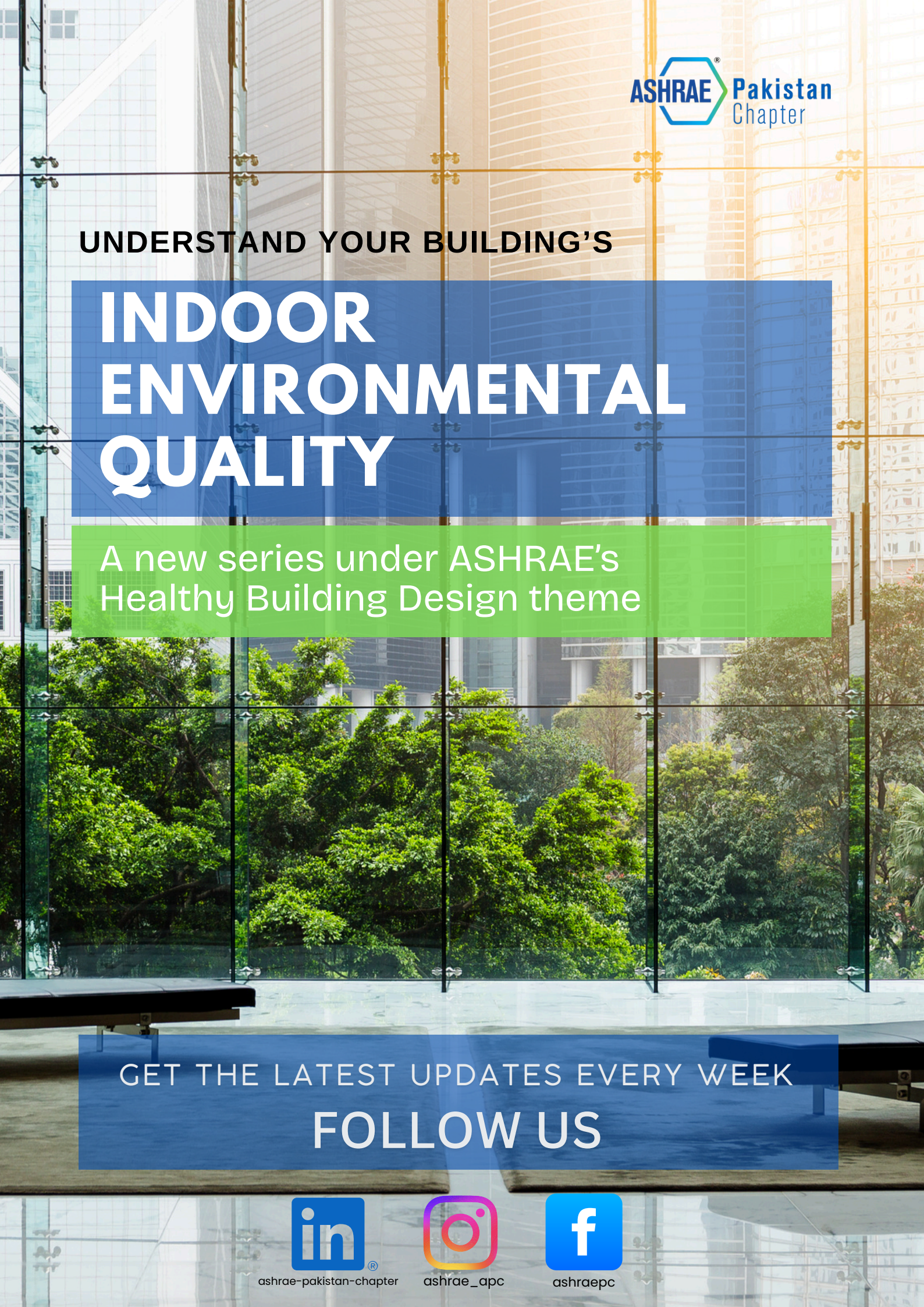
The Voice Behind the Vision

ashrae-pakistan-chapter

ashrae_apc

ashraepc

www.ashaepakistan.com



ASHRAE Pakistan Chapter

UNDERSTAND YOUR BUILDING'S

INDOOR ENVIRONMENTAL QUALITY

A new series under ASHRAE's Healthy Building Design theme

GET THE LATEST UPDATES EVERY WEEK

FOLLOW US

ashrae-pakistan-chapter

ashrae_apc

ashraepc

HVACR TRENDS

EXPO - TECH TALK - FORUMS

28-29 November 2025 | Karachi Marriott

Theme:

Smart Decarbonization: Integrating AI, Innovation, and Sustainability in Pakistan

Join industry leaders, engineers, and innovators for two days of insights, networking, and cutting-edge solutions.

Register now to be part of Pakistan's premier HVACR Expo & Conference.

WWW.ASHRAEPAKISTAN.COM