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KEY PERSPECTIVES ON THE REGION'S HVACR INDUSTRY

November 2022



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BLOCKCHAIN AND TRACKING GHG EMISSIONS
Moheet Vishwas

FLEE OR FIGHT
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independent air
filtration consultant

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Suliman Al Khliwi,
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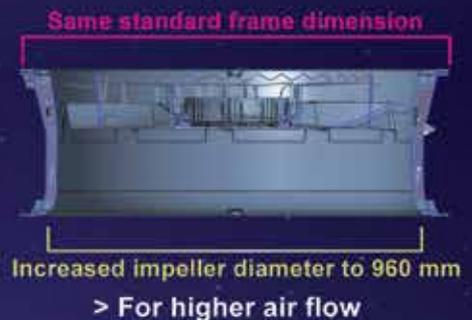
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The gravity of a word

IT has become common at conferences to hear someone on stage use the word, 'awareness'. It is a word that is bandied about just like sustainability, innovation or transformation.

The question is: 'Are we truly aware?' In the past six months alone, there have been a few instances that have revealed a shaky knowledge base, generally speaking. In June, we at CPI Industry conducted the fifth edition of The Client, Consultant, Contractor Conference. Sagar Kulkarni, Managing Director of UAE-headquartered Consistent Engineering Consultants, was moderating a Panel Discussion, when he asked the audience the difference between digitisation and digitalisation. He was greeted with hushed silence. And this at a time when it is common to hear much talk on 'Industry 4.0', a term that I suspect, is also not fully understood.

And in late October, George Berbari, the CEO of UAE-headquartered DC PRO Engineering, was chairing the 6th edition of our other conference – DC Dialogue, when he questioned the audience on Artificial Intelligence; a few hesitant hands went up.

About the same time, this showed up on Twitter... Johan Rockström (@jrockstrom) tweeted saying: "I just get tired... tired of hearing that 1.5 degrees C is a "target" or "goal". IT IS NOT. It is a limit. The only real goal is 0 degree C. And not bad 1.5 degrees C, when we LIKELY tip GIS, WAIS, Tropical Coral Reefs and Abrupt Boreal Permafrost, and get more floods, droughts, heat, disease, storms."

Rockström's almost pulpit-pounding diatribe reveals a frustration that some share over the epidemic of shallow understanding of issues that ought to occupy larger mind-space and trigger concerted action to resolve. It is for this reason we as a magazine decided to carry the Perspective column by Moheet Vishwas (see page 6). Reading it might evoke the response, "Ah, but it is a bit basic, isn't it?" No... not really.

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KEY PERSPECTIVES ON THE REGION'S HVACR INDUSTRY

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Euan Lloyd
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Krishnan Unni Madathil
Auditor, Bin Khadim, Padha & Co. Chartered Accountants, carrying out an analysis of the market, writes on business opportunities for the HVACR industry



Jeremy McDonald
Principal of Guth DeConzo Consulting Engineers, in New York. He served as the technical consultant to the New York State Energy Research and Development Authority in development of an IAQ guideline for Higher Education in NY: "Covid-19 Response Guide, State University of New York".



Dan Mizesko
Managing Partner/President, US Chiller Services International, writes on issues relating to chilled water systems, including operation & maintenance



Nabil Shahin
International Technical Director – AHRI MENA, writes on regulation-related issues impacting multiple stakeholders in the building construction industry



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BLOCKCHAIN AND TRACKING GHG EMISSIONS

Broadly speaking, we need to embrace digital in all its facets to have a shot at fighting climate change, says **Moheet Vishwas**

THE world is facing many challenges, and global warming, amongst others, is undoubtedly our greatest.

It poses an existential threat to life on Earth through the potential of bringing an irreversible change in climatic conditions. Over the last decade, leaders worldwide, governments and business communities have been discussing the effects of climate change and the greenhouse gas (GHG) emissions that cause it.

Unfortunately, unchecked climate change, due to our growing economic demand, has adversely impacted ecosystems and human health. On December 2015, world leaders gathered at the COP21 summit in Paris to adapt and arrest further degradation. They pledged to reduce emissions to limit global warming to 1.5 degrees C this century. However, since then, much to the chagrin of experts, recent data shows that we will probably breach this limit by the 2030s.

The topic is broad and complex. Reducing global emissions from generating electricity, deforestation and transportation is tricky – more so, owing to the far-reaching socio-political and economic consequences. Modern civilisation is hooked on fossil fuel-generated electricity, and the challenges of switching to renewables are plenty. Moreover, much electricity consumption is due to energising the built environment. According to Architecture2030, buildings are responsible for 50% of the world's carbon dioxide emissions. And Forbes attributes roughly 70% to building operations and 30% to new construction activities. Therefore, decarbonising buildings has become central to any strategy that strives to limit carbon emissions. We must persist and accelerate efforts to implement energy-efficient upgrades and look to on-site renewables.

After the pandemic, an unprecedented digital technology innovation surge changed the world. However, unlike global warming, it has impacted our lives positively. We are in a nascent stage of the digital era. Every basic need – from how we make purchases to how we work – is just a touch away. Technologies like Cloud computing, Blockchain, IoT and Digital Twins are creating opportunities to tackle complex problems like global warming. The power, scale, dynamics and economics Cloud offers, can make it a key enabler to put decarbonisation goals

back on track. Perhaps going digital is the prescription to uplift the outlook on reducing carbon emissions from the built environment.

ADOPTING BLOCKCHAIN TO TRACK GHG EMISSIONS

Blockchain was introduced as a secure record-keeping technology to track cryptocurrency transactions. It is a safe, distributed, immutable and transparent peer-to-peer network. Its intrinsic value is to bring accountability and connectivity among the various players in a value chain. It can track the supply of products from manufacturing to delivery and help prevent inefficiencies. For example, blockchain platforms can facilitate smart contracts between organisations in the building construction industry. Smart contracts will allow users to calculate, track and report the carbon footprint of products across manufacturers and distributors in the supply chain. The verified records of sustainable products procured through environmentally friendly practices come in handy to companies when reporting net-zero initiatives.

Building owners can also benefit by earning points for green building certifications and fetching above-market prices for their properties. According to research published by McKinsey, 90% of the environmental impact and 80% of GHG emissions associated with a product are embedded in its supply chain. As per the GHG protocol for sustainability, such emissions are measured under Scope 3 and are essential to track for companies pledged to net-zero emissions. The transparent nature of Blockchain makes it possible for companies to confidently report ESG (Environmental, Social and Governance) activities and publicly disclose achieving decarbonisation milestones.

DRIVING EFFICIENCY THROUGH DIGITAL TWINS

A Digital Twin is a virtual replica of a product or process that exchanges data with its physical version. Over the last decade, this technology has enhanced processes and improved product designs across the aerospace, automotive and manufacturing industries. Digital Twins have caught up to the HVAC industry and will soon be a game changer for designing

buildings. Architects and engineers have been designing energy-efficient buildings through energy modeling to call them green. However, green buildings, like conventional ones, have a poor track record for performing as predicted. This disconnect is because green building frameworks for energy modelling focus on the energy efficient design of a building but not its actual energy consumption.

Using a static type of Digital Twin, engineers can better predict a building's performance by simulating its environment and running 'what-if' scenarios early in creating a design.

A dynamic type of Digital Twin goes further. It connects to various native systems of a building, collects operational data, correlates information with design parameters, helps operators fine-tune the performance gaps and even predicts the behaviour of assets.

Digital Twins can enhance energy modelling and energy management of buildings. The technology offers a solution to connect an efficient design to the actual performance of a building and reimagine net-zero infrastructure.

IoT AND SMART INFRASTRUCTURE

The Internet of Things (IoT) is vast. It is a mix of web-enabled smart devices and cloud-powered software platforms. IoT puts the smarts in conventional building systems. The technology leverages the benefits of cloud computing to deliver fascinating results on a large scale.

An array of network-enabled sensors or meters push essential data from buildings to a cloud server. A platform application on the cloud server then processes this data, executes mathematical algorithms at the back-end and shares valuable insights with its user.

IoT platforms can also centralise data from siloed systems in buildings and give users a holistic view of building operations. Typically, users are building operators or owners who can remotely access the platform's features through any Internet browser and generate reports. To illustrate, let us suppose that an IoT platform deployed in a commercial building gathers data from smart thermostats, people counting software and a space management application. The platform can learn and recognise occupancy patterns and use this data to

inform the smart thermostats to adjust their parameters to save energy. In comparison, standalone thermostats may waste about 20-30% of the cooling energy in the building.

Such data-driven decisions enable operators and owners to realise IoT technology's business value by reducing utility bills and enabling operational efficiency through energy management and smart maintenance. The arrival of commercial 5G and prospects of Artificial intelligence have boosted the potential to reduce GHG emissions across verticals to be on track with net-zero targets.

The UAE's beautiful landscape is home to dazzling infrastructure, and the country is widely considered a game-changer in many global developments. However, progress in developing the urban infrastructure has spiked the UAE's per capita energy and water consumption to be among the highest in the world. Therefore, the country's leadership seeks to pursue green economic growth. Leading by example, the UAE has pledged to reach zero carbon emissions by 2050 and will host COP28 in November 2023. The first of a kind in the Middle East on both counts.

The message is clear – an existential crisis means we are in this together.

The seeming inevitability of changing climates is making it hard to predict what the future will look like. Unfortunately, digital transformation isn't a magic bullet and comes with connectivity, data privacy and cyber security challenges. So how do we do it? The good news is that digital technologies are creating some amazing opportunities for sustainable and smart infrastructure. The effects are seen rippling throughout social media, as more and more companies take advantage of the benefits. Yes, it will take some years to realise results, but by embracing these technologies, we can unravel the unthinkable and see the evolution of true sustainable development. [ccme](#)

The writer works in the digital space of the building construction and O&M industry in Dubai and can be reached at moheet.vishwas@gmail.com



HAVE YOUR SAY!

We welcome your views on the Q&A. Write to editor@cpi-industry.com

FLEE OR FIGHT?

The lingering aftermath of COVID-19 has revealed the deficiency of conventional air filters and the inability of yesterday's HVAC systems to protect the wellbeing of human occupants. Who could infer or state that the limited spaces assigned to air filters in HVAC units carry a hidden message about the importance of air quality? asks **Dr lyad Al-Attar**, independent air filtration consultant



Dr lyad Al-Attar

THE trouble started years ago, when filtration experts addressed air quality-related concerns, and decision makers decided to leave the conversation rather than lead it. The experts could not have been more eloquent – they tried hard to debunk filtration myths, highlight the allocation of insufficient budgets and point to the practice of employing inappropriate technologies – and yet, they failed to make any inroads of substantial value.

As a result, air quality has steadily been dismissed from building design and maintenance plans. For decades, air filtration has been waiting for its seat at the HVAC table, given its bearing on indoor comfort. But unfortunately, the focus of facility management has hovered only around thermal comfort, energy efficiency and maximising revenues. Consequently, global governments chose to flee through curfews and lockdowns rather than fight when the pandemic invaded our cities.

A pertinent question is: 'Why did sales of facemasks soar as other air filtration technologies struggled to make their way into our HVAC system?' As the pandemic wanes, both have been delisted from our priorities. The yawning disparity between the demand for enhanced indoor air quality and filter performance reflects the technological gaps roiling the industry. Should COVID-19 have been the speed bump that made us fix the entire "air quality" vehicle? Should the pandemic have been a pop quiz that would prepare us for the final climate change exam?

THE PRICE OF INACTION

The bureaucracies of filter upgrades and the anaemic growth of HVAC technologies

have proved that the deterioration of air quality is almost insurmountable in the era of conventional maintenance practices. Globally, the business model of facility management kept outdated maintenance philosophies afloat by reusing disposable filters; disconnecting pressure gauges; subsidising reactive measures, such as coil & ducting cleaning; and focusing on cutting costs through thwarting filter upgrades and air quality enhancements.

It is impossible to embark on air quality enhancements if such egregious practices exist and become standard practice. The dismissal of maintenance mishaps; the prevalence of chronic filter failures, of insufficient filtration stages, of poor filter performance and of leaky installations; and the refusal to acknowledge signs and symptoms of poor air quality have contributed to the deterioration of IAQ.

Furthermore, slim filters continue to make their way into fan-coil units – a clear testament to the thin budgets allocated for air filtration. Indeed, how can facility managers "feel the heat" when they direct from their leather seats? How can their maintenance teams work with any intent, if seated in thermally comfortable offices, all the while overlooking the dismal state of their employees, characterised by minimum wages, poor working and climatic conditions and lack of appropriate tools to get the job done? Who could claim that a one-inch filter with a two-inch leak would render our indoor environment safe to occupy, as shown in Figure 3?

THE "CHALLENGE AND CHANGE" INITIATIVE

Before we demand change in HVAC



Figure 1: An air diffuser almost covered in airborne pollutants



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Figure 2: A common coil cleaning attempt to restore HVAC performance



Figure 3: Metallic filter with one-inch thickness and two-inch gap

maintenance, air filtration and any practice that would enhance IAQ, we ought to be clear about the scale, speed and scope of change we aspire to achieve. Furthermore, we need evolutionary – not revolutionary – methods and means to envision accurate descriptions of how change can come about and develop. Frequent filter replacement is not the only answer for air quality enhancement. It must be accompanied by a thorough physical and chemical characterisation of airborne pollutants to employ appropriate air filtration technologies to combat them. Furthermore, the deployment of air quality sensors infrastructure to track, detect and acquire real-time data for the HVAC system to respond to air quality variation instantaneously is essential to render the built environment “safe to occupy”.

Finally, maintenance attitudes should shift towards enhancing air quality and employing appropriate air filtration technologies. It is ironic how some facility managers can sometimes be wrong and strong in embracing the theology of tricks and shortcuts. Raising the bar of our air quality in the built environment should be embedded in our standards of living and not based on demand. It is time to challenge our status quo and change how we approach air quality and the associated technologies serving human occupants. Globally, governments can facilitate that change by investing in air filtration technologies, increasing funds directed to research, replacing or retrofitting aged HVAC systems, and remaking existing cities to embrace sustainable living. The “Challenge and Change” initiative includes other elements but is not limited to:

1. **Certifying** filtration solutions, not just products
2. **Qualifying** installers and maintenance technicians through training and re-training programmes to equip them with the appropriate tools and latest technologies available in the market, not just modest safety shoes and screwdriver
3. **Legislating** laws that insist on continuous air quality monitoring, outdoors and indoors. Furthermore, legally binding responsible maintenance-in-charge parties to monitor and verify air filter performance
4. **Regulating** and rewarding all aspects of the HVAC system through enshrining laws and establishing “air quality centres of excellence”, where academic institutions can capitalise on research and development funds to take air quality to the next level.
5. **Avoiding** any practices that may accelerate the ageing of facility and HVAC equipment. Ultimately, the premise here is to question not only the age of the HVAC systems that would cripple air quality enhancements but also the age of school of thought-leading facility management.

PREACHING THE AIR QUALITY PROMISE

Although granting air quality due attention is congruent with our common sense, we cannot achieve our goals if we rely solely on moral forces, particularly when maintenance teams regularly breach IAQ protocols. The pandemic has emphasised

that providing sustainable indoor environment is a social responsibility, which should not be mutually exclusive with making profits. In fact, many air quality and filtration experts believed that the pandemic would usher in an age of better air quality. However, we cannot go far with air quality if existing political institutions move slowly, even if they are well-intentioned. Although many global voices demand international cooperation to make air quality a global priority, logistics, actions and outcomes have not lived up to the expectations and the nature of change our Planet Earth strives for. The business models of capitalism that drive global economies typically reward leaders for maximising the bottom-line and short-term profits, not for addressing major Environmental, Social and Governance (ESG) issues. On every occasion where leaders intend and insist on making a difference on the pressing issues facing humanity, the argument emerges that success on a global scale takes time. Unfortunately, the pandemic made us run out of it.

SMART IS CLEAN AND GREEN

Although the environmental challenges before us are grand, the current situation represents a historic calling to sink or swim through bending the arc of waste in resources, energy, materials and even human potential toward a sustainable future. COVID-19 is not precisely the Spanish Flu, and we were not in 1918. We are now far more equipped to make a difference faster than ever. However, it is not enough to speak the same “sustainability” language; we also need to be on the same action page. Let us gird ourselves for a marathon, not a sprint, as we aim to solve outdoor and indoor air challenges. Our actions have wounded our planet for decades rather than contributing to its bio-generation. Settling for imperfect compromises and experiences is expected, but our efforts to advance the cause must eventually converge as time is, undoubtedly, of the essence. What would our world be like if smart cities had built environments filtered professionally through a responsive HVAC system that acted immediately to any changes in IAQ? [ccmc](#)



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ENERGY CHALLENGES ARE DRIVING **GERMAN HVAC** INNOVATION

Germany is riding at full throttle with numerous environmental regulations to fuel its pursuit to bring in innovations that address energy diversification, energy efficiency and safe built environments, post-pandemic. The country is further tightening energy and building performance regulations to achieve climate targets, as energy challenges loom, owing to geo-political conflicts

BY NAFEE SA MOHAMMED



An aerial photograph of Berlin, Germany, showing a mix of historic and modern architecture. The prominent Fernsehturm (TV Tower) stands tall on the left. The city is filled with buildings, streets, and green spaces, with a river visible in the foreground. The sky is a clear, bright blue.

DESPITE an intensifying climate crisis and global uncertainty, Germany remained on the top for nations putting efforts into energy efficiency and achieved the third spot, overall, in reducing energy waste and planet-warming emissions, according to the 2022 International Energy Efficiency Scorecard. The report was published recently by the non-profit American Council for an Energy-Efficient Economy (ACEEE).

Already acknowledged as a mature market for energy efficiency and a green economy, Germany is doubling its efforts in energy diversification and bringing in regulations and technologies to tackle climate challenges in HVACR and other sectors. In addition, the slowly fading pandemic has created considerable opportunities for air filtration and ventilation solutions. As Felipe Ruiz Guerrero, International Sales Manager, Engie Refrigeration, puts it, the restrictions brought in by the pandemic have increased demand for data centres and industrial chillers manifold, making last year a record year for Engie in terms of chiller sales. “This is by the hand of several key drivers that apply particularly to the German market and, to a considerable extent, to southern Europe,” he says. “With the pandemic stimulating digitalisation and cloud technology in almost every sector, data centres are mushrooming across European tech cities, such as London, Madrid, Flanders, Luxembourg, etc. Data centres are driving the industrial segment as they are huge energy consumers.” Further narrowing down to Engie’s chiller business scenario, Guerrero says that diversification of the energy sources has been the major driver within the chiller plants business. ▶



He also notes that COVID-19 is pushing forward investment into the airside business, driving demand for ventilation, Indoor Air Quality-related controls and so on.

Providing a more commercial and consumer trend, Dipen Patel, Managing Director, ZIEHL-ABEGG MIDDLE EAST, says: “Energy efficiency is still a key topic in Germany and around Europe, so the focus is on modern products, which consume less energy. On the other hand, commercial demand is coming from the retrofit market to exchange old products with low efficiency for new products with high efficiency.” These projects include public buildings, schools, and offices exploring automatic controls and sensors to optimise use, as well as IAQ solutions to improve the indoor environment, he adds.

Demand for smart building control has also increased owing to the reported multitude of benefits they offer. Mohammad Shereef Ibrahim, General Manager, DEOS Middle East, a building automation company, feels

that the pandemic has hugely changed the approach to building management and solutions, “We have seen a quick acceptance towards new ways of doing things,” he says. “Trends, such as intelligent monitoring systems, building automation systems and central intelligence for buildings; the focus on efficiency and on Indoor Air Quality; and maintenance are becoming the norm for obvious reasons, like rising inflation and shortage of skills or increasing labour cost.” He confirms that there has been increasing demand for smart and sustainable products in the country, with the biggest trend for DEOS being heat smart and wireless heat and solar energy.

In terms of HVACR innovation, Ibrahim says that the focus has shifted to IAQ and carbon neutrality. “We have seen a huge demand for air quality management systems, especially in schools,” he says.

The urgency to achieve faster decarbonisation and energy diversification also comes from the fact that Europe, as a region, has been

experiencing constant energy price jumps for the past few years. Guerrero explains: “If you take a look at the energy price trends – even before the Russian invasion of Ukraine and related effects of this conflict, which was a reduction of gas supply to Europe – the energy prices were rising without a stall. We are paying more for energy each year, hence energy efficiency in HVAC or any other segment is not just driven by EU regulation, it is a matter of competitiveness. If you are not delivering high-efficiency equipment, you don’t have a place in the European market.”

Further enhancing the existing regulations around energy efficiency and emission control, Guerrero says, the recently introduced Eco Design Framework constitutes a set of requirements that will affect the design of HVAC equipment and other products. “This means the manufacturer will be given certain parameters to meet in terms of energy efficiency ratio, emissions and materials to commercialise products in Europe, regardless of where they are



Mohammed Shareef Ibrahim



Dipen Patel



Felipe Ruiz Guerrero

manufactured,” he says. “For us, this would mean that fans, air-handling units, fans and pumps in a chiller will need to be designed to meet the requirements of the framework.”

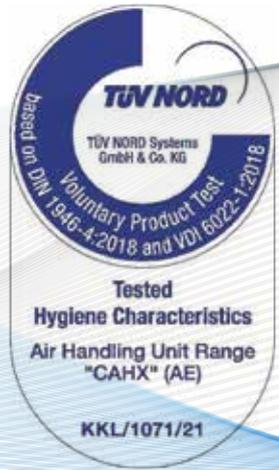
The operational efficiency criteria in Germany are based on the seasonal energy efficiency ratio in the integrated and partial-

load efficiency and energy classifications. Guerrero says: “However, this is not a new trend; today, products need to be aligned and compete based on that better energy, seasonal energy efficiency ratio. You have to possess a better seasonal coefficient heat pump or chillers to carve better positioning in the market.”

Germany’s energy and HVACR sector focuses on a two-pronged approach to fight climate change and meet the target of 50% net-zero buildings by 2030. The local market has been intensely focusing on bringing in smart IoT-based building management and monitoring solutions while working toward implementing Green ▶




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Deal and F Gas regulations. Ibrahim explains that most new constructions are smart residential and commercial buildings, but the retrofit or repurposing market is also in full swing. “We are talking about connecting buildings to the Internet with data-driven analysis to make the building more and more sustainable,” he says. “This will need HVACR manufacturers to develop products as smart and safe, as fast as possible, and consider the opportunities in terms of closing the gap with the existing legacy system.” He believes that the HVACR sector has a greater role to play as Germany makes efforts to transition from gas and coal to renewables, like solar, wind energy and hydrogen to power buildings.

Meanwhile, Patel underlines the role of IoT and predictive maintenance in better and more efficient planning of cleaning and maintenance, filter exchange or just simply monitoring of HVAC systems in ensuring efficiency throughout the building lifetime.

Explaining how HVACR efficiency can only be achieved in tandem with energy diversification, in the case of Germany, Guerrero says that in Europe, energy is so expensive that for an industrial end-user making any product – for example, a plastic bottle for food and beverage industry or medicine from the pharmaceutical laboratory – the cost of energy on a finished product is more than 40%. “From our experience of providing chillers to data centres, we have learnt that paying reasonable energy bills indeed improves the competitiveness of the technology brands,” he says. “Hence, the energy efficiency of chillers and HVAC systems that keep the server rooms safe, becomes paramount, in addition to renewables and emission control.”

Another most important area for meeting Europe’s Green Deal Goals and emission targets, has been bringing in regulations to adopt low-GWP and natural refrigerants in HVAC systems. Ibrahim claims that Germany is significantly adopting natural refrigerants in air conditioning and heat pump systems compared to the other regions. Similarly, in February 2022, the European heating market agreed to phase out fossil gas, a joint decision undertaken by NGOs and industry. “A legislative commitment

to green heat would provide certainty for manufacturers, and it would ensure that all German consumers can access the benefits of switching from fossil to renewable heating,” he says.

As a result of the European F Gas regulation (EU517), HVAC manufacturers must use a refrigerant with a low-GWP value. So smaller units, like heat pumps or display showcase units, go more to the propane solution, while bigger chillers or cooling systems go more in the direction of CO₂ or ammonia. “Europe, and Germany, already have safety regulations on how to handle these natural and flammable refrigerants and there is much more awareness,” Ibrahim says. “The regulations have influenced the components market, as well, such as fans, where we have to conform the usage in combination with these flammable refrigerants. In addition,

competitiveness. Nevertheless, I think Europe is already a very diversified region with more focus on renewables.”

In addition to building renewable infrastructure and improving the energy efficiency of HVAC systems, Germany is bringing in regulatory frameworks for various equipment categories. Guerrero notes that one such regulation is the recently introduced European Union Plan that has set ambitious targets for heat pump installation, aiming for 50 million heat pumps to be installed by 2030, with an annual growth of 16%. “That will be about one-third of the 150 million boiler installations in the bloc,” he says. Another topic, he says, is the growing energy economy, where businesses are rationalising the use of energy. “The equation is simple,” he says. “If you want to be competitive, you need to make your product competitive in terms of

There is no short-term solution other than nuclear to meet the energy demand with upcoming winter to see demand for heating. We do use biogas for heating homes in the countryside, but in cities, the scenario is different

the cooling capacity needs to be around eight per cent of global energy consumption.”

PALPABLE INTENT

The consensus about Germany is that the country’s climate action is not on paper anymore, as it was a few years ago. However, the country’s energy policies are to change dramatically, Guerrero says, and energy sources diversification will be a key driver. “Germany is heavily dependent on Russian gas for energy, and regardless of what happens with the conflict in Ukraine, the situation will not go back to what it was,” he says. “There will be immense pressure from the industrial sector to restore the supply by reopening the Nord Stream pipeline, as it remains the fastest way to stay at full operational capacity and

energy performance. Energy economy means understanding and bringing in a proper balancing of energy mix while manufacturing a product to keep the energy cost of the completed product competitive.”

Germany and Europe, in general, are bending toward renewables, hoping to face the unexpected energy challenges, which Guerrero confirms, as ENGIE is going faster on acquiring renewable energy companies, particularly in solar generation and solid energy generation, with the last one in Spain. “Germany is already progressing quickly in adopting renewables,” he says. “A few small countries – for example, Portugal -- have achieved a key milestone by satisfying the entire national energy for one week only through renewables.”

Even as renewables are advancing,

Germany is still dependent on nuclear power for a considerable amount of its national energy mix. Ibrahim says: "Due to the current uncertainties, there are several discussions regarding energy security in Germany and Europe. By law, the remaining three nuclear power plants in Germany should stop operating by the end of this year; however, speculation is rising if this will be extended into 2023."

He says that a warmer summer this year resulted in solar power generation hitting a new high, especially in the individual homeowners investing in them. Nonetheless, the coming winter 2022-2023 will be challenging for Germany and Europe due to the geopolitical conditions. "By 2023, we foresee massive investments into LNG terminals in the North Sea, as well as fiscal incentives for renewable energy, such as wind, solar and hydrogen," Ibrahim says.

Concurring with this opinion,

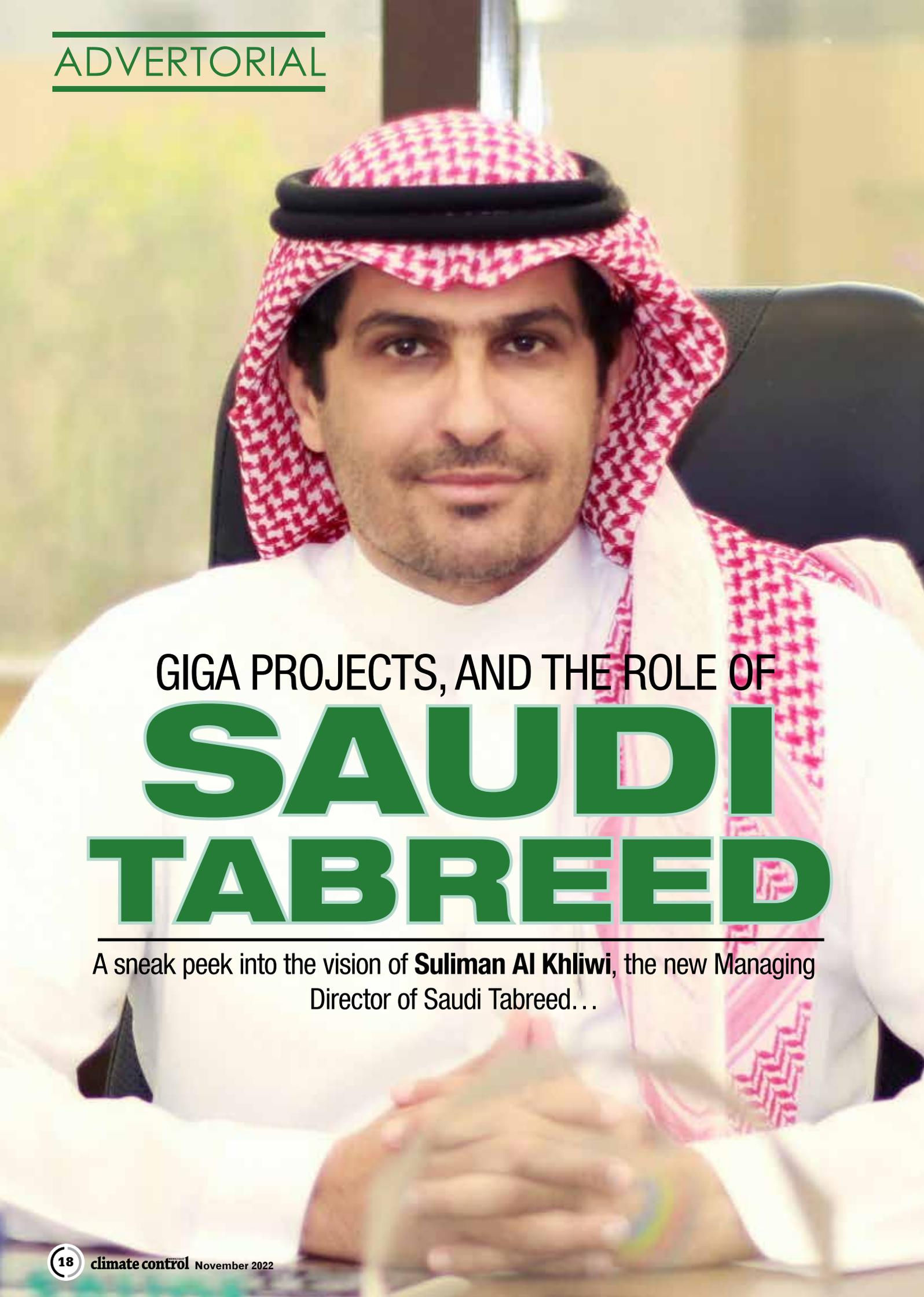
Guerrero says: "There is no short-term solution other than nuclear to meet the energy demand with upcoming winter to see demand for heating. We do use biogas for heating homes in the countryside, but in cities, the scenario is different. They use District Cooling, District Heating or centralised HVAC systems backed by smart monitoring and control systems for efficiency."

Meanwhile, in Germany, it is widely believed that integration of efficiency and renewables is the smartest way to achieving net-zero buildings. "With current trends and action plans, we expect 50% of building to go net-zero by 2030," Ibrahim says.

Growing focus on building efficiency in the Middle East region to meet climate goals has increased interest in the latest German products. Countries like UAE, Saudi Arabia and Egypt have been at the forefront, with others joining the force in introducing governmental level strategies from the top to ensure

the region at the root level brings about necessary solutions to ensure the carbon footprint is reduced in sustainable and innovative ways. Patel says: "New technologies are being implemented in the HVACR industry, which provide better performance using products with new materials, such as composite with low VOC. Moving away from the traditional on/off controls, there are also requirements being introduced for demand-based controls using IoT tools."

In terms of demand for German HVACR innovations, Ibrahim says that the Middle East region continues to be a key export market for German manufacturers. "There has been a lot of initiation by the government in terms of energy efficiency and carbon neutrality," he says. "We are also expecting this to be accelerated further, as this market is able to make quick decisions and accept innovations, with many ongoing active projects." [ccme](#)



GIGA PROJECTS, AND THE ROLE OF
**SAUDI
TABREED**

A sneak peek into the vision of **Suliman Al Khliwi**, the new Managing Director of Saudi Tabreed. . .

Saudi Arabia is witnessing tremendous changes, with massive new projects like Red Sea, King Salman Park, Qiddiya and Diriyah Gate. What role is Saudi Tabreed playing as a District Cooling provider in these projects?

Saudi Tabreed, being the pioneering District Cooling provider in Saudi Arabia, has been playing a proactive role in providing District Cooling services for these projects. I am happy to share that we are developing District Cooling plants at Red Sea and at King Salman Park, as of today, and are confident of having Saudi Tabreed's presence in other giga projects in due course.

The vision of our Crown Prince, H.H. Mohammed Bin Salman, about sustainable living and efficiency gains has been the driving force behind having District Cooling applied in all new projects. This is an important milestone in the Kingdom in terms of moving away from the conventional cooling towards more efficient and carbon-neutral District Cooling.

District Cooling is capital intensive. To cope with the tremendous opportunities associated with applying District Cooling in Saudi Arabia, has Saudi Tabreed secured the financing source locally or internationally?

In the past 17 years, Saudi Tabreed has built a strong relationship with many lenders, locally as well as those based internationally, on the basis of a trustworthy track record of existing projects and active engagement with the lending community. I am confident that funding for new projects will not be a hassle; additionally, it is worth mentioning that Saudi Tabreed has already established strategic alliance with governmental funds, such as NDF (National Development Fund) and SIDF (Saudi Industrial Development Fund), which will further cement our position in terms of securing funds for future projects.



In this day and age, there is much talk about applying AI to improve processes. Has Saudi Tabreed any plans of incorporating synergistic AI in District Cooling?

Yes, everyone is talking about AI, these days, but let me be very frank with you: Unless you master the process fully well, no matter how best the AI, it will not help you. District Cooling operations constitute a complex process with many variables; and one key element is the Delta T of the customer.

At Saudi Tabreed, we are applying Artificial Intelligence with careful consideration of all the variables, and have seen encouraging results.

What is Saudi Tabreed doing in terms of modernising its infrastructure or adopting new methods to improve the process?

Most of the new projects are being designed to use renewable energy as much as possible, either partially or completely. We are aiming to enhance our environmentally friendly standard.

In terms of technology, we have recently launched digital logging of daily operational data. Earlier, the operators at the plant were taking the daily data on paper, which is an age-old practice. Now, this has been replaced with live data logging, using handheld devices, which are connected to a central data server, which stores the data securely.

So, it replaces paper logs. Does this approach have any other benefits?

It, indeed, does. It is not just about replacing paper, it is one of the cornerstones of operational improvement in District Cooling. To give an example, the new approach allows for live data verification. Every time a plant operator enters a parameter, it gives him feedback on the spot, notifying if it is in range or out. If it is not in limit, it suggests additional checks.

So, is it like a technical assistant to the operator?

Yes, you could say that.

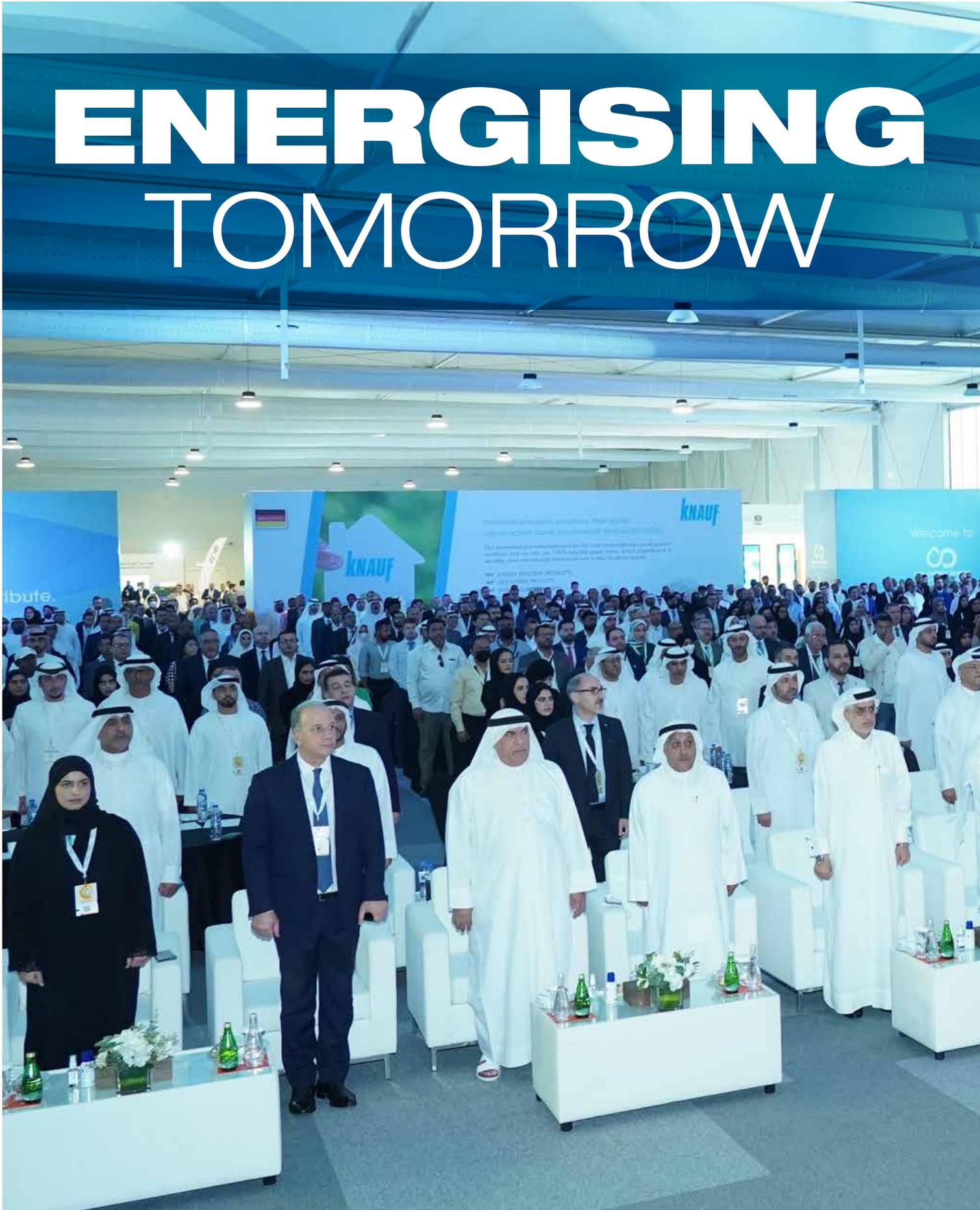
What is your vision as the new Managing Director of Saudi Tabreed? Where do you see Saudi Tabreed heading in the next five years?

I see significant growth for Saudi Tabreed, considering that we have been extremely active and effective in terms of delivering the concept of District Cooling benefits to several potential clients within the Kingdom and have been in day-to-day communication with several of them to develop District Cooling assets.

What are the latest projects that Saudi Tabreed is working on?

Saudi Tabreed has recently commissioned the Village Mall DCP in Jeddah and is managing construction of our DCPs in KFUPM (King Fahd University of Petroleum and Minerals), Red Sea and King Salman Park developments, in addition to operating and maintaining several of our existing DCPs. [CCMC](#)

ENERGISING TOMORROW



The inaugural RAK Energy Summit calls for harnessing public-private efforts in diversifying energy infrastructure to address climate change and achieve net-zero buildings by 2050

STORY BY NAFEESA MOHAMMED | FEATURES WRITER, *CLIMATE CONTROL MIDDLE EAST*



HELD under the theme, ‘Creating and Contributing to the Energy Efficiency and Renewable Energy of the Future’, the inaugural RAK Energy Summit, on October 4 and 5, in Ras Al Khaimah, was a platform for discussing discord amongst climate aspirations, new technologies and policies. The event highlighted the need for urgency in achieving green energy transition and the adoption of solutions for energy efficiency, as a key driver for competitiveness and sustainability in realising net-zero buildings by 2050.

As Francesco La Camera, Director

General, IRENA, put it in a virtual keynote address, with the UAE set to host UN COP28 next year, the region will become the key venue for discussion on the global energy transition to accelerate efforts and bring together the global community to advance climate action. La Camera said, “We now have global consensus on the fact that scaling up renewable energy and enhancing current efficiency is key to achieving sustainable energy.”

At the event, speakers and delegates from government agencies, policymakers, and private companies from the MEA region and from around the world spoke about

pitfalls and successes in implementing global energy targets.

According to media reports, the UAE has invested more than USD 40 billion in clean energy over the last 15 years and has launched its Energy Strategy, aiming to achieve 50% clean energy by 2050. Despite huge investments in renewables and ambitious targets, the UAE might still need fossil fuels to support the growing energy demand from an increasing population and growing industrial sector. This was the clear message in the keynote address by H.E. Sharif Al Olama, Undersecretary ▶



His Highness Sheikh Saud bin Saqr Al Qasimi speaks during the Summit



His Highness Sheikh Saud bin Saqr Al Qasimi during a tour of the exhibition area of the Summit

for Energy and Petroleum Affairs, at UAE's Ministry of Energy & Infrastructure, where he spoke on future energy transition. "Given the rapidly changing energy landscape in recent years, demand will continue to grow," he said. "We must transition into a future that provides affordable, accessible and sustainable energy systems. While oil and gas are expected to continue to play an important role in meeting rising energy demand, we will see a range of low-carbon energy sources being added to the energy mix, globally. The energy transition will vary across the globe, depending on the policy, technology, investment trends and region."

Prior, His Highness Sheikh Saud bin Saqr Al Qasimi, UAE Supreme Council Member and Ruler of Ras Al Khaimah, inaugurated the event and addressed the delegates, underlining that Emiratis are solution finders. He said: "Energy is of vital importance to the sustainable development of mankind, and the Summit reflects the commitment of our country to be part of the solution. I am happy to inaugurate the first RAK Energy Summit, which serves as a platform to shape our thinking and steer the dialogue in terms of the global approach to climate change and the future of the energy sector."

"The Emirate of Ras Al Khaimah is an active and influential partner in the UAE's energy plans and our vision, through the Energy Efficiency and Renewables Strategy 2040, is to support national as well as global efforts to find

The challenge in achieving net-zero through renewables or building performance technologies is to balance current priorities with long-term priorities

innovative, hi-tech solutions to the most pressing of challenges. Sustainability, preserving the environment and making meaningful contributions to combat climate change are the essence of Ras Al Khaimah's approach to comprehensive development."

Speaking later, in a panel discussion on paths to global energy sustainability, Ali Al Zaabi, Chief Operating Officer, Emirates Nuclear Energy Corporation (ENEC), delved into nuclear energy's role in the UAE's energy diversification and the need for clean energy. "The UAE Energy Strategy 2050 aims to achieve an energy mix that combines clean energy sources, and nuclear energy plays an important role in this transition, as it can generate reliable, emission-free electricity, 24/7," Al Zaabi said. "Electricity from Barakah puts the UAE on a clear course to meet the energy strategy and carbon reduction strategy."

The session examined the opportunities and challenges in adopting various renewable sources for the regional

countries and the way forward for energy sustainability. Dr Mane Alsudairawi, Acting Director General, Kuwait Institute for Scientific Research (KISR), opined that wind and solar plants are promising alternatives to fossil fuels for the region and are much safer compared to nuclear. "We have seen great results from the Shagaya Renewable Energy Park in Kuwait, which operates wind turbines and houses a 50MW Concentrated Solar Power [scheme]," he said. "In our experience, solar and wind provide a much safer energy generation option." Dr Alsudairawi also advocated that the world needs to implement a try-test method for building renewable capacities. He said: "In Kuwait, we test the technical and economic feasibility of renewable energy technologies by managing and monitoring pilot-scale demonstration projects. Each region requires a unique combination of renewables that meets its existing geographic and climatic conditions."

Talking from a policy-in-practice perspective for renewables adoption and proliferation, Andrea Di Gregorio,

Executive Director, Energy Efficiency and Renewables Office, said, “We have the policy in place, but it is really important that individuals and institutions see the benefit in adopting renewables and green technologies. He emphasised the benefits of decentralised renewable power generation in addressing the energy supply demand.

In a separate presentation, Di Gregorio informed the audience about Ras Al Khaimah’s energy diversification and energy efficiency efforts, which have already saved 15% of energy in nine government agencies through efficiency projects and satisfied one per cent of primary energy demand through waste-to-energy. He elaborated on several initiatives – how they are in place to incentivise, raise awareness and set standards to support energy sustainability measures.

“The key to successful energy management and renewable energy adoption is awareness raising, incentivising businesses and cross-sectoral collaboration, which needs more efforts,” he said. “What is really important is that stakeholders are supported by policymakers like us. We will need to improve competencies, the strategy itself needs enhancement to meet the aggressive energy targets of the UAE.”

A key statement to emerge was that a 100% dependence on renewables could be the panacea for meeting energy demand and climate targets. Speakers widely acknowledged that 100% still is far out of reach, but retrofitting and energy efficiency surely are a magic fix for now. Umar Khan, General Manager - Sustainability, Smart Cities & Energy, Honeywell Building Technologies, said: “The challenge in achieving net-zero through renewables or building performance technologies is to balance current priorities with long-term priorities. No matter which programme, whether at the government or corporate level, the individuals or organisations taking on the sustainability challenge will have their own bandwidth. Achieving net zero by 2050 is an ambitious goal for the UAE, and the challenge is to plan this journey in a way that does not impact our existing business KPIs, which we have learnt with a series of programmes and implementation trial and error. ▶

STAKEHOLDER SPEAK



Sougata Nandi, Founder and Chief Executive Officer, 3e Advisory:

“The technologies to support decarbonisation, be they AI, blockchain or renewables, like solar, hydrogen and electric vehicles, as well as how we can capitalise on them have already been proven. But the most important piece of the puzzle is to have the right skills and mindset to implement them and share the right data with the right people at the right time.

Amruta Kshemkalyani, Founder and Managing Director,

Sustainability Tribe: I believe that every small action to reduce waste, conserve energy and recycle things is important. Equally important is early education about sustainability,

which can change mindsets and inspire climate action so that it evolves from targeted efforts and strategies and becomes a norm.

We have all the necessary solutions we need at our fingertips, but if we don’t invest in our people, we can’t meet the challenges of climate change.

Raheel Ahmed, Chief Executive Officer, RAKBANK:

The energy transition in the financial sector goes beyond facilitating financing for green housing initiatives, the auto industry or personal finance solutions. It incentivises businesses and individuals to make choices that support a green economy.



His Highness Sheikh Saud bin Saqr Al Qasimi interacts with exhibitors at the Summit

“Buildings, including offices, campuses, clinics and data centres, account for 37% of global carbon emissions. This presents an opportunity to achieve energy savings in the built environment and help the world meet the carbon reduction commitments of COP26. But we need to work faster.” Quoting a survey by Honeywell and the Business Journal, Khan said 80% of companies consider sustainability an operational necessity. Investors are noticing this and are participating in environmental, social and governance funds that offer more business opportunities for sustainable retrofits and net-zero-based new buildings, he added.

A panel discussing retrofits in the residential, commercial and industrial sectors addressed the alignment of policies and business models for energy efficiency and retrofiting. Christiane Egger, Deputy Manager, Upper Austria Energy Agency (Austria), underlined the important role of policy. “The main driver for carbon neutrality projects in Austria and across Europe is the EU’s Green Deal, which is both a policy package and a growth strategy that has led to widespread legislative change across the European continent,” she said. The prevailing view in the EU is that the renewal of energy is the main driver for the renewal of economies in the current geopolitical scenario, she added.

“It is also a mindset that leads to strategy,” Egger said. “In Europe, there are building codes to guide investors to make the right decisions about the buildings. Even when they may not have carbon neutrality on their agenda, they have to meet increasingly strict energy efficiency

and green building requirements.”

Taking a cue from the international scenario and touching base on what is happening in the UAE in terms of policy and regulations to support the UAE’s energy strategy, Mozah Mohamed Alnuaimi, Director of the Productivity and Demand Management Department, UAE Ministry of Energy and Infrastructure, said, “Initially, the Ministry of Energy and Infrastructure focused on green buildings, especially in the areas of public housing, government buildings, road transport and marine transportation, but the development of integrated guidelines and codes in seven emirates under Estidama at the federal level since 2010 has had a tremendous impact in expanding energy efficiency and green technologies beyond public projects.”

The second day of the Summit took place in the presence of H.H. Sheikha Amneh bint Saud Al Qasimi, Chairperson, Ras Al Khaimah’s Investment and Development Office. It included a speech by H.E. Mariam bint Mohammed Almheiri, UAE Minister of Climate Change and Environment. H.E. Almheiri said the summit underscored the urgent need for reducing the carbon footprint of the energy sector – one of the largest emitters of greenhouse gases in the country – and confirmed that clean energy capacity in the UAE is ‘on track’ to reach 14GW by 2030. The UAE is the first country with carbon capture, utilisation and storage facility, which currently has a capacity of 800,000 tonnes per year and will be expanded to five million tonnes per year.

H.E. Munther Mohammed bin Shekar, Director General of the Ras Al Khaimah Municipality, and the host of the Summit,

said: “We envision a Ras Al Khaimah where suppliers of efficient products and services meet consumers who want to benefit from energy efficiency, where our youth develop and implement innovative solutions, and where society is aware of its responsibility for sustainability. During the Summit, we took some important steps in this direction, including the launch of our residential energy services, the launch of an industrial energy audit initiative, and the SME edition of the RAK Energy Innovation Competition, as well as several other programme announcements.”

The Summit, hosted by the Ras Al Khaimah Municipality, was supported by the UAE Ministry of Energy and Infrastructure, the UAE Ministry of Climate Change and Environment, the International Renewable Energy Agency (IRENA), the United Nations Industrial Development Organisation (UNIDO), Masdar and more than 10 government agencies in Ras Al Khaimah. The event was also organised to support RAK Energy Efficiency and Renewable Energy Strategy 2040 and UAE Energy Strategy 2050, which aims to increase the contribution of clean energy in the total energy mix from 25% to 50% by 2050 and reduce the carbon footprint of power generation by 70%, thereby saving AED 700 billion by 2050. It also seeks to increase the consumption efficiency of individuals and corporates by 40%.

The event also saw the presentation of the UAE Energy Management Leadership Awards for 2022 by the UAE Ministry of Energy and Infrastructure and the presentation ceremony of the Ras Al Khaimah government’s ISO 50001 certificate. [ccme](#)



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Voices

Insights and observations from the Summit

Ras Al Khaimah's ambitious 2040 energy targets require a high level of cross-sectoral cooperation. The RAK Energy Summit can play an important role in bringing together key stakeholders to align their efforts and foster meaningful dialogue.

– **Gauri Singh, Deputy Director General, International Renewable Energy Agency (IRENA)**

In the sustainability policies of the RAK and the UAE, energy efficiency and renewable energy are seen as important drivers of economic competitiveness and sustainability. The Summit was an ideal platform that brought together our partners and customers to enhance dialogue within the industry and the mutual learning opportunities needed to promote climate change.

– **Ian Harfield, CEO, ENGIE Solutions GCC**

We need to come together to tackle climate change – not just governments, international organisations and businesses but also communities and individuals. This is one of the biggest challenges facing humanity, so everyone needs to do their part to meet this challenge. Make no mistake:

This planet will survive; the only question is whether it survives with us or without us.

– **Zoltan Rendes, Partner and Chief Marketing Officer, SunMoney Solar Group**

We see that there is a lot of engagement in the UAE between public bodies, private players and government institutions. We have a signing ceremony today for one of our projects in the UAE with RAK Municipality and RAK Bank to implement the energy performance projects at the bank's HQ, where we will achieve double-digit energy savings every year for the next five years by working on their chillers, control part and HVAC system.

– **Mohamed Al Hayek, Major Projects and Energy Leader - Lower Gulf, Honeywell**

We talk about moving away from fossil fuels, but we still don't have the technologies or affordable techniques to move away from traditional energy generation plants. This is why we are showcasing our high-efficiency power generation engine, which can currently use both hydrogen and fossil fuels in a 20%:80% ratio and reduce the carbon footprint and can be configured for Hydrogen only in the future.

– **Jayesh Goswami, Head of Business Development, EPSL/EDINA**

One of our first projects in the health sector for energy conservation in hospitals was in Ras Al Khaimah, and since then we have been involved in many such projects. Today, almost 30% of our projects are in the energy-efficiency sector. The idea is to further expand the industrial sector with the support of the government. We signed a memorandum of understanding with the Ministry of Energy and Infrastructure (MoEI) to work together on all the assets that are currently owned and operated by them. The MoU, we believe, will help accelerate the UAE's energy transition by investing in clean energy projects on MoEI assets and exploring other energy-related CSR initiatives.

– **Tharun Thomas, Senior Commercial Manager, ENGIE Solutions**

Our main reason for being here at the Summit is to highlight the partnership we have entered into with Daikin for the RAK market to support the emirate's energy efficiency and renewable energy targets while providing a comfortable indoor environment for end users.

– **Moan Abraham, Director & Managing Partner, Phileo PM**

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Empower IPO: Company announces increase in offer size to 20%

Company introduces new offering size of 2,000,000,000 ordinary shares, implying a new deal size of 20% of the existing share capital, up from 10%

By CCME Content Team

EMIRATES Central Cooling Systems Corporation PJSC (Empower), on November 4, 2022, announced that following approval from the SCA, Dubai Electricity and Water Authority PJSC (DEWA) and Emirates Power Investment LLC (Emirates Power), an indirectly wholly owned subsidiary of Dubai Holding LLC – together the “Selling Shareholders” – have exercised their right to increase the number of shares offered in Empower’s initial public offering (IPO) from 1,000,000,000 ordinary shares to 2,000,000,000 ordinary shares, which would result in an increase in the offer size from 10% to 20% of Empower’s share capital, with DEWA and Emirates Power continuing to own 56% and 24% of Empower’s existing share capital, respectively, following the offering.

Earlier, on October 24, 2022, Empower, in a major development, had announced its intention to proceed with the IPO and to list a portion of its ordinary shares for trading on the Dubai Financial Market (DFM). At that time, Empower had said it would make available one billion shares, each with a nominal value of AED 0.10 (ten fils) in the Offering, representing 10% of Empower’s total existing share capital. On November 1, it revised the figure to 15%; and on November 4, it further revised the figure to 20%.

On November 4, Empower said it has also received approval from the SCA to increase the size of the tranche reserved for qualified investors – defined as “Second Tranche” in the UAE Local Prospectus – from 14%, representing 1,400,000,000 shares, to 19%, representing 1,900,000,000 shares. The Retail Tranche, referred to as “First Tranche” subscribers in the

UAE Prospectus, will remain unchanged at 100,000,000 ordinary shares, the company said.

According to Empower, the new offering size was determined by the Selling Shareholders, and follows the announcement on November 1, 2022, to increase the offer size to 15%. The Selling Shareholders reserve the right to amend the size of the Offering tranches, as well as the size of the Offering, at any time prior to the end of the subscription period at their discretion, subject to obtaining SCA’s approval, Empower said.

According to Empower, the subscription period remains unchanged. The UAE Retail Offering subscription period, the company added, is expected to run from October 31, 2022 to November 7, 2022, with the Qualified Investors Offering subscription period expected to run from October 31, 2022 to November 8, 2022.

Subject to market conditions and obtaining relevant regulatory approvals in the UAE, including approval of Admission to listing and trading on the Dubai Financial Market (DFM), Empower said it expects to commence trading on the DFM on November 15, 2022, under the symbol “EMPOWER” and ISIN AEE01134E227. The Company’s starting market capitalisation at listing, Empower said, is expected to be between AED 13,100 million (USD 3,567 million) and AED 13,300 million (USD 3,622 million).

His Highness Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum, Deputy Ruler of Dubai, and Deputy Prime Minister and Minister of Finance of the UAE, on the occasion of Empower announcing its intention to float on the Dubai Financial Market, had said: “Today’s announcement, the fourth in a series of planned listings of Dubai’s government

and semi-government companies, marks another historic milestone in the implementation of the vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to make the emirate a leading global capital market hub. With its strong fundamentals and investment value proposition, Empower’s IPO will further consolidate Dubai’s strategy to deepen its capital markets and accelerate new listings in vital sectors. The success of the initial phase of Dubai’s IPO strategy reflects the deep confidence of the global investment community in the emirate’s strategy for sustainable development, its track record of economic resilience, its long-term growth prospects and its ability to script global success stories. The world’s largest district cooling services provider, Empower is core to achieving Dubai’s target of producing 100% of its energy from clean sources by 2050. It is also a key player in Dubai’s efforts to be a leader in addressing the global impact of climate change and its goal of becoming one of the world’s leading smart cities.”

His Excellency Saeed Mohammed Ahmad Al Tayer, Chairman of Empower, had said: “Thanks to the vision and directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, and the follow up from His Highness Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum, Deputy Ruler of Dubai, Deputy Prime Minister, Minister of Finance, Dubai is moving steadily to become a leading global economic hub. Dubai aims to increase the total volume of its stock markets to AED 3 trillion. Empower’s superior technology and successful track record in acquiring iconic projects in Dubai reflect the key role DEWA and its subsidiaries are playing in Dubai’s green

energy transition process. Empower's ability to continuously leverage its scale and knowledge qualifies the company to be well-positioned for growth in markets where district cooling plays an important societal role. At the heart of Empower's strategy is supporting Dubai's energy transition, by providing access to sustainable cooling solutions and increased energy efficiency, better water efficiency, and encouraging responsible energy consumption. The Company's long-term principles are guided by ensuring inclusion, empowerment, diversity and gender equality. The Group is also an active player within its communities, and

its approach is to align its strategies and operations with the most material UN SDGs. With a fundamentally attractive and fast-growing market, driven by strong macro fundamentals and favourable government policy, we are excited about the future and look forward to serving all our customers and stakeholders."

His Excellency Ahmad Bin Shafar, Chief Executive Officer of Empower, had added: "With a targeted market share of 80% in the Emirate of Dubai by the end of 2022, Empower supports as well as benefits from the city's fast-paced economic growth. This includes mega-trends such as expansion in infrastructure,

a rising population and hot climates, which continue to accelerate the need for more efficient and sustainable cooling at scale. As a leading player in the implementation of district cooling technology as well as the deployment of a more sustainable cooling method in Dubai, Empower provides investors with a unique opportunity to invest in a Company that operates in a market that has solid macroeconomic fundamentals for district cooling, making it a growth engine for Empower."

Empower said investors, who participated in the UAE Retail Offering, will be notified of their allocation of shares via SMS no later than November 14, 2022.

Daikin pursues MEA HVACR growth plan

Focus on sustainability and localisation, company says

By CCME Content Team

DAIKIN Industries said it is working on expanding its footprint across the Middle East and Africa (MEA) in line with its Fusion25 five-year growth plan. With a focus on sustainability and localisation, the company said through a Press release, it seeks to grow its footprint across residential, commercial and industrial applications, as it supplies the region's leading hotels, malls, commercial buildings, residential compounds and stadiums with innovative and sustainable HVACR solutions.

In the last 10 years, the company said, following its MEA HQ in Dubai, it established entities in Saudi Arabia, Egypt and Qatar, and sales offices in Nigeria and Morocco. It said it reached the figure of 600 employees covering the region, and a sales network of more than 100 independent distributors.

Daikin said that as part of its localisation drive, it recently opened its second regional manufacturing facility after Jebel Ali, Dubai, and its first factory in the Kingdom of Saudi Arabia. Located in Sudair Industrial City, 150 kilometres from Riyadh, the custom-built premises is designed to enable it to better serve the local market with its latest technologies and innovations, Daikin said. At the same time, the company said, the new facility

will support national energy efficiency and sustainability goals, create vital job opportunities and support the Kingdom's economic growth. The opening of the new facility also marked 10 years of operations in the Kingdom, the company added.

Meanwhile, in Africa, the company announced the opening of its first training centre in Nigeria, which is focused on providing wide-ranging training programmes for the local workforce. Developed in partnership with Lagos-based technical vocational training institution, Etiwa Tech, the new centre is part of the company's aim to build a cleaner environment in the African region by appointing new channel partners and establishing more training centres, Daikin said.

Tuna Gulenc, VP, Daikin Middle East and Africa, said: "At Daikin Middle East and Africa, we are committed to fuelling local economies, empowering local talent and investing in supporting and facilitating initiatives that support carbon emissions reductions as we expand our regional footprint.

"With over 80% of our net sales coming from outside of Japan, the high-growth markets of MEA are critical to realizing our strategic growth plans, as outlined in Fusion 25. These markets will remain a priority as we continue to introduce our state-of-the-art energy-



Tuna Gulenc

efficient products. Designed for the region, Daikin products and solutions support the comfort, health and well-being of both our customers and the planet."

Daikin said that in line with the net-zero ambitions of regional governments, it plans to achieve a 30% reduction in net greenhouse gases by 2025 and carbon neutrality by 2050, according to its Environmental Vision.

As of 2021, Daikin said, it achieved a 10% reduction rate of net greenhouse gases, demonstrating that it is on track to achieve its targets. To support its environmental goals, the company said, in June of this year, it launched a new solar plant at its headquarters in Dubai, which will help it reduce its carbon emissions by over 300 tonnes, annually, in line with Dubai's Carbon Abatement Strategy 2030.

Daikin to participate in Gulfood Manufacturing

Company says it will be showcasing its commercial and industrial refrigeration solutions for the first time “at the region’s leading food manufacturing conference”

By CCME Content Team

DAIKIN Middle East and Africa said it will be participating in Gulfood Manufacturing 2022, from November 8 to 10 at the Dubai World Trade Centre. Making the announcement through a Press release, Daikin said it will be exhibiting a wide range of its commercial and industrial refrigeration solutions at the event, in a first for the company regionally.

Daikin said that along with its group-acquired companies – AHT, Zanotti, Tewis, Hubbard and J&E Hall – it brings a one-stop solution for all cold chain and refrigeration needs. It said it would be showcasing products and solutions that are expected to meet the demand of customers but are not limited to HORECA, food retail chain (hypermarkets and supermarkets), logistics providers, food processing facilities or food manufacturers.

“We are excited to participate and

showcase our innovative solutions at the region’s largest and leading food and beverage processing and packaging event,” said Sanjeev Maheshwari, General Manager - Service & Refrigeration, Daikin Middle East & Africa. Commenting on addressing climate-change concerns, Maheshwari said: “With over 100 years of experience in the industry, Daikin is on hand, ready to lend its expertise. With water scarcity and drought among pressing climate-change concerns, globally and especially in the Middle East, ensuring long-term food security is at the top of the agenda for regional governments. In response, many GCC [region] nations, among them the UAE and Saudi Arabia, but also African countries, are now looking to bolster their domestic food processing and manufacturing capabilities, as they seek to become increasingly self-sufficient.”

Daikin said that among the solutions it would be showcasing is its Monoblock range for the HORECA industry. The range not only reduces power consumption drastically but also brings quality and speed while installing the product. The company said it would also be exhibiting its AHT products, along with its inverter-driven ZEAS unit for the food retail chain industry. Daikin said it would also be displaying its truck refrigeration unit for standard ambient and would be giving a glimpse of upcoming products for high-ambient-temperature regions. Further, the company said, food processors and manufacturers would be able to see its single screw technology, utilised in packed ammonia compressor racks, applied in various storage and processing facilities.

Daikin said it would be at Stand A4-4, in Hall 4.

Europe introduces IAQ-related recommendations

They come on the back of publishing of several studies on how to monitor HVAC systems to prevent risks of COVID-19, Eurovent Certita Certification says

By Nafeesa Mohammed | Features Writer, Climate Control Middle East

SYLVAIN Courty, President, Eurovent Certita, said Europe has introduced new recommendations to prevent risk, subsequent to the publishing of several studies during the pandemic on how to monitor HVAC systems to prevent risks of COVID-19, especially in Europe. “The pandemic allowed to shed light on Indoor air Quality, which was not the case before,” Courty said, speaking exclusively to Climate

Control Middle East. “And therefore, some issues related to health and Indoor Air Quality are now more and more important in Europe. The region quickly adopted the recommendations by REHVA, (Federation of European Heating, Ventilation and Air Conditioning associations), which came up with a guideline when COVID surfaced.”

Courty said he felt that regulations mandating some kind of minimum IAQ

requirements are not in the picture and that the standards in Europe will evolve further. “However, the case is different in the Middle East region, as the region needs 24/7 air conditioning,” he said. “Indoor Air Quality and hygienic aspects of HVAC are quite important. This subject is seen as a bigger subject here. So, I will not be surprised that the Middle East would have more requests in terms of hygiene and Indoor Air Quality dispersion in the future.”

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HVAC R Expo returns this December to Dubai

dmg events, the organisers, say event will unveil the latest technology in the Middle East HVACR sector; Carrier is 'Official HVAC Sponsor'

By CCME Content Team

THE HVAC R EXPO will return to the Dubai World Trade Centre from December 5 to 8, dmG events, the organisers of the show said through a Press release. It will highlight expertise and technology breakthroughs to address energy efficiencies, sustainability, resource conservation and recovery systems in the HVACR industry, dmG added.

The HVAC R Expo will take place again alongside The Big 5, which dmG described as the largest and most influential building and construction event in the Middle East, Africa and South Asia.

Quoting MEED Projects, dmG said that given the increasing number of hotels, resorts, and residential and office buildings within the region, the demand for HVAC equipment and services is soaring in the commercial sector, with District Cooling systems, smart HVAC systems and renewable energy being the driving force. The surge in the Middle East sector is attributed to the rapid infrastructural development in the region, led by Saudi Arabia's pipeline of planned and unawarded projects, valued at USD 1.2 trillion, dmG said, further quoting MEEP Projects.

The planned giga-projects in the pipeline include NEOM, Amaala, The Red Sea Development Project and the Jeddah Economic City in Saudi Arabia, alongside the Mina Rashid Redevelopment and Hartland Sanctuary at Mohammed Bin



Josine Heijmans

Rashid City in the pipeline in the UAE, dmG said.

Despite the fast growth in motion across the region, the Saudi Arabia and UAE are actively committed to accelerating their pursuit of a net-zero-carbon future and to reducing dependency on their oil and gas sectors through strategies, digital technologies, urban smart master planning and collaboration with key stakeholders, ultimately increasing demand for energy-efficient HVAC systems to reduce energy consumption and carbon emissions, dmG said.

Josine Heijmans, Vice President Construction, dmG events, said, "We have developed this event as a knowledge exchange avenue and a platform to explore the latest sustainable



Sathya Moorthi

technological HVACR product innovations set to tackle 21st century industry concerns, including efficiency, conservation, and recovery systems."

According to dmG, HVAC R Expo will feature over 130 exhibitors from 25 countries and welcome over 9,630 visitors, including MEP Managers, HVAC supervisors, contractors, design engineers, quality surveyors and project managers. The event has attracted an exhibitor line-up that includes Honeywell, Resideo, Zamil Air Conditioners, Fawaz, S.K.M. Air Conditioning, Clivet ME, MEKAR Air Handling Units and HERZ ME, dmG said, adding that Carrier is 'Official HVAC Sponsor'.

Sathya Moorthi, Managing Director, Middle East and Turkey at Carrier Corporation, said: "We are delighted to participate in this key industry event, as it

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serves an excellent platform for Carrier to engage with all types of customers. The exhibition provides us an excellent platform to display and demonstrate Carrier's latest offerings in the HVACR field. At Carrier, we provide solutions that support sustainable, intelligent buildings,

making them operate smarter and healthier."

According to dmG, HVAC R Expo will also feature free-to-attend CPD-certified Industry Talks, focused on the latest trends, such as smart and energy-efficient HVAC systems, new

opportunities with AI and IoT, HVACs with air quality systems, automated control systems and green refrigerants.

Registration for HVAC R Expo is now open, dmG said, adding that construction industry professionals can register for free at <https://register.thebig5.ae/visitor/>



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JEDDAH, KSA

Tabreed expands operations in Egypt

Company says it will provide District Energy services to CapitalMed, in Central Cairo

By CCME Content Team

TABREED signed an agreement with Egyptians for Healthcare Services (EHCS) to provide essential District Energy services to CapitalMed, the developer's new healthcare city megaproject, located in Badr City, near Central Cairo.

Making the announcement through a Press release, Tabreed said CapitalMed is planned to be constructed over four phases and will include 700 ICUs, 70 operating rooms and facilities for multi-

disciplinary health care providers offering nearly 100 specialities, once completed.

Tabreed said it would fund, construct and operate a bespoke District Energy plant, designed in conjunction with Shaker Consultancy, to meet the cooling and heating demands for the project, with 19,500 Refrigerated Tons (RT) of cooling required for Phase 1 and a concession of between 28,000 RT and 30,000 RT for the entire development. Phase 1A will see 7,500 RT installed, 12 MW of space heating to be provided by hot water

boilers and associated energy services supplied to all buildings, providing a full, end-to-end, long-term solution, Tabreed said.

The signing ceremony was held in Cairo's Badr University and was attended by senior members of Tabreed's executive management team, including recently appointed Country Manager, Heba Kamal, and by Dr Hassan El Kalla, EHCS's Chairman and Managing Director, and other senior figures from the company and from CapitalMed.

Oasis Coils, Heresite launch 'HereShield' protective coating in Middle East

HereShield is a water-based acrylic resin designed to provide superior corrosion resistance and adhesion to bare metal in the Gulf's extreme climate, Oasis says

By CCME Content Team

OASIS Coils and Coatings, which manufactures finned tube coils and protective coatings, hosted a technical seminar, titled 'Protecting HVAC/R Systems in a Changing World', along with its global partner, Heresite Protective Coatings, across prime locations in Abu Dhabi and Dubai. The seminars were an occasion to launch HereShield, a water-based acrylic resin, designed to provide superior corrosion resistance and adhesion to bare metal in the Gulf's extreme climate, the company said through a Press release.

The seminars, which shed light on best practices designed to enhance the performance of industrial equipment in highly corrosive environments, brought together the industry's leading protective coatings distributors, contractors and licensed applicators to learn about the brand's latest cross-linking technology and extensive range of anti-corrosion solutions, Oasis said.

According to Oasis, Heresite Protective Coatings is renowned for its

extensive line of innovative air-cured, chemical-cured, baked phenolics, HVAC-R and radiator protective coatings and HVAC-R functional topcoats.

Speaking on the occasion, Ron Bruggeman, President, Heresite Protective Coatings, said: "As a frontrunner in HVAC corrosion protection, we are excited to bring an array of our unique, baked and air-dry coatings to the Middle East along with our partner of many years, Oasis Coils and Coatings. Our shared synergies will continue to enable us to jointly cater to the market's needs for long-lasting corrosion protection in HVAC-R systems through coatings designed to provide maximum protection and minimal heat transfer loss, even in the most demanding environments."

Dan Lusk, Sales Manager, Heresite Protective Coatings, said: "A knowledge-sharing platform, the seminar provided an opportunity for Heresite to drive awareness about

its range of high-performance and sustainable coatings. Our coatings are rooted in years of research and undergo stringent quality tests to provide the ultimate corrosion protection against salt air and chemical exposure, thereby extending the operational efficiency and durability of industrial systems."

Pramodh Idicheria, Chief Operating Officer, OCC Global, said: "We are incredibly happy to bring a more comprehensive selection of protective coatings to the Middle East through building upon our almost two-decade-long successful collaboration with Heresite. Powered by decades of research, a rich technical pedigree and in-house testing facilities in controlled environment at our state-of-the-art facility located in Dubai, clients across the GCC region can rest assured of the best-in-class anti-corrosive solutions engineered to provide maximum protection in the Gulf's extreme climate."

Danfoss appoints Head of Sales, Climate Solutions

Mert Kalafatoglu will oversee sales activity for Turkey, Middle East and Africa region, company says

By CCME Content Team

DANFOSS said it has appointed Mert Kalafatoglu as Head of Sales, Climate Solutions, for Turkey, Middle East and Africa region.

Making the announcement through a Press release, Danfoss said Mert comes from the position of Head of Sales, Climate Solutions, for Turkey, and is replacing Aleksandar Jovanovic, who left Danfoss in August. In his new role, Kalafatoglu will provide strategic guidance and identify new business opportunities based on the regional growth plans, Danfoss said.

Kalafatoglu said: "I am really happy and excited to have the opportunity to lead such a fantastic team. The region offers numerous great opportunities, and we already have a bold and ambitious

growth plan in place, so it's time to put the strategy into action and deliver results. Of course, there are many risks, challenges and uncertainties, but we must stay focused on our business and not be distracted by external factors. I rely on my team and look forward to sharing more success stories together. I am confident that we will raise the bar for Danfoss Climate Solutions in the region."

According to Danfoss, Kalafatoglu has over 20 years of experience in sales and logistics from various industries. Before joining Danfoss, in June 2019 as Sales Director for the Cooling segment, he was with Bosch Thermotechnic, in Istanbul, Danfoss said. He started as Logistics Department Leader in 2007, was promoted to Area Sales Manager based in Germany in 2009, and grew to Head of the Sales Department in 2011, Danfoss said.



Mert Kalafatoglu

Before this period, he worked with Isisan, in Istanbul between 2002 and 2007.

Danfoss said Kalafatoglu holds a bachelor's degree in Mechanical Engineering from Istanbul Technical University and, aside from Turkish, he speaks English and German fluently.

What after collecting the data?

Data analysis becomes critical for achieving low energy bills, and customers are opting for subscription services to monitor, refine and audit data

By Nafesa Mohammed | Features Writer, *Climate Control Middle East*

SMART, connected building systems with operational data collection and monitoring capabilities today accumulate an overwhelming amount of raw data, posing problems of data overload and challenges related to efficient analysis.

The ideal outcome expected with machine learning and data models is to optimise processes and water/energy consumption to create the best possible environmental conditions. However, clients are asking how the data will be processed and what is the ROI. Felipe Ruiz Guerrero, International Sales Manager, Engie Refrigeration, said, data is increasingly being used in the industrial processes to improve processes through machine learning and analytics.

"We already have the capability and technology to collect and implement data

to automate and improve processes," he said. "But the question is, what and how the data can benefit the customer when it comes to building management?"

Elaborating on the real benefit of data analytics, he said: "We are now logging data from several set points across HVAC systems, such as temperature, refrigerant pressure, flow rates, power consumption, as well as from the BMS systems, like floor occupancy, peak operating hours and more. But the real benefit for the customer or the building owner is that they can develop predictive maintenance strategies."

Danish Subzawi, General Manager, HMS Networks, said that with data, buildings can achieve greater efficiency and dramatically reduce their maintenance costs. Pointing to the new service model that is emerging in the



Danish Subzawi



Felipe Ruiz Guerrero

industry, he said: "More broadly, accurate and timely data enables stakeholders at all levels to take smarter and safer preventative measures and adhere to stricter GHG accounting practices, making both your building and the planet a better place to live. With data becoming even more important for customers, they are demanding subscription service models to scrutinise data."

In terms of economics, Guerrero said: "If you put the right predictive maintenance strategy in place, you will save your client money through improved reliability. The data collected from existing systems also help us recalibrate new equipment and commission projects remotely. In recent years, for example, I helped chiller control installation in Oman, Milan, Tehran and Korea sitting here in Germany."

Ziehl-Abegg invests €50 million in new plant

Facility, in central Poland, will focus on manufacturing fans for heat pumps, company says

By CCME Content Team



An artist's impression of the factory

Images courtesy ZIEHL-ABEGG

FAN manufacturer, Ziehl-Abegg said it has commenced work on building a manufacturing plant in Poland, with the cost of the building and machinery estimated at 50 million euros. Making the announcement through a Press release, Ziehl-Abegg said the construction of the building, in the south-east of Lodz (Ofiar Terroryzmu 11 Września), will be completed within nine months. Production is intended to start in the autumn of 2023, the company said. Machinery and equipment will be installed on a step-by-step basis in the 17,000 square metres of space in the building, the company said, adding that the plan is to create 300-400 new jobs within five years.

According to Ziehl-Abegg, future production will focus on fans for heat pumps. Adam Korzybski, Managing Director, Ziehl-Abegg Poland, said, “We have seen this trend emerging over a number of years. In view of rising energy prices, the use of heat pumps will enjoy an unprecedented boom, especially in Europe.”

Joachim Ley, Chief Operating Officer, Ziehl-Abegg, said: “Megatrends, such as digitalisation, climate change and urbanisation, are leading to a growth in demand and call for a significant increase in our production capacities. That’s why around 50 million euros are now being invested in a new plant in central Poland.

Korzybski said: “We are the technology leader in fans, which have been optimised with the help of biomimetics. This special fan design reduces noise and, consequently, enables heat pumps to be operated in densely built-up areas. An additional feature is the low energy requirement.”

According to Ziehl-Abegg, in the future, smaller fans, which up to now have been imported into Europe from Asia, will also be built in Lodz. These fans, the company said, are used for home ventilation or in cooling for electronics and refrigeration technology.



Joachim Ley



Adam Korzybski

Epta showcases diagnostics tools, cold room at Chillventa

Highlights emergency gas curbs and high energy prices as drivers for innovation

By CCME Content Team

EPTA took part in Chillventa, from October 11 to 13, during which it shared its know-how and showcased its latest technologies, including the Epta Service-branded diagnostics tools, the latest Eco2Middle pack by EptaTechnica, and a Misa cold room.

Making the announcement through a Press release, Epta spoke of an emphasis on innovation, efficiency and technical skills in the design of systems capable of ensuring high performance and minimum consumption, in the name of sustainability. Nowadays, the emergency gas curbs and the high energy prices are becoming an increasingly urgent matter, Epta pointed out. For this reason, the commitment of all HVAC&R players is needed, the company said.

At Chillventa, the EptaService brand gave the first view of its new SwitchON Pack, which Epta described as an innovative solution that allows EptaService customers to have access to an even more advanced service, under the principles of reliability and safety. The SwitchON Pack provides a detailed visibility of the pack operating

parameters and allows a precise control of consumption, ensuring greater energy efficiency, Epta said.

Epta said it also showcased the LineON technology, a digital solution for Epta-branded plug-ins, used in the Food and Beverages, Horeca and retail sectors. The LineOn technology, Epta said, operates 24/7, which allows users to continuously monitor parameters such as temperature and humidity, for perfect storage. In addition to geolocation capabilities and the ability to alert theft, LineON is a useful marketing tool, gathering data on sales and consumer preferences, Epta said. During the exhibition, Epta connected LineON to the larp-branded plug-in Glee inside the bar and to MultiFresco Plus by Bonnet Névé.

Further, EptaTechnica showcased its new Eco2Middle transcritical CO2 pack, alongside the Eco2Small and Eco2Large technologies. The Eco2Middle is ideal for medium-sized shops, Epta said, adding that the technology is modular, which enables an extensive customisation according to the needs of clients. According to Epta, the pack's strength is its high degree of industrialisation of the production processes, which allows to complete the plant with different

components. For instance, it is possible to integrate the oil module or the patented FTE 2.0 and ETE systems, which guarantee maximum efficiency and low consumption, at any latitude, Epta said.

Along with the SwitchON Pack, Epta displayed a propane-powered cold room with DropIn air-cooled condensing unit. The cold room is extremely compact, easy to assemble and has extra load capacity, Epta said.

William Pagani, Chief Marketing Officer, Epta, said: "Just when saving energy is top of the agenda, Epta focuses on technology to meet clients' needs in advance. Systems like the FTE 2.0 and ETE are perfect examples, reflecting the strong Group belief in the use of natural gas. Not only do they reduce the carbon footprint and ensure great performance, they also save at least 10% of energy consumption compared to conventional systems. Moreover, EptaService promotes the installation of diagnostics platforms, whose connectivity and practical functioning improve store performance even further. An innovation for efficiency and sustainability that makes Epta a leading Green Transition Enabler in the sector of commercial refrigeration."

E+E Elektronik releases digital sensing module

Device aids in cost-efficient measurement of humidity and temperature, company claims

By CCME Content Team

E+E **ELECTRONIK** said its HTM502 sensing module offers a cost-effective solution for measuring humidity and temperature.

Making the announcement through a Press release, the company said the device aids in easy implementation and provides high accuracy and reliability. The company said integration

and interchangeability through the I2C interface allow for rapid project implementation. The integrated sensor protection and the mechanically robust enclosure support a wide range of applications, the company said, adding that the device is particularly suitable for price-sensitive applications in the HVAC sector and also for industrial applications.



Waterloo Filtration Institute appoints Strategic Director for international affairs

Dr Iyad Al-Attar will helm the role on the back of his breadth of invaluable business expertise, Waterloo says

By CCME Content Team

WATERLOO Filtration Institute (WFI) has appointed Dr Iyad Al-Attar as a Strategic Director for its international affairs. Making the announcement through a Press release, WFI said Dr Al-Attar's breadth of business expertise in filtration is invaluable to the industry and will make a global difference to a broader audience of interested parties in both filtration science and manufacturing.

WFI highlighted that Dr Al-Attar has authored many articles on air filter design, performance, particle characterisation in *Climate Control Middle East* magazine, *ES Engineering* and Eurovent Middle East's newsletter. Dr Al-Attar is also an editorial member/referee in the *Filtration Society* (UK) and the *Journal of Cleaner Production*, WFI said.

WFI said Dr Al-Attar is a mechanical engineer and an independent air filtration consultant. He is also a Visiting Academic Fellow in the School of Aerospace,

Transport, and Manufacturing at Cranfield University, consulting for air quality and filter performance relevant to land-based gas turbines, WFI said. Dr Al-Attar is an instructor and member of the Waterloo Filtration Institute advisory board. In 2020, Eurovent Middle East appointed Dr Al-Attar as the first associated consultant for air filtration affairs, WFI added.

According to WFI, Dr Al-Attar received his engineering degrees (BSc, MSc, Ph.D.) from the University of Toronto (Canada), Kuwait University and Loughborough University (UK), respectively. He received his specialisation in business and strategy from Harvard Business School, it said. As a climate advocate and environmental enthusiast, he is currently active in researching sustainable strategies and opportunities for industries with the Massachusetts Institute of Technology, it added.

According to WFI, Dr Al-Attar's area of expertise focuses on the design and performance of high-efficiency filters for HVAC and land-based gas turbine



Dr Iyad Al-Attar

applications, particularly on the chemical and physical characterisation of airborne particles.

WFI said it is dedicated to supporting the growth of the global filtration industry and advancing filtration and separation processes for a cleaner, healthier and more sustainable world. It said it brings world-filtration experts together to facilitate the required knowledge and expertise towards more sustainable ways of living and a cleaner surrounding environment.

WFI to host annual conference on filtration and separation

Spotlight will be on the increasingly critical roles of filtration and separation for healthy buildings and the surrounding living environment

By CCME Content Team

WATERLOO Filtration Institute (WFI) will be conducting its annual Conference, WFI 2022, on December 6 and 7 as a virtual event. Making the announcement through a Press release, WFI said the event, scheduled to take place from 8am to Noon (EST), will be held under the theme, 'Sustainable Filtration Solutions for Healthy Living'.

According to WFI, the international conference will address the increasingly critical roles of filtration and separation for healthy buildings and the surrounding

living environment. It will feature four sessions, namely:

- Filtration Markets and Emerging Opportunities
- Healthy Buildings with Novel Filtration Solutions
- Advanced Filter Media and Products
- Sustainable Developments for Water Innovation

According to WFI, the conference will host participation of 16 distinguished leading experts from countries around the globe. They will address such topics as emerging opportunities; new developments; unmet needs; trends in the filtration markets; and applications



directly related to healthy living, public safety, life quality and sustainability.

Climate Control Middle East is the 'Official Media Partner' of the event.

Ziehl-Abegg showcases new generation of ZPlus fan unit

Says the technology offers double benefit of decrease in noise level and reduction in energy consumption

By CCME Content Team

ZIEHL-ABEGG showcased its new generation of ZPlus axial fan unit at Chillventa, from October 11 to 13 in Nuremberg, which Dr Sascha Klett, its Chief Technical Officer, described as a technology where “sound emission levels and energy consumption are significantly reduced”.

Klett said, “In many cases, this eliminates the need for additional sound insulation whilst keeping within noise level limits.” This, he added, will please supermarket operators just as much as industrial operators of systems fitted with chillers.

Klett said the improvements had earned the technology the right to be called a “new development”, as the modifications are of a fundamental nature. The experts have once again put their faith in models drawn from the natural world and incorporated a number of biomimetic aspects into the technical design, he said.

Klett said, “We are reducing noise by up to four dB(A).” For comparison, six dB(A) represents a doubling of the noise, he emphasised. This reduction is achieved with the help of a further development of the familiar biomimetic fan blade with a serrated trailing edge, he explained. This element was learnt from the extremely quiet flight of the owl and incorporated into the technical design, he said. What is new is that the leading edge now also has a slightly rippled design, he said. “We used marine creatures as a model for this,” Klett said, adding that the rippled leading edge alters the detachment of the airflow from the rotor blade – the air is moved for longer in a controlled manner.

According to Ziehl-Abegg, the previous standard guide vane for the more targeted handling of the airflow – with the keywords being throw distance – has been fine-tuned: The smaller guide vane now has 17 struts instead of the usual 11. And the spacer ring has been biomimetically



enhanced – that is, it was also rippled at the trailing edge. “This is directly reflected in the decrease in the noise level,” Klett said.

According to Ziehl-Abegg, technicians will be amazed at the installation dimensions:

The outside dimensions remain standard (1,070 millimetres), but the inner diameter is increased from 910 to 960 millimetres. Also, the rotor and blades, which were manufactured out of solid aluminium, will now be replaced by an aluminium rotor and blades made of a high-strength composite material, the company said. Readings taken from a first customer device have shown energy savings of nine per cent, Ziehl-Abegg claimed.

According to the company, mass production of the unit will commence next summer. The

supply of ZPlus 960 Next Generation samples to customers is scheduled to start at the beginning of 2023, the company said, adding that other sizes of ZPlus Next Generation will follow.

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Ziehl-Abegg SE gets new CEO

Dr Marc Wucherer comes on board

By CCME Content Team

THE Ziehl-Abegg SE Supervisory Board has appointed Dr Marc Wucherer as the new CEO, the company said through a Press release, adding that the 52-year-old will take up his new position in December 2022.

According to Ziehl-Abegg, Dr Wucherer has a Doctor of Engineering and a degree in Business Administration. He started his career at Siemens AG. During a series of management roles, he was responsible for various business units in Germany and elsewhere, and was

President of the Industry segment in north-east Asia.

Dr Wucherer served on the board of directors at Bosch Rexroth AG since 2017, with global responsibility for sales and marketing and, later on, for the factory automation segment, Ziehl-Abegg said, adding that he has enormous experience in multiple business areas. In addition to his expertise and reliability, his international experience is a perfect fit for actively shaping the company's continued global growth, Ziehl-Abegg said.

"With Dr. Marc Wucherer as the



Dr Marc Wucherer

CEO, and today's board members, Olaf Kanig (CFO), Dr Sascha Klett (CTO) and Joachim Ley (COO), the Ziehl-Abegg group will have a strong, new and outstanding executive team," said Dennis Ziehl, Chairman, Ziehl-Abegg SE Supervisory Board.

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LU-VE GROUP obtains Eurovent Certification for CO₂ gas coolers

Says the certification verifies compliance of products with regard to performance of capacity, energy consumption

By CCME Content Team

LU-VE Group said it is the first company in the Eurovent programme to obtain certification for CO₂ gas coolers, marketed under the LU-VE Exchangers and Alfa LU-VE brands.

Making the announcement through a Press release, LU-VE Group said that for over 20 years, it has voluntarily participated in the Eurovent certification programme. It said that it prioritises transparency and subjects its products to tests and controls by a third party to guarantee their performance. The “Eurovent Certified Performance” (ECP) attestation verifies the compliance of products with regard to the performance of capacity, energy consumption, air quantity, sound levels and construction characteristics, it added.

LU-VE Group said it has achieved important accolades over the years. In 2000, it became the first company in Europe to obtain the new Eurovent “Certify All” certification for all ranges of condensers, dry coolers and unit coolers, the company said. In 2016, it became the first manufacturer to receive Eurovent certification that its refrigeration heat exchangers have never registered a single negative test, the company said. And in 2020, the company said, it became among the very first companies to obtain Eurovent certification for CO₂ unit coolers, marketed under the LU-VE Exchangers and AIA LU-VE brands.

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We bring you a collection of some of the most interesting quotes, extracted from articles in this issue. In case you missed reading, we recommend you flip back to take full advantage of the insights and remarks, in the context in which they have been presented.

“ The arrival of commercial 5G and prospects of Artificial intelligence have boosted the potential to reduce GHG emissions across verticals to be on track with net-zero targets.

p6

“ Although granting air quality due attention is congruent with our common sense, we cannot achieve our goals if we rely solely on moral forces, particularly when maintenance teams are breaching IAQ protocols.

p9

“ The urgency to achieve faster decarbonisation and energy diversification also comes from the fact that Europe, as a region, has been experiencing constant energy price jumps for the past few years.

p12

“ **Yes, everyone is talking about AI, these days, but let me be very frank with you: Unless you master the process fully well, no matter how best the AI, it will not help you. District Cooling operations constitute a complex process with many variables**

p17

“

Achieving net zero by 2050 is an ambitious goal for the UAE, and the challenge is to plan this journey in a way that does not impact our existing business KPIs, which we have learnt with a series of programmes and implementation trial and error.

p21



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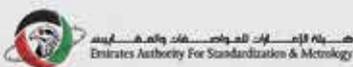
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