# FIRESIDE

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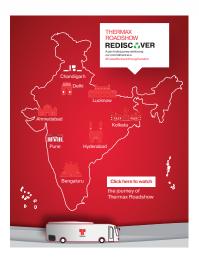
CBG



#### **About the Cover**

Hello there! I am the pillow speaking. Nestled in a corner, amidst the red and white overlays that adorned the central space at TLA premises, was I — a silent observer who stood witness to the transformation of the TLA premises for Thermax Fest. Over four bustling days, individuals from diverse fields walked in, elevating the spirit of the place. Amidst the surrounding hustle and bustle, they found solace with me as they sought a moment to relax, chat, and unwind. Oh, what memorable days they were! Nostalgia! These moments linger in my memories, and I'm certain they reside in yours too. Let's cherish them until we meet again. Goodbye!

- Photo clicked at Thermax Fest



#### **Back Cover**

Thermax Roadshow – 'REDISCOVER'

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### **WORDS OF WISDOM**

"In the end, it's not the years in your life that count.
It's the life in your years."

- Abraham Lincoln

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digital safety application • Thermax enters

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# Thermax Fest: Charting the Green Path for Tomorrow, Today

### The story of the inception

"Everything begins with an idea!" – this quote by Earl Nightingale encapsulates the genesis of what we today know as the 'Thermax Fest' for it all started with an idea. One fine day, a close-knit team discussion led by Corporate Communications Head Samina Khalid deliberated upon how we can amplify our repositioning as a 'Trusted Partner in Energy Transition' to a wider audience. Initially conceived as 'Thermax Day,' the idea germinated as a means to hold a press conference coupled with a factory tour, highlighting Thermax's steadfast commitment to its customers amidst the ever-evolving energy landscape.

However, as the discussions progressed, we felt the need to cater to an important stakeholder group: our customers! 'Seeing is believing'. To give our customers a firsthand experience of our latest innovative and green solutions, we envisioned an exposition with our select solutions. These included industrial offerings in clean air, clean energy and clean water, encompassing wind-solar hybrid, bio-CNG, green hydrogen, biomass-based energy, THVAC mobility innovation, electric process heating equipment, multi-fuel solutions, new wastewater management technology, and our cutting-edge digital capabilities.

As the vision expanded, so did our guest list. Investors joined customers as integral participants in the unfolding narrative. And lest we forget, our very own employees - essential pillars of our journey - an open house on the last day was planned for them. Ultimately, an idea that began with 'Thermax Day' took the shape of a four-day extravaganza called 'Thermax Fest'.

The Corporate Communications team sprang into action. What followed next were innumerable planning sessions, meetings, coordination with divisions, brainstorming, and hard work. No stone was left

unturned, and preparations began in full swing to curate the fest. The premises of the Thermax Learning Academy (TLA) underwent a breathtaking transformation, bedecked with vibrant festoons, flags, and flyers. The tree adorned with sustainability messages emerged as a focal point, symbolising our unwavering commitment to a greener future. And as the appointed day dawned, the red carpet was unfurled, ushering in a wave of anticipation and excitement. On the historic date of 12<sup>th</sup> December 2023, the gates swung open, ushering one and all to immerse themselves in the first-of-its-kind 'Thermax Fest.'



The central space of the TLA premises adorned with the 'Sustainability tree



The repositioning statement in focus

### **Media Day**

12th December 2023 marked the first day of the fest, wherein select media houses across the country were invited to have a glimpse into our green offerings. The day began with a welcome and briefing session. Our leaders guided the guests through our exhibits, showcasing our latest cuttingedge technologies.



B. C. Mahesh, Executive Vice President and BU Head – Industrial Product Business, explains the digital solution on clean air, clean energy and clean water



Rathish P. J., Functional Head, THVAC, explains the technology to the media group



Executive Vice President and CHRO Jasmeet Bhatia explains the initiatives under Thermax Foundation and Social Compact



MD and CEO Ashish Bhandari shares the vision of Thermax Fest

The afternoon segment hosted a press conference led by Chairperson Meher Pudumjee, and MD and CEO Ashish Bhandari. The conference highlighted how Thermax is playing a crucial role in the green energy space and underlined its vision for the future.

Meher, in her presentation, traced the legacy and journey of Thermax – beginning from a boiler manufacturer to today's standing as a reputed player providing solutions in the new energy mix, emphasising our commitment to purposedriven business.

Ashish, in his address to the media, quoted some recent examples of how Thermax is helping its customers decarbonise operations and meet their sustainability goals. He said, "For 50 years, Thermax has played a vital role in India's energy landscape. We are continuously driving sustainability through innovation, cross-functional expertise and partnerships. As a trusted partner in energy transition, our commitment is to bridge the gap between energy availability and sustainability. Thermax Fest is a confluence that showcases some of these technologies and solutions that



Chairperson Meher Pudumjee and MD & CEO Ashish Bhandari at the press conference



Kirtiraj Jilkar, Executive Vice President and BU Head – P&ES, presents Thermax's coal gasification technology



The media in attendance at the coal gasification plant

can help industries meet their climate commitments."

The day buzzed with interviews and discussions, ending on a high note of collaboration and insight.



Thermax leaders talk about the business portfolio being exhibited



Business heads take us through the innovative offerings

### **Customer Day**

Customer Day, on 13th December 2023, infused the Thermax Fest with vibrant energy as our valued customers from various sectors converged upon the TLA premises. The atmosphere brimmed with numerous customers flocking our booths, keen to understand our green and bespoke solutions for their business needs. The course of the day was marked with productive conversations, insightful meetings and promising leads for businesses. Nearly 200 patrons graced our event, expressing appreciation for our green offerings.



Watch the tales of partnership from our customers

An enlightening highlight of the day was a captivating session on 'Customer Centricity,' addressed by Suhas Baxi, Co-founder and CEO of BiofuelCircle. His talk unveiled the key to customer-centric success, as he underlined the importance of facing challenges backed by the right attitude, method, and commitment. Sharing valuable experiences from his career, he expressed that the journey to success involves growing with customers, staying ahead of their expectations, and co-creating value.

Importantly, the talk underlined the power of networks - building a community united by shared purpose and values. The session concluded with a thought-provoking dialogue centring on customer success and promoting innovation in environmentally friendly solutions.



Customers interact with Thermax representatives to learn about the varied solutions by Thermax



The TLA premises buzzing with customers on the day



Co-founder and CEO of BiofuelCircle, Suhas Baxi conducts a session on 'Customer Centricity'

### **Investor Day**

Investor Day, held on 14<sup>th</sup> December 2023, welcomed approximately 70 investors and analysts. The investors were also given a guided tour of our exhibits, where they explored opportunities for collaboration, investment and partnership.

Following the tour, an interactive investor meet unfolded, presided over by Chairperson Meher Pudumjee, MD and CEO Ashish Bhandari, Non-Executive Director Pheroz Pudumjee, and Chief Financial Officer Rajendran Arunachalam. The deliberations delved into the transformative potential of Thermax's green offerings, with a lot of interest observed in areas of bio-CNG, low-voltage electric boilers, THVAC technology, coal gasification and green hydrogen. This segment ignited dialogue on investment strategies and partnerships poised to shape the future of sustainable innovation.



Asad Husain, Head, Channel Business Group, explains an industry model encompassing our clean air, clean energy and clean water solutions



Chairperson Meher Pudumjee delivers the opening address to the group of investors



Vikrant Chitale, PU Head, Heating, explains the features of the electric boiler, Thermotron



Ravi Varanasi, Global Commercial Head, Chemicals, talks about the varied chemical solutions for industries



Amit Sethi, Executive Vice President and Chief Digital and Information Officer presents the Edge Live digital solution



(From left) Rajendran Arunachalam, Ashish Bhandari, Meher Pudumjee and Pheroz Pudumjee at the Investor Meet



The QnA round

### **Employee Day**

The final day marked an open house for Thermax employees, beckoning them to step out of their cubicles and explore the innovations curated by different divisions within Thermax. The colleagues mingled and explored, fostering a collective spirit of discovery and learning.

To elevate the day's proceedings, two exclusive talk sessions were hosted. MD and CEO Ashish Bhandari set the tone for the sessions, touching upon Thermax's journey and discussing the path forward. In a candid exchange, he solicited feedback from employees, igniting conversations

Employees actively participate in the discussion

on organisational culture and kindling a sense of ownership and empowerment.

The guest speaker on the occasion was Anupama Kaul, HR Leader of Cummins India, who delivered an insightful address on the pivotal role of performance culture and diversity, equity, and inclusion (DEI) in driving organisational excellence. Through illustrations and real-world examples, she shared the significance of reformative policies implemented at

their organisation and emphasised the need for a collective mindset shift towards fostering a culture of inclusion in the organisation.

Amidst engaging conversations and introspective reflections, Employee Day served as a platform for camaraderie and collaboration, illuminating



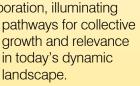
Employees in attendance during the talk session



Employees in large numbers attend the exposition at TLA



Anupama Kaul, HR Leader of Cummins India, throws light on the various aspects of diversity, equity and inclusion





Watch on as employees share their experiences and takeaways from this memorable occasion

### The way forward

The impact of Thermax Fest resonates deeply within the collective consciousness of all who contributed to its success. From the dedicated efforts of the Corporate Communications team to the unwavering support of departments such as administration, security, safety, housekeeping, divisions, and our vendor partners, every individual played a pivotal role in transforming our flagship event from a dream into a resounding reality.

The Corporate Communications team extends its heartfelt gratitude to each and every participant who lent their time, energy, and expertise to make Thermax Fest a triumph.

Going forward, this flagship event is to be held every alternate year. As we set our sights on the future, we remain steadfast in our commitment to co-create value for all stakeholders. With a shared vision of brighter, greener horizons, we embark on a journey of innovation, collaboration, and sustainability, united in our pursuit of a better tomorrow.



The creative minds and skilled hands who shaped the event -The Corporate Communications team



Three cheers for success! Thermaxians come together for this group photo after successfully pulling the event off

Shellmax Global and Thermopac Get a New Avatar

The Heating division introduced enhancements to two of its leading oil & gas-fired products. Recognised for their success since their inception, Shellmax Global and Thermopac have now evolved into Shellmax Global Ultra and Thermopac Global, incorporating value-added upgrades for customers.

Shellmax Global Ultra not only redefines user flexibility, enabling customers to tailor the product to their specific needs but also aligns with global standards. This latest iteration empowers users to optimise efficiency and

uptime according to



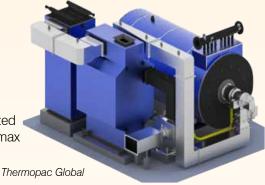
A grab from the virtual launch for channel partners

their preferences. Meanwhile, Thermopac Global builds upon the robustness and performance of its predecessor, introducing additional features such as a modular design, high efficiency,

and low maintenance within a compact footprint.

The global launch event held in association with Channel Business

Group (CBG) for Shellmax Global Ultra and Thermopac Global, presented to Thermax channel partners and both domestic and international Thermax teams, was a resounding success.



Shellmax Global Ultra



Steam Engineering, in collaboration with CBG, introduced A2Zflo-S Steam Flow Meter, a cutting-edge solution for precise steam flow rate measurements in pipelines. This meter utilises a meticulously designed orifice plate assembly for accurate mass flow rate measurement of both saturated and superheated steam. Integrated with advanced technology, it seamlessly processes signals from differential pressure, pressure and temperature transmitters, ensuring precise computation of volumetric flow.

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A2Zflo-S Steam Flow Meter

The A2Zflo-S Steam Flow Meter excels in accurate steam flow measurement, offering an enhanced measuring range and a robust prefab assembly. Its multiple density compensation modes, user-friendly display unit, and remote monitoring capabilities make it a versatile and efficient solution. The metre ensures reliability and accuracy, even in

fluctuating conditions, reducing maintenance costs. Being cost-effective and requiring

low-maintenance, it features a simple design and extended operational life. With easy installation and adherence to industry standards, the A2Zflo-S is an ideal choice for various industries, providing precise and consistent steam flow readings.

# Wastewater treatment made efficient with ThermFlux

Wastewater treatment is a critical process that ensures safe and responsible disposal or recycling of contaminated water from various sources, including industrial and residential activities. However, major challenges, like larger footprint and sludge generation, necessitate solutions that can minimise discharge and treatment areas.

The utilisation of ultrafiltration membrane systems proves effective in curtailing sludge discharge and treatment footprint, albeit with added operational costs due to fouling and scaling.

In response to these challenges, Thermax has introduced ThermFlux, a membrane system with exceptional fouling resistance.

ThermFlux features an asymmetric polyvinylidene fluoride (PVDF) membrane tube with an 8 mm inner

diameter and a nominal pore size of 0.04 microns, enabling highly efficient filtration of suspended solids. Gradient pore sizes ensure high solid loading, permeability, robust support, and simplified cleaning procedures.

Available in various diameters to accommodate different filtration needs, ThermFlux membranes find applications in diverse industrial sectors such as leachates, coal, tannery, distillery, textile, fermentation/biogas, dairy, beverage, laundry, food processing, and sewage treatment.

ThermFlux emerges as a dependable ultrafiltration membrane system, offering a reduced footprint and alleviating operational challenges across various wastewater treatment applications.



# An overview of Thermax's solutions now on a digital platform

Going with a digital-first approach, the Corporate Communications team, along with the divisions, conceptualised and curated an exclusive offline digital application, featuring products and solutions from all our businesses under clean air, clean energy, and clean water, coupled with our Edge Live (digital) offering.

The digital application was unveiled at the Boiler World Exhibition in Nairobi, Kenya, highlighting our solutions for the specific geography.

The interactive nature of the platform enables customers and visitors to engage and navigate through the entire product range themselves without needing anyone to assist them. Each product offers a 360-degree view with cut and cross sections, while some showcase the inner workings as well. Many of the large project-based solutions are depicted through video animation.

This immersive experience allows visitors to not only understand the products but also their features and benefits.

Another key feature of the platform

is that it eliminates the need for actual products yet provides a comprehensive experience about our solutions to the visitors. The platform will further be enhanced to include real-time updates of our products.



### **Cooling's Sustainable Leap**

### Introduces its dedicated PU -**Sustainable Green Solutions**

In an effort to enhance the long-term sustainable strategy and further diversify its product range to meet an even broader spectrum of customer requirements, Cooling introduced its brand-new dedicated Product Unit (PU) - Sustainable Green Solutions, in the month of August 2023. This move reflects the division's commitment to innovation and its drive to contribute to the overall sustainability of the business.

The new PU will focus on providing solutions specifically to enhance energy efficiency, enable higher water savings, reduce dependency on fossil fuels and support process improvements for industries. These solutions put us at the forefront of the green revolution, providing innovative answers to the challenges of today's rapidly changing world.

The diverse product range of our Sustainable Green Solutions are mentioned below:









Dry cooler/ACHE (Air cooled heat



Industrial efriaeration Evaporative condenser

By choosing 'Sustainable Green Solutions,' industries not only invest in their sustainability drive but also join a global movement towards a more eco-conscious and responsible future.

### **Partnering** for a 'Greneer Tomorrow'

### **MOU** signing with **Kehems Technologies**

Thermax Cooling joined hands with Kehems Technologies, a company that manufactures a comprehensive range of HVACR (heating, ventilation, and air conditioning) products in India.

The focus of this collaboration, which was signed in August 2023, is towards building a 'Greener Tomorrow,' which highlights a commitment to environmentally friendly solutions for industrial needs. Industries require hightemperature hot water for various processes, which can be energy-intensive and contribute to environmental concerns. This partnership aims to address these challenges by promoting innovative hybrid heat pumps for different industrial needs.

This collaboration aims to revolutionise industrial heating processes by offering efficient, environmentally conscious solutions through hybrid heat pumps, contributing to a more sustainable future.



Venkatesh Balasubramanian (centre), SBU Head, Absorption Cooling, at the agreement signing event with Kehems

# **Making Water Cleaner**

# Thermax enhances wastewater treatment capabilities with technology from Paques India

Thermax entered into an exclusive know-how technology agreement with Paques India, a prominent player in wastewater and gas treatment, in the month of June. This collaboration empowers Thermax's Water and Waste Solutions arm with cutting-edge BIOPAQ® technology, to efficiently treat manage, and recover highly concentrated wastewater.

The patented BIOPAQ® technology

excels in anaerobic wastewater treatment applications. It effectively tackles fluctuating organic matter levels and completely digests volatile fatty acids - a crucial factor for water reuse in industrial processes. This translates to greener operations, as the technology generates renewable energy alongside purified water.

This partnership proves particularly advantageous for the sugar and

ethanol industries. Along with addressing wastewater treatment challenges effectively, it delivers sustainable advantages such as water and energy conservation,

reduced carbon footprint, and

minimised ecological impact.

Thermax, through this strategic partnership, is bolstering its own capabilities along with empowering industries to embrace a more sustainable future.

# Tie-up with Exposome revolutionises industrial wastewater treatment with advanced media





Vishal Mehra (right), SBU Head, WWS, at the technology partnership signing event with Exposome

Thermax established a technology tie-up with tech startup Exposome in September 2023 to enhance our capabilities in treating and recycling tertiary wastewater and meeting compliance. This partnership equips Thermax's Water and Waste Solutions business with cutting-edge, highly effective, patented molecular filters for cleaning industrial effluents.

PureCODe™, the cutting-edge media, is designed to handle complex and diverse organic compounds with exceptional efficiency. It involves regenerable molecular filters with extremely high surface areas that rely on the mechanisms of adsorption, absorption, and oxidation to abate specific pollutants in water. PureCODe helps lower recalcitrant chemical oxygen demand (COD) using flow-through devices.

It also helps address concerns about colour and odour, with a reduction in

stubborn organic molecules, delivering a 40-70% reduction in COD, a critical metric for organic pollution. PureCODe's reusability and regeneration capabilities make it a sustainable choice, while its customisable size options ensure seamless integration into existing carbon filters.

The versatile solution finds application across various industries such as pulp and paper, paint, food and beverage, textiles, chemicals, pharmaceuticals, metals & minerals or any sector grappling with wastewater challenges.

Our partnership with Exposome reinforces our commitment to proliferating green technologies and contributing to a clean environment for all.





# WWS Creates a Digital Realm Where Solutions Come to Life

### Introducing the all-digital City of Solutions

Have you ever strolled through a bustling farmer's market, meandering through the vibrant stalls filled with fresh produce and handmade crafts? Picture this: you approach a booth adorned with colourful banners showcasing handmade jams and spreads. The friendly vendor offers you a taste of his latest creation, a spoonful of zesty mango chutney on a tiny cracker. The burst of flavour surprises you, and you find yourself reaching for the jar of chutney without a second thought. As you continue exploring the market, you can't help but admire the craftsmanship of the local artisans and decide to bring home a jar of that delightful mango chutney to elevate your next meal.

If you've ever been in this scenario or something similar, you just got a product demo. And chances are you enjoyed it. Simply put, a product demo provides the customer with an overview of the product and its values.

When demoing a product, explaining everything about the product with no error rate is essential. Repeating the demo multiple times allows you to become familiar with the content, flow, and timing, reducing



An overview of the Industrial zone



A model representing the sewage treatment and recycle system

the chances of stumbling or forgetting critical points during the presentation.

It is important to begin by providing a concise yet compelling overview of the product's purpose and its benefits to the users and communicating how it addresses a specific problem or fulfils a particular need in the market.

Industrial marketing fosters longterm relationships, addresses complex problems, and provides specialised solutions. For example, consider an internet security company offering anti-hacking solutions exclusively to private banks.

Presentations and static explanations of products and solutions do not give a better understanding and with the required depth.

In the manufacturing industry, which deals with machines, solves complex problems, and provides specialised solutions, it is very important to give a detailed machine overview with info spots. A customer who is planning to make huge investments wants to understand the product well, including all detailed features.

Considering these factors, the Water and Waste Solutions division ideated a platform / virtual landscape / three-dimensional arena which would cover the entire breadth of water and waste solutions, including water treatment, sewage treatment and effluent treatment plants, along with recycling and zero liquid discharge plants. Named, 'City of Solutions', the platform includes a range of product and service options as well. It also includes spares with

retrofit and revamp services.

The division has developed a hyperrealistic city where customers can see their plant installed in a three-dimensional arena called the digital twin. Users can explore solutions under the urban, industrial and Thermax zone, which highlights our major installations and offerings. In the water industry, inlet and outlet parameters play a key role in determining the technology solution to be provided to customers.

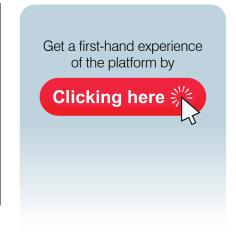
#### In this cityscape:

- 1. Each digital twin is labelled with inlet and outlet parameters.
- Users can simply click and access the description, literature, case studies and product videos, process flow diagram related to the solution from the menu.
- 3. The 'Explore' button unlocks a deeper level of engagement, revealing an exploded view of the plant with the equipment info spot and their description.

Thermax's City of Solutions is all set to redefine customers' approach to industrial innovation and explore a realm where every detail matters, where clarity meets complexity, and where the journey to informed decision-making begins.



Inside the Thermax zone







The Home page

# Revolutionising Industrial Processes and Marketing Through Gamification and Augmented Reality

In recent years, the convergence of gamification and augmented reality (AR) has ushered in a new era of transformative advancements across diverse industries. One sector where these technologies have proven particularly impactful is industrial processes, both in terms of explanation and marketing. By leveraging the power of gamification and AR, companies are not only streamlining complex processes but also enhancing their marketing strategies to engage and educate stakeholders effectively.

Gamification, with its immersive and interactive learning experiences, has become a gamechanger for industries seeking to navigate intricate procedures. Through simulations and games, teams can understand complex procedures in a more engaging manner, fostering a deeper understanding of their workflows. Augmented reality overlays digital information onto the real-world environment, enabling real-time collaboration and remote assistance.

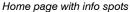
When it comes to marketing industrial products, traditional methods may fall short in conveying the intricacies of complex machinery or processes. Understanding the need for nextlevel digitisation, Thermax Water and Waste Solutions division developed the gamification and augmented reality platform for

its own zero liquid discharge product i.e. Mechanical Vapour Recompression (MVR). The platform can create immersive product demonstrations, allowing potential clients to interact with virtual models and experience the features and functionalities firsthand.

The gamification platform gives access to the interactive model, where users can engage with the unit, explore major equipment, and gain insights into the complete working principle of MVR.

The augmented reality platform of MVR brings products to life in virtual showrooms. Clients can use MVR's AR applications to visualise how specific equipment or systems will look and function





in their own facilities. This not only enhances the decision-making process but also distinguishes a company by offering a cutting-edge and memorable experience.

The integration of gamification and augmented reality into industrial



Normal view of process animation

processes and marketing not only educates the audience but also creates a buzz around the brand. This innovative approach sets a new standard, creating a captivating narrative that goes beyond traditional methods, making a lasting impression on stakeholders and solidifying the company's position as a leader in the industry.

To know more about the digital platform, write to wws@thermaxglobal.com or reach out at +91-78750 78750

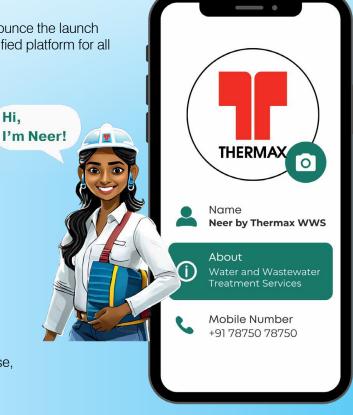
Meet Neer, Your Water Solutions Assistant on WhatsApp!

Water and Waste Solutions division is excited to announce the launch of Neer, a new WhatsApp chatbot that provides a unified platform for all customer needs. With Neer, anyone can easily access relevant marketing collaterals, product details, product inquiries, service requests, and customer care, all in one convenient location.

Neer is designed to be a one-stop shop for all things about water business. Whether someone is looking for information about our latest products, needs help with a service request, or simply wants to chat with a customer care representative, Neer is there to assist.

To get started with Neer, the customer needs to simply add the number to their WhatsApp contacts and say Hi to start a chat. From there, they can use the intuitive menu to navigate to the section they need.

This chatbot will provide a personalised customer experience with benefits like convenience, ease of use, and accurate, up-to-date information!





# Enviro bags Rs. 250 crore order for ESP modernisation and renovation

Enviro celebrated a significant milestone following the acquisition of a Rs. 250 crore order for the renovation and modernisation of the electrostatic precipitator (ESP) package at its 3 x 210 MW Damodar Valley Corporation (DVC) thermal power station in Latiabani, West Bengal, India.

Commencing the project, the team conducted a groundbreaking (bhoomi puja) ceremony at the site. It was graced by Mr. M. Raghuram, Chairman of DVC, accompanied by Mr. Sanjay Ghosh, Executive Director, O&M, Mr. Sushant Sannigrahi, Chief Engineer and Head of Project, Mr. Shiv Bachan Pal, Chief Engineer Project, and Mr. P. P. Saha Chief Engineer, O&M, and members of the Enviro team. Additionally, the Chairperson also inaugurated Enviro's dedicated site office, which

will be operational for the project's duration.

The ESP systems, erstwhile supplied by Bharat Heavy Electricals Limited (BHEL), will undergo comprehensive



Dignitaries from DVC and members of the Envriro team at the groundbreaking ceremony

Celebrating the inauguration of Enviro's site office

renovation, retrofitting, and modernisation to curtail particulate emissions, aligning with stringent air quality standards mandated for power plants. The project's scope encompasses design, engineering, manufacturing, dismantling/relocation, civil work, construction, and commissioning of the ESP systems.

# TOESL commissions two green steam supply plants in Dahej, Gujarat

Thermax Onsite Energy Solutions Limited (TOESL) partnered with Thermax's Chemical division to supply biomass-based steam to their process plant in Dahej, Gujarat, in September 2023. TOESL shall undertake lifecycle responsibility of an 8 tonnes/hour biomass-fired hybrid boiler plant, offering comprehensive operations and maintenance for the plant as well as managing the biomass fuel supply chain. The plant shall be operated on 100% agro-waste briquettes, leading to



The 8 tonnes/hour biomass fired hybrid boiler supplied at Dahej, Gujarat

an equivalent reduction of nearly 7,000 tonnes of CO<sub>2</sub> per annum and supporting decarbonisation of Thermax operations.



The electrostatic precipitator and scrubber installed at site

TOESL also commissioned a 15 tonnes/hour biomass boiler for green steam supply to an agrochemical major in Dahej, Gujarat, in September, making it the third project in their long-term collaboration with the customer.

Through the Build-Own-Operate model, TOESL endeavours to deliver green steam under a long-term steam supply agreement, with guaranteed performance of the plant.

### **The Sun Shines Bright on Enviro**

# **Enviro secures** Rs. 100 crore order from the solar industry

Enviro achieved a significant milestone by securing a Rs. 100 crore order for a process exhaust system for solar PV cell and modules production lines on a turnkey basis for a leading power company in Gangaikondan, Tamil Nadu, in the month of August 2023. This project stands as a pioneering endeavour for Enviro, as no other Indian company has previously secured such an order.

It has been observed that solar industry panel manufacturers have been buying gaseous abatement scrubbers from international markets due to reservations about existing Indian suppliers. Despite the customer's ongoing engagements with foreign suppliers, our team efficiently formulated a comprehensive proposal, highlighting why Thermax is best suited for the job. The team also managed to work on a competitive bid by optimising the layout and providing plug-and-play solutions to meet challenging timelines.



Process exhaust systems by Thermax installed at the cutsomer's plant in Tamil Nadu

Leveraging Enviro's prior experience in addressing gaseous pollutants, particularly in applications like optical fibre manufacturing involving silicon compounds, the team tailored solutions to suit the nuances of solar manufacturing. After thorough discussions and presentations at various levels, the customer was convinced of our capabilities and entrusted us with the cell and modules project valued at close to Rs. 100 crore.

The team has successfully concluded the initial phase of the project, delivering 2 GW of the process exhaust system on schedule. This progress indicates a smooth trajectory towards meeting all deadlines for the remainder of the project.

Enviro has extensive expertise in scrubber solutions and is adept at capturing diverse chemical pollutants ranging from SO<sub>2</sub>, HCl, HF, Cl<sub>2</sub>, dioxins & furans and VOCs to heavy metals like mercury and cadmium. Our solutions have found wide-ranging applications across paints, chemicals, optical fibres, fertilisers, non-ferrous industries, tyres, and healthcare.

The burgeoning solar PV, semiconductors, and polysilicon industries are poised to be the next significant growth sectors in India, notably supported by recent government initiatives such as the PLI scheme (subsidy) for efficient solar module production under the 'Make in India' programme. The allocation of funds by the government for the manufacturing of 40 GW solar PV plants in the next three years opens substantial growth avenues for Enviro's gaseous business.

# Thermax's Bioenergy Arm Bags Rs. 500 Crore Worth of Orders for Bio-CNG Plants Across India

Thermax's subsidiary, Thermax Bioenergy Solutions Private Limited (TBSPL), has secured orders worth more than Rs. 500 crore from a leading energy conglomerate for setting up five bio-CNG plants across India. These plants will be set up in the states of Rajasthan, Madhya Pradesh, Maharashtra (2) and Uttar Pradesh.

With these orders, along with its earlier experience of setting and

operating bio-CNG plants on rice straw, cow dung and press mud, TBSPL now offers CBG solutions in feedstocks like Napier grass, soya stalk, cotton stalk, press mud and cane trash.

With the cumulated capacity to produce 110 tonnes per day (TPD) of bio-CNG, these plants will utilise local feedstock exceeding 800 TPD. The bio-CNG generated from these plants will be employed for commercial and captive uses

by the customer.

TBSPL is also executing four projects to convert municipal solid waste to bio-CNG in four crucial cities in Uttar Pradesh, one of which will host the Maha Kumbh Mela in January '25.

With new orders, TBSPL will execute 15+ orders across five states and have 6+ projects under commercial gas generation by the end of FY' 24.



Site image of the bio-CNG plant set up in Dhuri, Punjab

# When seawater is treated to freshwater for process use

# WWS records a groundbreaking achievement in desalination

Achieving a groundbreaking milestone, Thermax Water and Waste Solutions division successfully provided a groundbreaking 6.4 MLD single-largest desalination plant to India's second-largest oil refinery in Vadinar, Gujarat.

Situated across an expansive 6,000 square metres of land, this extraordinary plant reinforces our leadership in EPC, product expertise, project management, and manufacturing capabilities, establishing us as a trusted leader in the industry.

From treating a million litres of seawater to freshwater for process use to achieving an impressive water recovery rate of over 40% for seawater reverse osmosis (SWRO) and 90% in brackish water reverse osmosis (BWRO), WWS is setting new standards in sustainable water solutions.

This project is a significant milestone in our journey towards a greener future, as it eliminates the dependency on external water sources. Committed to providing sustainable water solutions that align with the needs of our customers and the



Ultrafiltration unit for seawater desalination plant



Seawater reverse osmosis (SWRO) skid

planet, we continue to pave the way for a greener tomorrow.



Thermax Onsite Energy Solutions Limited (TOESL) celebrated the milestone achievement of 100% annual offtake supply for crossing 2.5 lakh tonnes of steam and 20 million units of power for a customer's plant in Karnataka within the first year of operation. This accomplishment was celebrated in August 2023 by

# **TOESL Celebrates a Milestone**



TOESL's site team, along with the customer's plant team, celebrate the achievement

both teams with a cake-cutting ceremony at the site by the customer's Unit Head and TOESL Site Head. TOESL also received appreciation from the client's leadership for this outstanding achievement.

TOESL has built and operates the client's 33 TPH biomass-based cogeneration plant. Contributing to environmental sustainability, the facility provides green steam to the aluminium major, facilitating the production of green alumina.

### **Towards a Sustainable Value Chain**

### **TOESL** rolls out workshops for vendors

In a commitment to fostering a sustainable value chain, TOESL has initiated a series of sustainability workshops aimed at raising awareness among vendors about environment, social, and governance (ESG) norms. These workshops focus on the essential aspects of sustainability, and discussions around a specially curated sustainability checklist provided by the Thermax HSE team. The checklist is designed to guide vendors in incorporating sustainable practices into their operations.



Participants of the sustainability workshop held at TLA



A glimpse from the engaging session

TOESL plans to roll out these workshops in a phased manner. The initial phases, conducted in August and November 2023 at Thermax Learning Academy, Chinchwad, saw the enthusiastic participation of over 25 vendors. Going forward, TOESL aims to extend these workshops to various regions across India.



### North Regional Office (India) Has a New Address

The north regional office (India) relocated to a brand-new, state-of-the-art facility at Okhla, New Delhi. To commemorate this momentous occasion, an inaugural ceremony was held on 28th September 2023, capturing the enthusiasm and positivity that filled the air. Rabindranath Pillai, Head of Enterprise Sales and CFSS, inaugurated the new office. Present on the occasion were Jamshed Karkaria, Admin Head and Stella Francis, Admin Manager from the HO Admin team, Sanjeev Dhar, Corporate Regional Head (North), and Prasenjit Dasgupta, Regional Finance Controller.

The new location not only provides a fresh start but also symbolises our commitment to growth, innovation, and excellence.

The new office is situated in a LEED Platinum - certified building, reflecting our dedication to environmental sustainability and corporate responsibility. This certification aligns with our values and vision for a more sustainable workplace.



Rabindranath Pillai, Head Enterprise Sales and CFSS, inaugurates the north regional office in New Delhi



The north regional team on the occasion



The building of our new Kolkata office

## A New Chapter Unfolds for the Kolkata Team

Embarking on a new chapter, the Kolkata team stepped into their new office premises located at BioWonder – Kolkata. The inauguration ceremony held on 23<sup>rd</sup> November was presided over by Rabindranath Pillai, Head of Enterprise Sales and CFSS. Also present on the occasion were Saugata Das, Corporate

Regional Head (East); Swati Aditya, Regional Finance Controller; Jamshed Karkaria, Admin Head; and Stella Francis, Admin Manager.

The team extended a special thanks to Anil Kumar, Technical Lead Projects Admin, for coordination between head office and the region.

BioWonder is India's first Biophilic Corporate Park, where the concept of 'Biophilia' - a love for life - is intricately woven into the building's essence. At BioWonder, the building and its affiliation with nature leads to a healthier and happier workspace. The way the architecture of this building has incorporated nature and greenery into its design is what sets it apart.

Keeping in theme with the office building, the team has adorned the office space with abundant greenery and also up-to-date branding showcases as per corporate communication guidelines.

To promote a more dynamic work environment, encourage interactions and promote collaboration amongst employees, the team has implemented a hot seating arrangement in the new office. This allows employees the flexibility to choose their workspace daily based on their needs and preferences, further enhancing the overall work experience.



Rabindranath Pillai at the inaugural ceremony of the new office at BioWonder -



The Kolkata team settles in the new office space

# Green Hydrogen SBU Now Has a Dedicated Office

In a substantial step for driving green hydrogen initiatives, Thermax's Hydrogen SBU proudly unveiled its new office space in Eco House, Chinchwad. The Hydrogen SBU under New Energy was established early in this financial year.

The office was inaugurated by Hemant Mohgaonkar, BU Head, New Energy, and Pawan Mehndiratta, SBU Head, Hydrogen, in a ribbon-cutting ceremony followed by lamp lighting. The event was

attended by all the members of the Hydrogen team and a few visitors. This step highlights Thermax's focus towards developing and implementing pioneering sustainable energy solutions in the country and beyond, contributing to a decarbonised future.

Currently, the team is focussed on adding talent and is working on a few exciting projects.

Great going, team Hydrogen!



The Thermax team

(From left) Pawan Mehndiratta, SBU Head, Hydrogen, and Hemant Mohgaonkar, Executive Vice President and BU Head – New Energy, inaugurate the new office

## Thermax Ventures West to Westerburg!

Expanding its chemical business in Europe, Thermax has now set up a new office in Westerburg, Germany. The same was inaugurated on 1st August 2023.

Picture-perfect Westerburg, strategically poised amidst the bustling landscapes of Europe, finds itself at the crossroads between the cities of Cologne and Frankfurt. Here, Thermax's dedicated team has mainly started the sale of resins for specialty applications, trying to build more

visibility in these markets.



An inside view of the office

The space has two main offices with at least three to four office desks and a small meeting room primed to host colleagues from India. The same is utilised to conduct meetings and trainings for customers and partners reselling our products.

All the best to our colleagues as they spread their wings to soar across Germany.



A snap of the new office in Westerburg, Germany



### Safety Gets a Digital Edge

# Introducing Thermax LIFE, a digital safety application

igh standards of safety are paramount to our way of life at Thermax. To elevate our safety efforts and with a focus on the well-being of its workforce, Thermax recently introduced 'Thermax LIFE' - a digital safety application. This new digital platform is designed to bring cultural change and improve participation and accountability in health, safety, and environment (HSE) management within the organisation. An inaugural ceremony was held on 18th September 2023 at Sai Chambers. The same was presided over by Kirtiraj Jilkar, Executive Vice President and BU Head. P&ES: Amit Sethi, Executive Vice President and Chief Digital and Information Officer and; Vipin Upadhyay, Head, HSE.

The very name 'LIFE' encapsulates the core objective of the initiative: 'Live Injury Free Every Day.' This underscores the importance Thermax places on the safety and well-being of every individual associated with the organisation, be it an employee or anyone working on its behalf.



Kirtiraj Jilkar, Executive Vice President and BU Head, P&ES, lights the lamp at the inauguration ceremony

The platform's applications are designed to cover a comprehensive spectrum of safety concerns, including at-risk behaviours (BBS), near miss, and unsafe condition reporting, incident reporting and

management, as well as safety inspections and audit management. Furthermore, Thermax LIFE will soon be expanded to encompass training, risk assessment, and permit management.

**C**:

The overarching goal of Thermax LIFE is to standardise reporting and management information system (MIS) access to all stakeholders. By centralising these processes, the platform facilitates efficient tracking and monitoring of corrective actions, contributing to a safer working environment. The initiative was launched on a pilot basis for the Projects & Energy Solutions (P&ES) division.

Complementing this dedication is another significant initiative - 'Lifestyle for Environment,' affirming Thermax's resolve towards responsible resource utilisation to preserve and protect the planet.

With Thermax LIFE, the organisation not only demonstrates its commitment to safety but also propels itself into a new era of technological advancement, where the integration of digitisation and safety becomes the cornerstone of operational excellence.



The P&ES and HSE leadership teams, along with other dignitaries on the occasion



# Social Compact: Upholding Fairness and Dignity for All

In Thermax's pursuit of workplace equity, the Social Compact (SoCo) movement emerged as a transformative force, uniting corporates, worker organisations, and experts. At its core, Social

Compact stands for challenging businesses with the mantra that 'responsible business is a successful business,' redefining corporate aspirations.

Initiated by Thermax, in partnership with NGOs Dasra, and Aajeevika Bureau, the SoCo initiative aims to enhance the lives of informal/unorganised workers/contract workers (working at sites). The pilot phase,

September 2020, identified gaps in wages, safety, health, gender equality, and entitlement access for unorganised workers.

which began in

In the first phase, the SoCo initiative was launched in eight factories and 340 sites across India. The approach adopted during this phase involved the use

of a comprehensive checklist to systematically address identified gaps in various aspects. This initiative aimed to foster improved working conditions for informal workers, marking the foundation for broader positive changes within the organisation.

During the second phase, named SoCo 2.0, the initiative extended beyond mere legal compliance and focussed on practical

measures to enhance support for the workforce.

SoCo 2.0 incorporated various strategic actions that included facilitating easier access for contract workers. A toll-free helpline (1800-572-5159) has been launched to ensure swift grievance resolution within 48 hours that provides regional language support in Hindi and Marathi to bridge language gaps. SoCo 2.0's positive impact has expanded its coverage to 211 workers across 11 TOFSL sites in Maharashtra and Karnataka. The initiative amplifies more than 200 social welfare schemes and has introduced the social security system to empower workers with seamless access to government social security information.

SoCo 2.0 represents a commitment to practical support contributing to a more comprehensive and impactful approach.

The SoCo initiative has emerged as a catalyst for not only reshaping corporate responsibility but also highlighting the transformative impact of responsible business practices. This movement signifies a paradigm shift and serves as a guiding blueprint for redefining corporate responsibility that promotes an inclusive and dignified future for the workforce in India.



SoCo 2.0 launch at the TOESL site in Ranjangaon



At the TOESL site in Bhosari, Pune



Registration for a social scheme at the TOESL site in Hadapsar, Pune

# **Expressions**



"Social Compact initiative 2.0 strengthens our efforts to provide practical support going beyond legal requirements."

Although we're already into three months of the year, I'd like to take this opportunity to wish everyone a very happy and prosperous new year.

In November last year, Thermax won the IMD Global Family Business Award for 2023. This prestigious award recognises family businesses for the role they play in the global economy and for upholding best business practices. The recognition reaffirms our commitment to sustainability, governance, compliance with ethical business practices, our vision, legacy and values, culture, resilience, adaptability and being a role model. Thermax was honoured with the award at the FBN (Family Business Network) summit in Paris, followed by a Q&A with Anu, Pheroz and myself. Naming a few others who have won this award - Lego, Grundfos, Yazaki, Henkel, Hermes, Merck, Murugappa.....we are only the second Indian company that has won this award!

Alongside, you can watch the clip played at the IMD award ceremony.



Thermax also received the Golden Peacock Award for Excellence in Corporate Governance. Rajendran received this award on behalf of the company in London; and 'Best Business led by a Woman' award in the Giga category at the Moneycontrol Indian Family Business Awards 2022.

All the honours received by Thermax are thanks to each and every one of you and to each of our stakeholders. My sincere thanks to all of you for believing in and practising the values that are dear to us, and for your hard work, commitment, and faith in the road ahead. Let's keep raising the bar!



Over the past two years, Ashish has been showcasing our Board various new products / technologies that we've introduced within the company. They have been constantly nudging us to display the fascinating work done by all of you to some of our stakeholders. In December, we introduced the Thermax Fest, an exposition of our green offerings. I believe it was an excellent platform to showcase our solutions that contribute significantly to 'being a trusted partner to our customers in energy transition' - the need of the hour. It was wonderful to see the TLA (Thermax Learning Academy) being transformed and come alive with innovation in every nook and corner, literally. It is worth noting that this event helped us open the gates to the world outside. to our stakeholders – the media, customers, investors and analysts. We had some very insightful discussions with our customers, media houses and investors, many of whom were not aware of all the businesses Thermax is into. There was a keen interest in our

products and projects, with many questions revolving around bio-CNG, electric boilers, THVAC systems, MVR, FlexiSource, chemicals, gas cleaning, coal gasification plants and green hydrogen. Also importantly, I liked the idea of employees coming down on the last day of the fest to get a glimpse of what the rest of Thermax does, which they seldom get a chance to do.

Taking Thermax Fest to a few cities across India is also a very good idea. Thermax Roadshow – Rediscover is another endeavour, showcasing all the 'new' areas Thermax has gotten into, to our customers. Kudos and thank you to Samina and her team, as well as all those who participated enthusiastically at each stall.

Many areas that Thermax is getting into are new and if, done meticulously well, can be a game changer over time, for the environment, for our country and our people. Every idea may not gain traction; every innovation may not succeed. The reason I mention this is because what funds new innovations, ideas, and technologies are the tried and tested businesses of any company. These are the work engines that have to keep running, being well-oiled, productive, efficient and growing. It is only then that we can fund new areas for the future.

Thermax has always believed in converting any form of waste into energy, reducing and recycling water, trying to help customers enhance their efficiency, reduce costs, reduce footprint. What I really like is that each technology is trying to solve a challenge that customers or the country is currently facing. As an example: today, stubble burning is part of the reason Delhi and Punjab have pollution levels which are toxic for human lungs. Moreover, over time, ash reduces the fertility of the soil, which means that farmers have to add more and more fertilisers.

If this stubble (which is rice straw, post harvesting of rice) can be removed in time, before the next crop is to be sown, it can be converted to bioCNG. This is one of the most difficult wastes to convert to gas, because of the silica and lignin content in the rice straw. Working in the lab versus scaling to a full size production plant is where the challenge lies. Thermax has a JV with EverEnviro for the overall solution and is working hard on this difficult technology.

Another challenge is in making energy work more efficiently. In long distance coaches and trucks, how does one increase the mileage per unit of petrol/diesel? Thermax has come out with a very unique technology that converts the waste heat coming out of the exhaust into cooling for passengers in coaches or the truck cabins. This not only enhances the efficiency of the vehicle but also gives relief to the poor truck driver, who has an arduous task.

What is wonderful is that, like this, there are many other applications that all of you have worked on over the years – keep up the good work!

Another celebration that holds close to our hearts is the 25 year anniversary celebrations for those who have completed 25 years with Thermax - always a nostalgic occasion for us. We had three iterations of the event this year, since our workers were keen for a face to face interaction, which we missed during Covid. The discussions held as part of the event, provide an opportunity for our people to interact with the family members and some Executive Council members and talk about the good times, not so good times and share stories / fun facts and provide feedback.

It's heartening to hear how well our employees' children are doing – working or studying in good universities both in India and overseas. Listening to interesting anecdotes from their spouses and how Thermax has positively impacted their lives, made them self-confident and helped them create a good life is gratifying. We are grateful for all your contributions – thank you.

I am pleased to inform you that the Social Compact (SoCo) initiative, which we started in 2020, has entered phase 2, where we have strengthened our efforts to provide practical support going beyond legal requirements. Under this, we have introduced a toll-free helpline number ensuring grievance redressal for migrant / informal workers in our ecosystem. This is done within 48 hours, along with providing them with regional language support. In its pilot programme, the team has been able to cover 211 workers across 11 sites in Maharashtra and Karnataka and aims to expand its reach further. A special thank you to Khushboo and the TOESL team for their support.

More than 200 social welfare schemes have been launched, and Yojna cards have been distributed, empowering workers with seamless access to government social security information.

As mentioned last time, Samina has shared a survey form link for garnering your feedback on "Fireside" as a magazine. So far, we have received only close to 300 responses. Many of you have asked for a print copy of the magazine, but I believe with our commitment to 'conserving resources', and the world moving towards digital, it is only wise that we continue with our online digital version. If you haven't taken the survey yet, please do fill it out as soon as possible. Your inputs and suggestions will be acted upon, which will help the team to shape the future of "Fireside".

I would like to thank all of you and leave you with a quote by Jim Rohns which says - "Whatever good things we build end up building us." Let us continue building the good!

Warmly,

Meher



# "It's essential to think holistically, and ensure steady progress towards our goals."

In a candid interview with Priyanka Sarode, Ravi Damaraju, CEO, FEPL, opens up about his personal and professional journey. Ravi outlines FEPL's ambitious plans to diversify into wind and hybrid energy solutions, aiming for a 1 GW installation capacity within five years. His leadership philosophy, focussed on transparency, team empowerment, and fostering positive change, shines through in both business and personal endeavours.

It was a captivating opportunity to delve deeper into the life of Ravi Damaraju, CEO of FEPL, known for his quiet and modest demeanour, as I stepped into his office in Shivajinagar one afternoon. Post his initial meeting, Ravi graciously welcomed me at the reception, leading us to his cabin, where we settled for a conversation that traversed through his childhood and his diverse experiences across various businesses in large conglomerates while also exploring the multi-faceted dimensions of his personality.

Hailing from Mumbai, Ravi's formative years of schooling and college were rooted in the bustling metropolis. It was in 1988 that he moved to Kolhapur to pursue his Mechanical Engineering. Soon after graduation, he joined Reliance Industries in Mumbai in the Corporate Engineering division as a Graduate Engineer Trainee (GET). Here, his responsibilities involved planning and execution of gas turbine based captive power plants for Reliance's manufacturing complexes in Maharashtra and Gujarat.

After a six-year tenure with Reliance, Ravi transitioned to BHEL-GE Gas Turbine Services Pvt. Ltd. (BGGTS), a joint venture between Bharat Heavy Electricals Limited (BHEL) and General Electric (GE), which was a start-up when he joined and over the years performed extremely well to be one of the more successful joint ventures of GE globally. Subsequently, in 2003, he assumed the role of Commercial Manager at GE Power in Singapore and then in Dubai, supporting sales of long-



term services of gas turbines in Asia Pacific, Africa, India and Middle East markets.

Reminiscing his overseas experience, Ravi says, "It took me some time to adapt to the cultural nuances and the way of working there. It was a good learning experience that challenged my work approach and interpersonal skills. It fostered a profound sense of 'acceptance' that still continues to resonate with me."

Upon his return to India in 2007, he assumed the role of Commercial Head for India's gas turbine services business, marking yet another pivotal chapter in his professional journey.

Renewable energy started gaining momentum in the country around 2010, marking a significant shift in the industry landscape. "Then, the companies were experimenting with new technologies, and before we could analyse the returns and decipher downfalls, the technology would change. But now, we have reached a stage where we have reliable technologies that can guarantee firm power," he informs.

In 2018, Ravi joined Soft Bank Energy as VP of Business Development in New Delhi and was with them till 2021, followed by a brief stint at Torrent Power in Surat, Gujarat as VP Commercial.

It was in December 2021 that Ravi ioined FEPL as Head - Commercial. He took charge as the CEO of the company in September 2022. It was a crucial juncture when FEPL, which earlier focussed on solar projects, was diversifying its offerings from capex to opex, and building solutions in the wind and hybrid space. As a leader, Ravi believes in having transparency within the team. He asserts, "Setting clear objectives allows the team to devise their own strategies for achievement. That said, I am always available to lend assistance if the team needs support to find a way out. It's essential to think holistically, and ensure steady progress towards our goals."

One of the most successful projects for the FEPL team so far has been the setting up of the 45.80 MW wind-solar hybrid captive power plant in Gujarat, India. Recounting

the challenges and triumphs encountered during the project's execution, he notes, "This was the first big project. Typically, a project of this magnitude usually takes 12-15 months for completion, but we only had eight months (July to March 2023) due to the impending expiration of government policy on 31st March. Although we anticipated project completion by March, we encountered numerous alterations and legal interventions. However, the policy got extended, granting us additional time. Amidst these challenges, a cyclone hit Gujarat, but thankfully our infrastructure and equipment remained unscathed. The project was finally commissioned on 17th June 2023." He further adds, "It was indeed a proud achievement for the entire FEPL team, which had very recently come together."

Talking about the future plans of the company, he informs, "We aim to achieve an installation capacity of 1 GW within five years. We will be completing 300 MW by October/November 2024. We have commenced activities for the next cluster of 300 MW, out of which 100 MW will be set up in Gujarat, and the other 200 MW will be developed incorporating inter-state transmission systems. Our next leap will be into batteries and storage pumps in the next 12-18 months."

Drifting a little away from business, Ravi was asked about the business philosophies and lessons learned throughout his journey. Spanning a



Ravi Damaraju with his family

career where orders and deals are attributed to customer relationships, he truly values building a connection with customers, suppliers and partners and understanding their requirements to ensure a win-win for all parties. "It is about fulfilling your goals while enabling others to meet their objectives," he rightly points out. "My greatest satisfaction of working here is the ability to bring about a positive change for the betterment of the world."

Outside the office environment, Ravi likes to call himself a 'family man' who enjoys the simple pleasures of life. "I prefer home-cooked food over restaurant's fancy food."

Speaking affectionately about his family, Ravi says, "My wife, Aparna, who is a law graduate, chose to be a homemaker after our son was born and takes great pride in it. She has been a taskmaster ever since, managing the household and upbringing of our children. She is also a great cook and has a natural flair for a variety of cuisines." He adds, "We do go out to explore restaurants sometimes so that she gets a well-deserved break."

His son Avaneesh (22) has completed his engineering, and has been working with a financial giant for almost a year. "He received a campus placement and, luckily, was placed in Pune, so he is staying with us," Ravi shares. His daughter Anagha (18) is pursuing law from the National University of Juridical Sciences (NUJS), Kolkata.

# Company achievements and future vision outlined at 42<sup>nd</sup> AGM

The 42<sup>nd</sup> Annual General Meeting, led by Chairperson Meher Pudumjee on 1<sup>st</sup> August 2023, provided an overview of our company's performance in FY '23, emphasising order bookings, financial metrics, and Q1 FY '24 results.

She elaborated on the new segment structure reflecting on our business operations. Talking about the energy

42nd Annual General Meeting
Thermax Limited

One-way Resource, Preserving the Future.

Conserving Resource, Preserving the Future.

Chairperson Meher Pudumjee presents the company overview

sector undergoing transition, she expressed, "With climate change and companies pledging to meet the net zero targets, a lot of opportunities are opening up for Thermax." She noted the positive impact of stable commodity and freight prices on our profitability and affirmed good execution across verticals internally. Addressing carbon footprint reduction, Meher mentioned achieving a 17% reduction against the 2019 baseline of 25% reduction and improvements in carbon intensity.

The presentation showcased successful partnerships, digitisation initiatives, product launches, and employee-centric efforts undertaken by the organisation, including the introduction of the DEI policy. The report also covered steps taken under the Social Compact initiative and CSR activities.

The session concluded with a question and answer round involving select shareholders.

# Fostering partnership with an insightful training programme Thermax Cooling hosts a 3-day training for its customers

Thermax's Cooling division hosted a comprehensive customer training programme at Holiday Inn, Chennai, on the 23<sup>rd</sup> and 24<sup>th</sup> of August 2023, followed by a one-day practical training at Thermax Sri City Factory on 25<sup>th</sup> August.The programme aimed to empower partners with deep insights into products and strengthen collaborative relationships.

The programme commenced with a warm welcome from Suresh Kumar, Global Head of Global Technical Services, followed by an overview of Thermax's rich history and its commitment to innovation. The technology team delved into the science and engineering behind absorption chillers and heaters, with the day concluding on controls, safety measures, and the importance of water quality.

Day 2 began with an overview of Thermax's latest product portfolio

by Babu, Head of Technology, followed by a session on preventive maintenance, crucial for product longevity, by the GTS team.

Discussions also covered features of Thermax Edge – an exclusive customer portal and Thermax

Edge Live – a platform for real-time equipment monitoring and data-driven decision-making through Al/ML.

The final day provided hands-on experience with vapour absorption machines (VAMs) at Sri City, offering practical insights into manufacturing processes and product technology.

The customer training programme exemplified Thermax's commitment to providing excellent customer support.

Mr. Karan G. B. from Akshayakalpa Organics, Karnataka, who attended the training said, "I thoroughly enjoyed the three-day training conducted by Thermax as it helped me to understand about Thermax's products technically. The training sessions by the team were very interesting and gave me a lot of clarity on the subjects discussed."



The participants at the training programme



The Thermax team with customers at Chennai

# Thermax's Engg. Team breathes life into absorption chillers for Saudi's chemical giant

#### Introduction

A leading chemical giant in Saudi Arabia had two 1,400 TR absorption chillers supplied in 2015 for the isocyanate plant that remained dormant for eight years due to commissioning challenges. Disheartened by their continuous failure, the customer made the tough decision to scrap their current chillers. However, driven by a final surge of determination, they approached Thermax, looking for a possible solution. They were able to make this decision as Thermax was strongly recommended by SABIC (Saudi Basic Industries Corporation), one of the satisfied users in the Saudi Arabian industry, a testimonial to Thermax's commendable product quality and reliable service.

### Challenge

Representative image

Despite multiple attempts by various European companies and other parties to start up the units, none were able to tackle the complex task of rebuilding the customised control philosophy and logic.

#### Solution

When reached out, Thermax's engineering and service teams meticulously examined the chillers' condition and collaborated with the client's in-house software team to design a new control philosophy. Within weeks, Thermax successfully commissioned one unit, delivering 5°C chilled water at approximately 40% load.

#### Result

The revival of the absorption chillers proved to be a game changer for the chemical giant. The units not only ensured continuous production, eliminating frequent stoppages associated with their electrical refrigeration system but also led to substantial energy cost savings. The absorption chillers, operating on waste steam, demonstrated their efficiency and sustainability.

The client was satisfied by Thermax's challenging spirit and technological capabilities and expressed deep appreciation for the joint efforts that resulted in a successful solution after eight years of inactivity. In a remarkable display of expertise, Thermax saved the customers' absorption chillers, sparing them from the expense of purchasing new equipment.

This success story not only showcases Thermax's expertise in absorption chiller technology but also highlights its commitment to overcoming challenges and delivering innovative solutions to its clients, proving once again why we are their trusted partner in energy transition.

# FEPL - Delivering Solutions for Industrial Decarbonisation

### The Vision and Transition

First Energy Private Limited's (FEPL) incubation by Thermax aligns with its new positioning as a 'Trusted Partner in Energy Transition' fuelled by the belief that a coordinated response to climate change will require Thermax to work closely with its customers to enable accelerated industrial decarbonisation. The group company has been in existence for over a decade in the solar engineering, procurement, and construction (EPC) space. Taking cognisance of the industrial consumer's energy requirements, FEPL decided to switch from EPC based model to a build-own-operate



The 25 MW wind-solar hybrid project commissioned in Neknam, Gujarat

(BOO) based model in November 2022. During the journey of transition, the company has evolved through four phases: resistance, adjustment, acceptance and consistency.

The company is currently operating across various geographies within the country. FEPL has built upon Thermax's deep technological know-how, proven on-ground execution capability and customer access by developing strong in-house capabilities spanning solar, wind, hybrid and battery technologies, and aspires to have an operating capacity of more than 1 GW serving the commercial and industrial (C&I) space in the next few years.

### **Driving Industrial Decarbonisation**

With an objective to drive decarbonisation in industrial energy ecosystems, FEPL focusses on greening of industrial electricity consumption. The organisation has matured from implementing plain vanilla renewable projects to solarwind hybrid projects. Technological innovations and commercial prowess have aided the company in harnessing the potential for the development of renewable solutions for our partners. Within a short time of two years, FEPL has tied up ~300 MW capacity with various C&I customers and partnered in their journey towards sustainability.

The company holds an operational portfolio of 140 MWp, 145 MWp under construction, > 300 MW of RE projects under development and ~400 MW in the pipeline. The capacity addition in the C&I segment is among the fastest growing in this space within two years of inception. With a mandate to reach 1,000 MW installed capacity by FY 2027, the organisation is strongly placed to develop intra-state and inter-state projects, helping industries with round-the-clock clean electricity



The 16 MWp solar plant installed in Sivaganga, Tamil Nadu

requirements achieve net zero mandates.

Corporate partners embarking on their decarbonisation journey consider Thermax as a trusted partner. This trust is corroborated through repeat orders placed with FEPL for its future projects.



Representative image

### **C&I Growth and Policy Initiatives**

C&I growth, in coming years, is going to be driven by the economic rationale for customers (cheaper landed cost of captive power vis-à-vis procurement from the grid), as well as their ESG targets (70+ Indian companies have committed to RE100 targets). Strong policy initiatives and a clear roadmap envisaged by the central government are in place to develop renewable solutions for the C&I segment.

The clean energy technology landscape in India is transforming at a rapid pace. Firming of power is now achievable through Energy Storage Systems (ESS). The company targets growth acceleration by providing high capacity utilisation factor (CUF) renewable energy solutions for its customers and by integrating new/emerging clean energy technologies in its offerings.



The 11 MWp solar plant installed in Akkalkot, Maharashtra

### **Building a Reliable RE Infrastructure**

Integration of energy storage with hybrid power provides grid stability, accommodates the intermittent nature of RE power, and promotes the overall efficiency of the renewable energy infrastructure. Industries are keen to capitalise on these emerging opportunities and meet peak energy demand. FEPL is well positioned to partner with them in this journey by offering storage integrated wind-solar hybrid solutions on inter-state as well as intra-state transmission (ISTS) networks.

### **Innovating Tomorrow:** TBWES Engineer's Day **Innovation Fair 2023**

TBWES organised the Engineer's Day Innovation Fair on 6th October 2023. The grand event was a testament to the spirit of innovation that courses through the veins of every

engineer in the organisation.

The journey embarked on Engineer's Day, 15th September, as various teams passionately presented their project blueprints to the jury. What started as a series of innovative concepts on Engineer's Day transformed into a grand finale of the Innovation Fair on 6th October, where the top 10 outstanding teams proudly showcased their groundbreaking projects. The stage was set for the day that redefined



The proud winners

the boundaries of creativity. The inauguration was graced by Pravin Karve, President – TBWES and P&ES, Niranjan Pawgi, SBU Head, TBWES - OEM -Corporate, and Nagaraj Shenoy, SBU Head, TBWES - Services - Corporate. Their presence and encouragement added a special touch to recognising outstanding achievements.

Engineers from diverse departments showcased projects aligned with innovation themes such as energy transition/conservation, product improvement, process improvement, and digitalisation/Al. Each project was a testament to the engineers' commitment to pushing the boundaries of innovation, providing a glimpse into the depth and breadth of talent within TBWES.

The culmination of this innovation journey was marked by the announcement of winners and the presentation of prizes. The jury bestowed honours upon the deserving winners by acknowledging the dedication of every participant, underscoring the value of hard work, commitment, and innovative thinking demonstrated by each member of the TBWES family.



WELCOMES YOU

TBWES and P&ES

The second runner-up teams

The first runner-up team

#### **Winners**

Project Title -DWG to PDF

#### Contributors -

Sushant Laddha, Rohit Vetal, Pratik Ghone, Rushikesh Chikte. Gopi Garlapati, Bhavin Raval, Mandar Bargaje and Shubham Kharat

### Runner-up

Project Title - Increase throughput of Goratu - CNC drilling machine from 8 to 14 equivalent header drilling by setup Single Minute Exchange of Die (SMED) & operational time reduction.

#### Contributors -

Pravin Patil, Mahendra Pawar, Jagannath Kulkarni, Rajusaheb Game and Shivanand Shivagonde

#### 2<sup>nd</sup> Runner-up

Project Title - Change in transport methodology for circular shell in petal form

Contributors - Hemant Jadhav, Uttam Gunjal, Basant Mohapatra, Ramesh Shinde, Sagar More and Bhupesh Modi.

**Project Title – Standardisation of tube bending die to** achieve interchangeability amongst any of the bending machine in any shop

Contributors - Niteen Raskar, Chetan Bhosale, Nitin Changade, Pradeep Jadhav, Chandrashekhar Ranade, Sunil Bhor and Shivappa Maigur

As the day concluded, a sense of accomplishment and the exchange of ideas lingered among participants.

From TBWES Engineer's Day to TBWES Innovation Fair – it was a timeline that encapsulated not just dates on a calendar but the spirit of a company evolving, pushing its boundaries, and embracing a culture where innovation is not just a goal but a way of life.

# **Driving Sustainability & Environmental Awareness to Local Communities**

In an effort to champion sustainability and safety, Thermax organised awareness programmes throughout October and November 2023 under the Thermax Cares for Environment initiative. These programmes are based on sustainability and environmental themes. The sessions in the last quarter were tailored for schools and employees' family members, with a primary focus on heightening awareness regarding single-use plastic and fire safety at home.

The sessions were conducted in two stages across Solapur, Savli, Dahej, and Jhagadia locations. The first stage, dedicated to school children, underscored the significance of eliminating single-use plastic and imparted

essential knowledge about fire safety within the home environment.

The second stage addressed employees and their family members. An external trainer from USHA Fire conducted an online session on house fire safety on 5<sup>th</sup> November, drawing the participation of over 150 employees and their family members from across locations.



School students participate in a tree plantation drive at Solapur



An awareness session on single-use plastic and fire safety at Shirwal



A safety session at Dahei



Students attend a session on fire safety at TBWES, Savli

In Dahej and Jhagadia locations, awareness brochures on single-use plastic and house safety were distributed to employees and their family members, with the overarching goal of fostering a safer and more sustainable environment.

At Shirwal, the team conducted an in-house awareness session for employees' family members, addressing the critical issues of single-use plastic and fire safety.

This comprehensive approach exemplifies Thermax's unwavering commitment to instilling a culture of safety and sustainability within communities.

# **#RakshaKiRakhi: Weaving Bonds of Care for Nature**



Employees from Sai Chambers posing with the tree



Employees at the Shirwal factory tying rakhis

During Raksha Bandhan, Thermax surpassed traditional celebrations to honour its bond with nature. The Corporate

Communications team initiated the #RakshaKiRakhi campaign, a heartfelt endeavour that witnessed employees tying rakhis to trees at different locations. This gesture illustrated Thermax's dedication to protecting and nurturing the environment, mirroring the care extended to interpersonal relationships.

In unison, threads of protection and compassion were tied to the trees

A tree adorned with rakhis at Thermax House

Women employees at Sri City posing with the #RakshaKiRakhi tree

present at office and factory locations, forging a path toward a greener and more sustainable future. The initiative not only symbolised the intertwining of human and environmental welfare but also reflected Thermax's commitment to responsible and eco-conscious practices.



## **Committed to Continual Improvement**

# **Quality Month Celebration at TBWES: Fostering Excellence Through Initiatives and Competitions**

Introduction: In an unwavering commitment to excellence, TBWES turned the International Quality Month into a dynamic and impactful celebration. Led by Prashant Kulkarni and the dedicated Quality team, this month-long event in November 2023 focussed on instilling a culture of continuous improvement, innovation, and sustained progress.

#### Objectives planned for Quality Month celebration:

TBWES set clear objectives for the Quality Month celebration that included raising awareness among employees about the importance of quality, training employees on quality principles, promoting best practices, enabling cross-functional collaboration, leveraging technology to enhance efficiency in qualityrelated activities, encouraging employee participation in improvement initiatives and competitions, and employee recognition.

#### Journey through Quality Month celebration at

**TBWES:** November 2023 marked a month of dedication, introspection, and jubilation at TBWES, where the resounding theme 'Committed to Continual Improvement' echoed throughout. The celebration emphasised that quality is not a destination but a continuous journey towards excellence.

### **Key Events and Activities**

#### Flag hoisting, lighting of the lamp, banner and poster display

The festivities began with a warm welcome at Energy House, where employees received Quality badges and 'Q' embossed chocolates, symbolising our commitment to quality. Badges, signifying our commitment to our quality policy, mission, vision, and objectives, were distributed at plant locations in Savli and Shirwal as well. The grand inauguration included hoisting the Quality flag, lighting the lamp, and inauguration of the selfie point by Pravin Karve, President – TBWES and P&ES. Simultaneously, similar events took place at various sites, including Shirwal, Maharashtra, Savli and Jamnagar, Gujarat, Pachpadra, Rajasthan as well as Dangote, Nigeria.



Quality awareness session at Bargarh, Odisha encourage solutions through rolling out of the improvement projects.

### Interactive workshops (Guest lecture series)

Interactive workshops focussing on business excellence, Theory of Constraints (TOC), Total Quality



Pravin Karve, President – TBWES and P&ES hoists the Quality flag

Management (TQM), lean manufacturing, Six Sigma, and Kaizen were conducted by industry experts from Defence, ISRO, and infrastructural industries, providing employees with insights into the latest trends and best practices in quality management.

#### **Competitions and improvement projects**

Stakeholders across divisions were engaged in challenges that encouraged creative problem-solving and implementation of innovative projects

Quality slogan and poster competition showcased employees' creativity in capturing the essence of customer satisfaction and quality culture. The online Quality Quiz competition raised awareness of quality across all business aspects. Over 600 questions were administered, with a coveted prize awarded to the fastest and most accurate responders.

The Quality team leveraged technology to enhance the engagement and participation of employees across different locations.

Recognition of best improvement projects at both internal and vendor levels fostered a culture of continuous improvement.

#### **Display of Quality Expo**

The QAC team exhibited the measuring and testing equipment, an array of cutting-edge tools, technologies, and methodologies at Energy House and Savli manufacturing shop that ensure the highest standards of quality across industries. Workshops held during the expo deepened employees' understanding of quality management principles.



Quality expo at Savli



Senior team of TBWES inaugurates the Quality expo at Energy House

#### **Awards and Recognition**

The culmination of Quality Month festivities on 5th December, held at the lawns of TBWES Energy House, marked the recognition of winners.

The management team, including MD and CEO Ashish Bhandari and Pravin Karve, President - TBWES and P&ES, through their valuable guidance, reinforced the organisation's commitment to quality.



MD and CEO Ashish Bhandari and TBWES President Pravin Karve felicitate achievers of the Quality month

#### Conclusion

The celebration of Quality Month at TBWES emerged as a transformative initiative. leaving a lasting impact on the organisation. The success of this initiative underscores the importance of ongoing efforts to prioritise and celebrate quality in the workplace.



Commemorating the celebration at Energy House

#### **Quality Month Celebration at Sri City**

Our team at Sri City, too, celebrated Quality Month to reflect and re-evaluate Thermax's commitment to continuous improvement systems, safety, security and quality-centric initiatives. The team also conducted various quality seminars and workshops for employees to engage in informative and educational sessions led by experts in the field of quality management, followed by various quality competitions to test employees' knowledge and skills.



A safety awareness session in progress

Lastly, a Quality Award ceremony was organised to recognise and honour outstanding contributors to quality.

#### **Organisation Committee Members (TBWES)**







Aishwarya Desai



Ravindra Ghodekar











Sandeep Bhandari







Gautam Kulkarni







Pramod Deshpande











# Empowering Culture @ Workplace: Transformation Through Life@P&ES

To create a culture of excellence and collaboration at P&ES, a comprehensive programme was launched under the umbrella of Life@P&ES in October 2023. Several initiatives were implemented to foster performance excellence under the four-pronged pillars of:

- Innovation and Technical Excellence
- Collaboration and Accountability
- Process Productivity
- Engagement at the Workplace



Independence Day celebration at Enviro House

To bolster innovation and ideation, Ideas @ Workplace has been launched and ideators are regularly felicitated. A programme named 'Tech Gladiators' has been launched to promote technical excellence and is incredibly popular among employees across sites and HO.

Collaboration has been boosted through twin initiatives, 'Mantranaa' and 'Samvaad'. While Mantranaa has been launched as a strategic



P&ES colleagues enjoying at the outbound

forum for the inter-SBU exchange of ideas and best practices, Samyaad aims to nurture inter-

departmental process flows.

'Reflections', the business newsletter, publishes the feedback and appreciation received from clients and project milestones achieved. The employees and their families

alike welcomed the signature publication, Life@P&ES.

site. For new joiners, business inductions are conducted under 'Swagat'.

The monthly employee forum 'Conversations' provides a stage for awarding winners of various quiz competitions, sports events and team events held during the month. Festive celebrations and events further add to the vibrant atmosphere.

These initiatives have brought a renewed sense of energy and camaraderie to life at P&ES. They continue to strengthen the four pillars of the P&ES culture.

The P&ES Buddy Programme, 'The Good Samaritans,' was introduced to provide every new joiner with a work buddy as the crucial support system in a new workplace and often a new city/



The 'Fika Friday' culinary activity at P&ES

# Harmony and High Spirits: HR Department's Unforgettable Outing at Radisson Blu Resort

The HR department embarked on a memorable visit to Radisson Blu Resort & Convention Centre, Karjat, on 27th and 28th July 2023. Throughout the two-day experience, the team, led by CHRO Jasmeet Bhatia, immersed themselves in an atmosphere filled with work anecdotes and enlightening moments.

The team engaged in a treasure hunt across the expansive resort grounds, heightened by the energy of the rainy season. Following this, a break ensued, allowing the team to prepare and practise for the talent show scheduled for the evening.

During the talent show, each team within the department showcased their dancing, acting, and singing skills. The Bollywood-themed award show on the second day featured participants dressed as iconic characters from different eras of Bollywood.



The HR team posing at the outbound

Recognition for outstanding efforts came as recognition under the CLOCC behaviours, celebrating the team's achievements. The outbound experience concluded with the HR department creating memories that would last a lifetime.

## South Region Corporate Functions Outbound: Bonding, Insights, and Fun in Munnar

In early November 2023, the Southern Region Corporate Functions team organised the annual conference and outbound programme at the Mountain Club Resort in Munnar, Kerala. The first day of the outbound included team-building activities, a motivational talk session by Mr. Arun Nair from Parivartan Corporate that focussed on team bonding exercises and work practices, followed by an award night where the Regional Council awarded employees from various SBUs for their CLOCC behaviours.

The second day of the outbound involved sightseeing around Munnar, which gave a chance



The team posing at the scenic location in Munnar

to relax and rejuvenate. The Corporate Regional Head, V. Satyanataraj, and business managers of various SBUs shared insights on teamwork and collaboration during the conference. This was followed by the cultural programme, where colleagues showed their unique talents and skills, making the outbound more entertaining and delightful. The outbound brought colleagues closer and provided a refreshing break from the routine, leaving everyone ready to tackle work with renewed energy.

# Celebrating Milestones: Thermax's 25-Year Anniversary Programme

Thermax recently marked a significant milestone with the celebration of the 25-year anniversary programme dedicated to honouring and felicitating employees who committed a quarter of a century to the organisation. Earlier

conducted online due to the challenges posed by the Covid-19 pandemic, the programme was later reconducted in person to ensure a heartfelt acknowledgement of these dedicated individuals.

The event held thrice — once in October and twice in December 2023 — was a grand affair that extended invitations to the honoured employees and their spouses. Recognising the pivotal role spouses play in supporting their partners throughout their tenure at Thermax, the celebration aimed to

express gratitude to the employees and their families.



The senior management felicitates employees on the occasion



Book launch at the programme

The programme was thoughtfully
divided into a focussed group discussion (FGD)
and a felicitation programme. The FGD provided
a platform for employees to share their enriching
experiences and stories. Employees engaged in
discussions with leaders and members of the family
such as Chairperson Meher Pudumjee, Former
Chairperson Anu Aga, Non-Executive Director
Pheroz Pudumjee, Sales Manager - TOESL,
Zahaan Pudumjee, and Product Manager - Heating,
Lea Pudumjee, MD and CEO Ashish Bhandari, BU
Head – Industrial Product Business, B. C. Mahesh,
President – TBWES and P&ES, Pravin Karve, and
Chief Human Resources Officer Jasmeet Bhatia.



Employees in a conversation with the

Chairperson Meher Pudumjee

During the FGD, employees reminisced about their early days at Thermax, witnessing the company's evolution and the impact it had on them personally and professionally. Some shared anecdotes about finding life partners due to working at Thermax, while others highlighted the invaluable lessons learned during their tenure. The memories of encounters with the founder Rohinton Aga

and the kindness he exuded were a common theme, as employees spoke fondly of various conversations with him within the factory premises.

The discussion covered a spectrum of experiences, ranging from working on factory floors to corporate offices. Many employees expressed gratitude for the exposure and diverse learning opportunities provided by Thermax. The FGD also provided a constructive platform for sharing feedback with the senior leaders.

The felicitation programme, a poignant moment in the celebration, witnessed the Chairman and EC members expressing gratitude for the dedication and sincerity of the honoured employees. Each employee was felicitated with a shawl and a planter, symbolic tokens of appreciation and gratitude. A photo booth added a touch of fun to

the event, allowing employees to capture moments that will serve as lasting memories.

Among the heartwarming moments of the felicitation programme, one employee proudly shared a book authored by him, while two other employees presented portraits of the founder's family members.

The 25-year anniversary programme stands as a testament to Thermax's legacy, conducted once in alternate years to honour and celebrate employees who have dedicated their service to the organisation. It encapsulates the spirit of appreciation, camaraderie, and the enduring bond within Thermax.



Employees at the 25-year anniversary celebration with the senior management



The happy victorious faces

# Thermax Employees Embrace Health and Wellness with Marathon Event

In a celebration of health and camaraderie, employees from Pune, Shirwal, and Paudh locations came together to participate in the Bajaj Allianz Pune Half Marathon event, which was held on 10<sup>th</sup> December 2023. With over 900 enthusiastic participants, including the MD and CEO Ashish Bhandari, the event was a resounding success. Held at the Balewadi Stadium in Pune, the marathon offered participants the opportunity to test their endurance and showcase their athletic prowess across different categories.

In the 5 km category, Suraj Shingate (Finance), Anmol Kitchloo (Heating), and Vitthal Dhage (Enviro) emerged as the top finishers, crossing the finish line in impressive times of 25 minutes 06 seconds, 26 minutes 27 seconds, and 27 minutes 04 seconds, respectively. For the more seasoned runners tackling the 10 km course, Pandhari Ghorband (WWS), Aniket Kakade (TBWES), and Ashish Khamkar (WWS) demonstrated exceptional stamina, completing the race in 1 hour 56 seconds, 1 hour 03 minutes 56 seconds, and 1 hour 05 minutes 35 seconds, respectively.

The highlight of the event was undoubtedly the Half

Marathon, where participants pushed their limits to cover a challenging 21 km route. Ashish Bhandari led by example, finishing with an impressive time of 1 hour 53 minutes 20 seconds. Shrihari Kalawade (P&ES), Swapnil Maske (TBWES), and Sandeep Mandke (Finance) also showcased remarkable determination.

completing the race in 2 hours 03 minutes 46 seconds, 2 hours 23 minutes 07 seconds, and 2 hours 41 minutes 42 seconds, respectively.

The marathon not only provided employees with a platform to engage in physical activity and promote a healthy lifestyle but also fostered a sense of unity and teamwork among colleagues. As Thermax continues to prioritise employee well-being, events like these serve as a testament to the company's commitment to nurturing a holistic work culture.

With the overwhelming success of the marathon, participants and organisers alike are looking forward to future editions, further solidifying Thermax's reputation as a champion of employee wellness and fitness.





Joyous moments from the marathon

# Thermax Day 2023: A Festive Family Get-Together at Chinchwad Factory

An annual family get-together, Thermax Day, was celebrated enthusiastically at the Chinchwad factory. The event, held on 24<sup>th</sup> December 2023, included various activities such as a factory visit, fun games, and selfie corners, followed by refreshments. In the evening, a musical night, hosted by Uday Satam (Marathi Paul Padate Pudhe fame) and group, entertained everyone.

This family get-together was organised for the workers and their families in accordance with the long-term settlement signed in June 2022.

The event received appreciation from the Union Committee and the families of the workers.



Employees enjoying the event with their families

#### When the CEO Stepped into the Shoes of a Teacher

As a part of Akanksha Foundation's intriguing 'Job Switch' series, this time in collaboration with Thermax Foundation, our MD and CEO Ashish Bhandari was invited as a guest participant. He was to play the role of a teacher for a day while two enthusiastic students were to mock-step into his shoes — as part of the deal.

Okay Thank you so much for taking on this role and I wish you the best.

Watch the interesting switch in roles between the CEO and students

Taking charge as co-CEOs, students of grades IX and X from Savitribai Phule English Medium School, Pune, began their day by interacting with Thermax employees at the corporate office. Later in the day, the students visited the Chinchwad factory and had conversations with the plant and factory manager about various aspects of running a factory.

The students reiterated the paramount importance of safety, mirroring the MD's own focus during his visits. They also led the safety pledge for the workers for the day.

On the other hand, at Savitribai Phule School, the students welcomed a new teacher to their class – Ashish Bhandari. Ashish held an engaging session with the grade X students, speaking about his professional journey and sharing the valuable lessons that had steered his career.

Ashish concluded the class by emphasising the crucial role of a teacher in a student's life and in shaping the future generations.



#### **CBG Continues to Break All Past Records!**



The channel partners from North region along with the CBG team during their visit to the Savli plant

### Collaborating, elevating and breaking barriers together with Channel Business Network

Channel Business Group broke all past records by crossing the magnificent Rs. 630+ crore mark to date. This achievement is a testament to the integral role played by our channel partners towards our shared objective of establishing a presence in every industry and segment.

#### CBG goes full gear on the digital front

Our channel partners play a crucial role in advocating Thermax's commitment to sustainable solutions. CBG has been at the forefront of adopting digital advancements, with over 500 customers' being onboarded on Thermax Edge® and almost all channel partners adopting and using the Dealer Management System platform as a part of their processes. The acceptance of Thermax Edge Live® is clearly seen with the team continuously promoting the platform in all exhibitions, customer meets and events.

#### Half century for #AcceleratingSustainabilityTogether

CBG ran an organic campaign called #AcceleratingSustainabilityTogether through their channel partners where each channel partner promoted the Thermax range of products. The designs were all cohesive, ensuring a captivating Thermax campaign on LinkedIn every Tuesday. Consistent engagement of our channel partners with the campaign is what helped drive this to reach 50 posts! It does not end here; the

CBG team will keep sharing informative, new and engaging posts, creating a repository of informative content to make our social media pages a knowledge bank for the customers!

#### **Exhibiting presence at expos**

CBG participated in multiple cluster expos catering to a wide range of industries like textile, tea, F&B, rice and grain etc. These expos proved instrumental in creating a robust presence in untapped markets and reinforcing our position in established industries. Moreover, these events served as effective platforms to showcase our digital prowess through Thermax Edge® and Thermax Edge Live®, highlighting the added value Thermax brings to its customers.

#### Offering our extended network glimpse into innovative capabilities

Recognising the pivotal role of channel partners in CBG's progress, CBG organised an exclusive visit to the Savli plant for North's channel partners. This provided first-hand insights into our cutting-edge boiler and steam manufacturing capabilities. They engaged in a productive exchange with our business development leadership, addressing market requirements.

This visit underscored CBG's ongoing commitment to product innovation through product efficiency, digital advancement through hardware and software upgrades etc.

In summary, CBG continues to achieve significant milestones, carrying forward its winning streak into the new year.

#### **Empowering Leadership**

Senior Leadership Development Programme:

**Fostering New-Age Leadership** 

The second phase of the SLDP programme unfolded as an intensive oneweek executive education programme (Thermax Global Senior Leadership Development Programme: Leading Through Disruption) at the Asian Institute of Management (AIM), Manila, Philippines, in July 2023.



The SLDP participants engrossed in an activity

This module focussed on building new-age leadership and explored subjects like leading in the era of the Fourth Industrial Revolution, Futures Thinking, Intrapreneurship Culture for Digital Transformation, Human Capital Development, Managing Change and Business Model Innovation.



The SLDP participants at the Asian Institute of Management, Manila, Philippines

Participants actively explored the ever-evolving concept of change management through a Harvard Change Management Simulation, diagnosed their own businesses on their present stages of innovation, explored diverse business model designs and futures thinking, anticipating future trends & viewing uncertainties with strategic foresight and discovered how emotional intelligence is the master skill that over arches everything else. The Human Capital Development Module also addressed subjects like 'Situational Leadership' and 'Leader as a Coach'.

Additionally, the second phase of SLDP included a workshop on financial acumen, addressing areas like understanding key financial statements, maintaining healthy businesses, managing profitability, effective cash flow management, and making financial decisions in the global and domestic economic landscape.

This was also the phase where the participants were introduced to Executive Coaching – a one-on-one coaching intervention to enable them in their journeys from being good to great.

In conclusion, the SLDP programme's module 2 provided participants with a holistic understanding of leadership in the new age and equipped them with essential skills to navigate complex business environments preparing them to apply their learnings to drive a positive change within their businesses and throughout the organisation.

### Young Leader's Development Programme: Cultivating Future Leaders

With the goal to build a strong pipeline of young leaders who can embody key roles in Thermax's growth trajectory and lead Thermax to newer heights, the organisation launched Young Leader's Development Programme (YLDP) with its first module in December 2023.

Young Leader's Development Programme (YLDP) is a comprehensive 12-month programme structured around four core themes - Leading Self, Leading Teams, Leading Business & Innovation and Leading Change and aims to equip our high potential emerging leaders with the skills, vision and adaptability to achieve transformative shifts in whatever they undertake.

The programme operates on a robust framework that focusses on skill development, enhanced business exposure, networking, and cross-business unit exposure and includes executive education, workshops, forums, coaching, and strategic projects, preparing them for future leadership roles. YLDP targets high-potential emerging leaders under 35 years of age, identified as critical talent in the succession planning framework of Thermax.

Earlier in the previous year, Thermax had introduced Executive Development Programme



The YLDP participants at TLA

(EDP) and Senior Leadership Development Programme(SLDP) designed for its apex and senior leaders.

With the launch of YLDP, the organisation takes another leap in strengthening its leadership development framework and its commitment to build leadership excellence at every level of the organisation.

# A Global Triumph: Thermax Receives the IMD Global Family Business Award 2023



(From left) Non-Executive Director Pheroz Pudumjee, Former Chairperson Anu Aga and Chairperson Meher Pudumjee receive the IMD Global Family Business Award

esteemed IMD Global Family Business Award 2023 winner for the year. Instituted in 1996, the award promotes family businesses by showcasing their exceptional standards and diversity while facilitating the exchange of best practices. Handpicked from among the world's leading family businesses, this recognition highlights Thermax's excellence as a family enterprise within India and positions it as a benchmark on the global stage. Former Chairperson Anu Aga, Chairperson Meher Pudumjee and Non-Executive Director Pheroz Pudumjee graciously accepted the accolade at the 32nd Family Business Network

Thermax emerged as the

(FBN) Global Summit held in November 2023 in Paris.

Sharing her thoughts on the occasion, Chairperson Meher Pudumjee, said, "I am delighted to receive this prestigious award on behalf of our family business Thermax. Having seen the kind of business families that have won this award in the past, it is very humbling for us to be one amongst them. It's a validation of our commitment to every stakeholder, to sustainability, ethical business practices, our vision, values, and a thriving culture that each person within Thermax has painstakingly invested in. This award is a collective achievement, and it inspires us to keep pushing the boundaries of what a family business can achieve in the modern world. Thank you to the distinguished jury, to IMD and FBN - The Family Business Network for this honour."



#### Thermax Receives Golden Peacock Award for Corporate Governance Excellence 2023

Thermax was declared the winner of the 'Golden Peacock Award for Excellence in Corporate Governance' for the year 2023. Golden Peacock Awards, incorporated by the Institute of Directors,

India, in 1991, are now regarded as the benchmark of corporate excellence worldwide. The award was presented at a specially organised awards ceremony in London (UK) on 17<sup>th</sup> October 2023.

The honour was accepted by Rajendran Aruna chalam, Executive Vice President and Group Chief Financial Officer, on behalf of Thermax. This achievement highlights the company's steadfast commitment to corporate governance excellence, with a special acknowledgement to the Corporate Secretarial function as a key driver in upholding exceptional governance standards.



Group Chief Financial Officer Rajendran Arunachalam accepting the honour at the awards ceremony held in London (UK)



The Company Secretarial team along with Meher Pudmujee, Pheroz Pudumjee, Anu Aga and Rajendran Arunachalam with the award

# Thermax Honoured with 'Best Business Led by a Woman' Award at Moneycontrol Indian Family Business Awards 2022

In a moment of pride and celebration, Thermax clinched the coveted 'Best Business Led by a Woman' award in the Giga category at the Moneycontrol Indian Family Business Awards 2022. The prestigious accolade, presented in New Delhi, recognised family-owned enterprises playing a pivotal role in shaping and transforming the Indian economy and society.



Jasmeet Bhatia, CHRO, receiving the award from Piyush Goyal, the Minister of Commerce and Industry, Government of India

Jasmeet Bhatia, Executive Vice President and Chief Human Resources Officer, on behalf of Chairperson Meher Pudumjee, accepted the award from Piyush Goyal, Minister of Commerce and Industry, Government of India. The recognition reflects Thermax's unwavering commitment to excellence and innovation, showcasing exceptional leadership that propels the company forward. It stands as a testament to Thermax's significant contributions to the Indian business landscape.



#### Thermax Bags Runner-Up Position in CII's Green Tech Competition for Water-Saving Innovation

Thermax secured the first runner-up position in the 7<sup>th</sup> CII-National Energy Efficiency Circle Competition in the 'Innovative Clean & Green Technology & Solution Provider (Large Scale)' category. The competition recognised our innovative solution that resulted in substantial water savings for the snacks industry.

Thermax received acknowledgement for introducing advanced adiabatic dry cooling towers, replacing conventional wet cooling systems in collaboration with a prominent snack manufacturer. This strategic decision proved to be a game-changer, contributing to an impressive annual water saving of approximately 51,000 kilolitres.

# Thermax Receives EEPC India National Export Award for Excellence



On November 21, 2023, Thermax achieved a significant milestone by winning the EEPC India National Export Award in Delhi. This esteemed accolade, presented during the 52<sup>nd</sup> and 53<sup>rd</sup> editions of the National Awards, recognised Thermax as a standout performer in the category of 'Other Fabricated Metal Products, excluding Machinery and Equipment', within the segment of Large Enterprises.

The award underscored Thermax's commitment to excellence in export operations and its contribution to the nation's export sector.

This achievement reflects Thermax's dedication to delivering high-quality products and services to global markets, further solidifying its position as a leader in the industry.



Anand Iyer, Head, EXIM, accepts the EEPC India National Export Award in Delhi

#### Thermax Bestowed with Gold Award at QCFI

At the 38<sup>th</sup> Convention of Quality Circle & Allied Concepts Competition organised by Quality Circle Forum of India (QCFI) in Pune on 9<sup>th</sup> and 10<sup>th</sup> September 2023, Thermax's Projects & Energy Solutions teams clinched the Gold Award among 282 case studies.

One team presented 'Improving Machine Run-Time and Saving Money,' demonstrating how Thermax's Kaizen-based recommendation saved customers a significant amount, offsetting an initial cost loss with a mere investment. Another team showcased 'Reduction in Auxiliary Power Consumption,' yielding considerable in savings during the crushing season.

These achievements underscore Thermax's dedication to continuous improvement and innovation, with gratitude to QCFI for the recognition.



The proud P&ES team with the award



#### Thermax Stands Out at Boiler World Expo 2023

Focus on clean air, clean energy and clean water solutions

Thermax made a resounding impact with its innovative approach at the Boiler World Expo 2023, a global exhibition for the steam and heat industry, that was held at Kenyatta International Convention Centre, Nairobi, Kenya, Africa, on 11th and 12th August 2023.

The Thermax stall was inaugurated by Dr. Suresh Khade, Minister of Labour, Maharashtra, and Dr. Musa Nyandusi, Secretary Occupational, Health & Safety, Kenya, in the presence of Ashish Bhandari, MD & CEO and Mr. Dhawal Antapurkar, Director of Steam Boiler, Maharashtra.

The wheels of preparation started rolling days ahead of the event. Meticulous planning went into the event – from brainstorming the booth design and integrating digital capabilities to the exhibits to the marketing and social media campaigns, video interviews and live coverage.

At the booth, Thermax displayed its wide range of integrated solutions in clean air, clean energy and clean water, catering to the steam and

Click here

A glimpse from the inauguration

power needs. Thermax's energy management solutions, specifically biomass-based boilers, are suitable to meet the region's industrial needs sustainably, reinforcing our positioning as a 'Trusted Partner in Energy Transition'.

The standout was an exclusive digital platform that showcased solutions such as the reciprocating grate (RG) for biomass firing, oil & gas-fired boilers, electrostatic precipitators (ESPs), scrubbers, chillers, and Mechanical Vapour Recompression (MVR) systems. Particularly noteworthy was the reciprocating grate boiler (RG), which utilises agro waste for heating applications, aligning with Africa's sustainable energy needs.

The response to the platform was overwhelmingly positive, with visitors lauding the detailed information and interactive elements of the platform.

Over two days, visitors from key industries like agro, food, brewery, distillery, and sugar engaged in insightful conversations with Thermax representatives. Enquiries poured in regarding our complete utility solutions, from smart boilers with IIoT integration to water treatment, effluent treatment, and air pollution control equipment.

Additionally, the exhibition also hosted a technical seminar where our colleagues R. S. Jha, Function Head Innovation, Heating, and Tushar Mendiratta, Hub Head, Kenya Sales, spoke on 'Transforming Boiler Technology with Sustainable Fuels and Digitalisation: Paving the Way for Efficient and Eco-Friendly Process

Heating Solutions'.

In summary, Thermax's participation at the Boiler World Expo 2023 was not just a showcase of products and services but a reaffirmation of its commitment to driving sustainable practices and fostering eco-friendly solutions aligned with the energy transition drive.



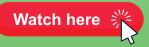
A glimpse of some fruitful interactions at the booth



The Thermax booth at Boiler World



Thermax team at the exhibition

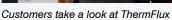


MD and CEO Ashish Bhandari greets and talks about the bustling Thermax booth

# Digitisation, Innovation & Knowledge: Key Takeaways from IFAT India 2023

The WWS and Chemical divisions participated in IFAT India 2023, held from 17<sup>th</sup> to 19<sup>th</sup> October 2023, at the Bombay Exhibition Centre, Mumbai, India. The event was a resounding success spread across three days, featuring the launch of two innovations from Thermax. One of the innovations showcased was Thermax's 'City of Solutions,' a digital platform showcasing our offerings in extended reality while the other was the launch of ThermFlux and PureCode. Additionally, informative knowledge sessions were conducted, delving into the latest trends and challenges in the water industry.







Customers immersed in the knowledge-sharing sessions

### Thermax's Immersive City of Solutions Steals the Show

The immersive virtual experience of Thermax's City of Solutions amazed the attendees. Visitors were transported into a virtual world where they witnessed customised water recycling solutions come to life. By simply sharing their water inlet parameters, they could see their unique treatment systems taking shape before their eyes. This experience showcased Thermax's unwavering commitment to ensuring guaranteed outlet quality, leaving a lasting impression on all who participated.

# THERMAX'S CITY OF SOLUTIONS THERMAX'S CITY OF SOLUTIONS THERMAX'S CITY OF SOLUTIONS THERMAX'S CITY OF SOLUTIONS

The team posing with customers at the exhibition

### **Knowledge Exchange and Collaboration**

Beyond showcasing cutting-edge solutions, WWS and Chemical divisions actively fostered an environment of knowledge exchange and collaboration. The Knowledge Academy at the Thermax booth buzzed with informative sessions delving into the latest trends and challenges in the water industry. Experts from Thermax shared their insights on topics like advanced wastewater treatment, sustainable water management, and the transformative power of digital technologies.

Thermax's presence at IFAT India 2023 was marked by the unveiling of groundbreaking innovations and a commitment to elevating customer experience and satisfaction. The event showcased how Thermax continues to lead in the water industry, providing solutions that are not only innovative but also environmentally sustainable. As the curtains closed on IFAT India 2023, Thermax remains at the forefront of shaping the future of water treatment technologies.



### Thermax Participates in Gujarat Green Hydrogen Workshop



Pawan Mehndiratta, Business Unit Head, Green Hydrogen, addressing the audience during the Green Hydrogen Workshop

Gujarat aims to position itself as a global leader in the green hydrogen value chain, aligning with India's commitment to the National Green Hydrogen Mission. In furtherance of this vision, the Gujarat Green Hydrogen Workshop was organised on 9<sup>th</sup> November 2023 in Gandhinagar by the Asian Development Bank (ADB) and Gujarat Power Corporation Limited (GPCL) in collaboration with the Government of Gujarat (GoG). The primary goal of the event was to foster the development of the green hydrogen ecosystem and attract investments to the state of Gujarat.

Pawan Mehndiratta, Business Unit Head, Green Hydrogen -New Energy, played a pivotal role as an industry thought leader

in a panel discussion titled 'Green Hydrogen Unleashed: Navigating the Future of Gujarat.' The discussion provided insights into the green hydrogen value chain and global and Indian market dynamics. Moderated by Anvesha Paresh Thakker, Partner, Alternative Fuel & Clean Energy at KPMG, the panel featured distinguished experts from various companies.

### Vietwater 2023: Showcasing Innovations in Water Solutions

From 11<sup>th</sup> to 13<sup>th</sup> October 2023, Vietnam played host to the 14<sup>th</sup> International Water Supply, Sanitation, Water Resources, and Purification Exhibition - Vietwater 2023, at the Saigon Exhibition and Convention Center (SECC), Vietnam. This edition welcomed over 450 exhibitors from more than 25 countries and territories, attracting over 10,000 trade visitors.

Thermax's showcase spotlighted its ion exchange resins, spanning applications such as water softening, demineralisation, high purity water application, sugar refining/decolourisation, heavy metals removal, iron removal, and nitrate removal. Additionally, we featured CSG-chemical offerings with applications including RO antiscalants, pH boosters, anti-corrosion solutions, and more.

Our exhibition stall garnered significant interest and positive responses from visitors, reflecting the success of our chemical offerings.



The WWS team with the exhibit at the Vietwater 2023 Expo



A visitor in conversation over the displayed offerings

# Thermax Unveils Innovative Waste-to-Energy Solutions at Waste Technology Expo 2023

Thermax showcased its waste-to-energy solutions at the Waste Technology Expo 2023 in Mumbai. The exhibition featured cutting-edge hybrid boiler systems, skillfully engineered to handle complex waste fuels effectively, and state-of-the-art flue gas cleaning systems. These innovations are set to meet the demands for clean energy and bolster our customers' sustainability initiatives.

The booth witnessed an impressive turnout, underscoring the increasing awareness and interest in energy transition among attendees.

The event served as a platform for Thermax to highlight its commitment to pioneering solutions that align with evolving environmental and energy needs.

### Thermax's Sustainable Solutions Shine at Asean Waste to Energy Week 2023

Thermax demonstrated its unwavering commitment to empowering customers with innovative solutions for sustainability during the Asean Waste to Energy Week 2023 in Bangkok, Thailand. The extensive array of waste-to-energy solutions, encompassing advanced boilers, integrated flue gas cleaning systems, and EPC capabilities, was showcased. The remarkably positive response garnered at both the conference and the booth reflected the increasing acknowledgement of the critical shift towards sustainable energy sources.

The exhibited solutions not only echoed our dedication to 'Conserving Resources, Preserving the Future' but also reaffirmed our commitment to providing cutting-edge technology for a greener world.



Thermax employees in conversation with the delegates at the Asean Waste to Energy Week

# Thermax's Breakthrough at COALLOG INDIA 2023: Shaping India's Energy Landscape with Coal Gasification Technology

As India advances towards embracing cleaner and more sustainable energy sources for self-sufficiency, the transformative potential lies in converting coal into chemicals through gasification, shaping the nation's energy future. Thus, at the COALLOG INDIA 2023 event in Kolkata held on 14th and 15th September 2023, Thermax showcased its coal gasification technology, complemented by comprehensive EPC and O&M solutions.

During this international conference and expo, Kirtiraj Jilkar, BU Head, P&ES, delivered a captivating presentation on our indigenously developed coal gasification technology.



Kirtiraj Jilkar, BU Head, P&ES, presenting at COALLOG INDIA 2023

His session highlighted the latest advancements made by Thermax in this promising and environmentally friendly clean coal technology. This provided a valuable opportunity to share insights with industry professionals, actively contributing to the ongoing discourse surrounding the energy transition and countering the unabated use of fossil fuels.



## Sustainable Innovations in Alcohol Production: Thermax Showcases Solutions at Bengaluru Trade Fair



The team engaged in conversation with the customers

During the 5<sup>th</sup> edition of India's exclusive Trade Fair and Conference dedicated to beer, wine, and spirits production in Bengaluru from 13<sup>th</sup> to 15<sup>th</sup> September 2023, Thermax took centre stage with a showcase of innovative solutions. Specialising in sustainable technologies, Thermax addressed crucial heating and cooling requirements essential for enhancing efficiency and sustainability in alcohol manufacturing processes.

Thermax's strategic presentation, positioning the company as a key player in advancing environmentally conscious practices within the alcohol production industry, underscored its commitment to cutting-edge solutions. The event, attended by over 4,000 visitors nationwide, provided an ideal platform for Thermax to showcase its contributions to driving positive change in the sector.

# Sustainable Innovations by Thermax at Indian Process Expo & Conference 2023

At the Indian Process Expo & Conference in Hyderabad from 18<sup>th</sup> to 21<sup>st</sup> August 2023, Thermax actively showcased sustainable cooling and heating innovations tailored for diverse applications in the process engineering sector. The innovations displayed at the stall emphasised the importance of achieving optimal energy efficiency, reducing operating costs, and effectively utilising waste heat in industrial processes for enhanced productivity across various industries.

The event, attended by over 10,000 visitors from process industries across the country, provided a platform for Thermax to highlight its commitment to cutting-edge sustainable solutions and their application in addressing the evolving needs of the process engineering sector.



Thermax employees interacting with customers at the booth

#### CII FoodPro - A Food and Beverages Expo - Guwahati

Thermax was a proud participant at FoodPro North-East 2023, a significant exhibition and conference dedicated to the advancement of the food processing industry in the North-East, held in Guwahati from 14<sup>th</sup> to 16<sup>th</sup> September 2023. The event, supported by the Ministry of Food Processing Industries (MOFPI), Government of India, offered a comprehensive focus on food processing, packaging, technologies, cold chain, and traditional foods.

The exhibition showcased technologically advanced innovations geared towards enhancing efficiency, conserving water, harnessing waste heat, and reducing carbon emissions for food and beverage industries.



Customers enquiring at the booth

#### Cold-Chain Excellence: Thermax's Showcase at REFCOLD India

Thermax was an active participant in a comprehensive industry trade show held in Chennai from 12<sup>th</sup> to 14<sup>th</sup> October 2023 that brought together the entire cold-chain sector under one roof. It served as an invaluable platform to exhibit innovations, market trends, and a spectrum of cost-effective products, solutions, technologies, and value-added services, encompassing various facets like cold storage, refrigeration, ripening chambers, transport, tracking & IoT, packaging, cold storage infrastructure, cold logistics, and the cold-chain supply segment.



Customer interactions at the booth

During the event, Thermax showcased its latest cutting-edge innovations meticulously crafted to enhance efficiency, conserve water, and significantly reduce carbon footprints. These initiatives underline Thermax's commitment to forging a path toward a more environmentally friendly and sustainable future.

# Thermax's Innovations Shine: Highlights from South India's Food & Drink Processing Exhibition

During the prominent Food & Drink Processing Exhibition in South India, Thermax displayed its offerings and services for the F&B (food and beverage) industries. The event, hosted in Coimbatore from 5<sup>th</sup> to 7<sup>th</sup> July 2023, served as a platform for showcasing technologies, innovations, and solutions within the food and drink industry.

Hemanth Kumar, (Heating), Arun R. (Cooling), and Baskar M. (WWS) delivered a presentation on 'Sustainable Solutions in Energy & Environment



Arun R. (Cooling), Baskar M. (WWS), and Hemanth Kumar (Heating) presenting at the exhibition

for the F&B segment.' Their insights into sustainable energy solutions stood out, capturing the attention of the expo's diverse audience, which comprised over 15,200 visitors from the food & drink segment across the nation.

# Thermax's Impactful Presence: Advancing Net Zero at IGBC

From 23<sup>rd</sup> to 25<sup>th</sup> November 2023, Thermax showcased its latest innovations at the IGBC (Indian Green Building Congress), which was themed 'Advancing Net Zero through Decarbonisation.'



A customer in discussion with the Thermax employees over the displayed solutions

During the exhibition, the team gained insights into businesses' specific sustainability challenges, and presented our solutions to meet their diverse energy transition needs.

Thermax contributed to the discourse on advancing towards a net-zero future and benefitted significantly from the expo by establishing meaningful connections, understanding market needs, and showcasing how innovative solutions play a pivotal role in the decarbonisation journey.

# **Desalination & Industrial Water Management Conference**

The Water and Waste Solutions (WWS) division participated in the Conference on Desalination & Industrial Water Management in India held in New Delhi on 14<sup>th</sup> and 15<sup>th</sup> September 2023.

Sanjay Goel, Head - Industrial Projects, WWS, presented our solutions for industries focussed on desalination technologies and advanced reverse osmosis for water reuse and efficiency.

He showcased success stories where Thermax's desalination solutions helped industries overcome challenges like high energy consumption and limited seawater reverse osmosis (SWRO) recovery. He also delved into the evolving landscape of desalination

technology and new developments. He introduced Thermax's breakthrough advanced RO system, which is capable of achieving an impressive 70-75% recovery rate.

He emphasised

Thermax's position as a leading EPC service provider, remaining at the forefront of innovation and providing advanced solutions to empower industries towards sustainable practices.



Sanjay Goel Head - Industrial Projects, WWS, presenting at the event

#### The Great Indian Textile Expo, Ichalkaranji

Thermax, along with its channel partner, Vedant Equip, showcased innovative solutions at The Great Indian Textile Expo in Ichalkaranji, known as the 'Manchester City of Maharashtra' for its thriving textile industry.

The expo served as a strategic platform, allowing Vedant Equip to unveil cutting-edge offerings tailored for the textile sector. Their presence established a robust connection within this vibrant market and reinforced their commitment to industry advancement.

The event spotlighted state-of-the-art machinery and technologies, making a lasting impact on industry professionals.



The team in discussion with the customers at the booth

## Channel Business Group Shines at Rice and Grain Tech Expo in Vijayawada

Thermax's Channel Business Group (CBG), along with its channel partners, participated in the Rice and Grain Tech Expo in Vijayawada from 17<sup>th</sup> to 19<sup>th</sup> November 2023. The event was a powerful medium to connect with customers and showcase the latest technologies for the rice segment.

The booth had the opportunity to welcome the Minister of Civil Supplies & Consumer Affairs (Government of AP State), Mr. Karumuri Venkata Nageswara Rao, who visited our stall and interacted with the team. He showed particular interest in our offering, Ricemax, as a solution to address the broken rice issue in the region.



The Thermax team posing with Minister of Civil Supplies & Consumer Affairs (Government of AP State), Mr. Karumuri Venkata Nageswara Rao at the booth

# Unveiling Thermax's Rice Industry Solutions in Burdwan Meet

In collaboration with CBG, Thermax's channel partner, Prerana Engineering, organised a customer meet in Burdwan, West Bengal.

The gathering saw the participation of 150 rice millers from the region, providing a prime opportunity to unveil Thermax's comprehensive sustainable solutions tailored for the rice industry.

The event garnered praise and proved fruitful, resulting in winning orders for Ricemax and Combloc from a prominent player in the rice sector.

Hats off to Prerana Engineers and the entire team for their commendable efforts in making this event a resounding success.



Saugata Das, Corporate Regional Head - East presenting a range of water products at the event



#### Thermax's Engagement at Global Services Export Conclave: Shaping the Energy Transition Landscape

Thermax participated in the Global Services Export Conclave in Delhi, organised by the Services Export Promotion Council (SEPC) - India, a body established by the Ministry of Commerce and Industry, Govt. of India.

Khushboo Bhatia, CEO of TOESL, was a key panellist in the session on 'Emerging Global Opportunities in Sustainability & Energy Transition and India's Role in Shaping the Journey.' During this session, she discussed Thermax's role as an energy transition partner, presenting innovative

green solutions like biomass combustion, biomass gasification, bio-CNG, green hydrogen, renewable power (solar and wind-solar hybrid), and waste-to-energy.

Emphasising India's potential to lead the energy transition drive, she highlighted the nation's knowledge, human capital, and supportive policies and incentives in the field. The panel discussion featured Vibha Dhawan, Director General of The Energy and Resources Institute (TERI), Anil V. Parab, Senior EVP at L&T Ltd, and Amit Sharma, MD of Tata Consulting Engineers (TCE), with the latter serving as the session moderator.



TOESL CEO Khushboo Bhatia (right) at the panel discussion

#### Rice and Grain Expo – Nagpur



Thermax employees in discussion with customers at the booth

On 18<sup>th</sup> November 2023, the Federation of Vidarbha Rice Industries Association hosted a Rice Tech expo in Nagpur, graced by the esteemed presence of Mr. Nitin Gadkari, Minister for Road Transport & Highways, Government of India.

The event focussed on rice and edible oil and drew the attention of numerous rice millers. The highlight was the strategic airing of the Thermax Combloc video during Mr. Gadkari's address, serving as a catalyst for bolstering our market presence.

The expo proved instrumental, allowing Thermax to engage with industry professionals and showcase cutting-edge solutions. The positive response received during the event is a testament to the impact and potential of our offerings in the rice and edible oil sectors.

This successful showcase not only reinforced existing partnerships but also paved the way for new opportunities, positioning Thermax as a leader in industry advancements.



# Thermax Presents Water Treatment Solutions at Aquatech Amsterdam 2023

Thermax participated in
Aquatech Amsterdam 2023 from
6th to 9th November 2023, leveraging
over four decades of experience as a
partner in liquid purification and related
fields. The event provided a platform for global
engagement with industry leaders, connecting with esteemed
clients, and showcasing the versatility of the Tulsion® resin
range for liquid purification.

During the exhibition, Thermax presented innovative water treatment solutions, actively engaging with industry leaders on a global scale. Expertise was shared on various fronts, encompassing PFAS removal, demineralisation processes, metal removal and recycling, and condensate polishing. The team interacted with customers, addressing their specific needs and demonstrating how Thermax products align with and contribute to their sustainability objectives.



The Thermax team posing with customers at the booth

# Thermax Presents Clean Water Solutions at Water Today Expo

At the Water Today Expo in Bengaluru, held from 22<sup>nd</sup> to 24<sup>th</sup> November 2023, CBG and WWS divisions presented clean water solutions for industrial and urban markets, showcasing water treatment solutions, STPs, and ZLD systems alongside services.

The innovative approach towards addressing water challenges with sustainability garnered significant interest. Also, harnessing the power of digital prowess, the City of Solutions platform proved an effective tool to cater to all of the customer's concerns while giving them a clear idea of the processes of all the Thermax's clean water solutions.

This event highlighted the crucial role of clean water solutions in India's development, reaffirming its commitment to providing safe and sustainable water resources for all.



Customer interactions at the booth



#### Thermax's Success at UPASI, Coonoor

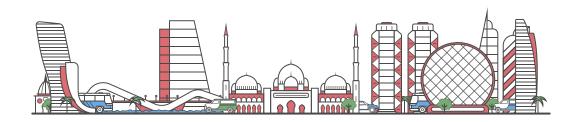
Thermax, alongside Maniranjan Marketing and CBG, actively participated in UPASI, Coonoor, Tamil Nadu, an event hosted by the United Planters' Association of Southern India (UPASI).

At the exhibition, Thermax showcased a diverse array of solutions, drawing attention from attendees. UPASI represents planters of tea, coffee, rubber, cardamom, and pepper in the southern states of India, providing a platform to broaden our presence across various industries and regions.

Thermax's innovative offering, Aquaerotherm (ATM), stood out at the event, earning appreciation from visiting customers at our stall.



The Thermax team engrossed in a conversation at our stall





The team posing at the booth in Abu Dhabi

# Thermax's Participation at ADIPEC 2023: Advancing Energy Solutions

At ADIPEC 2023, hosted by the Abu Dhabi National Oil Company (ADNOC), Thermax Babcock & Wilcox Energy Solutions actively participated by setting up a booth.

Anand Antarkar and Vishal Gawli from the TBWES Marketing team welcomed a diverse range of visitors, including patrons from ADNOC and other globally renowned oil and gas majors, EPC partners, consultants, and valued business associates.

The booth showcased TBWES products and services, aligning with the journey towards energy transition and offering value propositions on the path to a sustainable energy future.



Renewable Energy Expo 2023: Showcasing Biogas Solutions and Building Industry

Relationships

At the Renewable Energy Expo 2023 held from 4<sup>th</sup> to 6<sup>th</sup> October 2023, Thermax showcased its biogas purification and upgradation technologies, attracting attendees' interest.

Throughout the event, our team interacted with visitors, offering insights into our solutions' environmental and economic advantages. Our presence enabled us to showcase our cutting-edge technology and facilitated networking opportunities with industry leaders, fostering valuable relationships.



Attendees engrossed in discussions at the booth

Thermax at PIPOC 2023: Advancing Sustainable Solutions for the Palm Oil Industry



The team posing at the booth

During the PIPOC 2023 International Palm Oil Congress and Exhibition held from 7<sup>th</sup> to 9<sup>th</sup> November 2023 in Malaysia, Thermax's team of seasoned experts engaged attendees in insightful discussions, shedding light on the transformative potential of its clean air, clean energy and clean water solutions.

They elaborated on how these innovative solutions could effectively aid palm oil producers, processors, and related industries in mitigating their carbon footprint, amplifying operational efficiency, and bolstering sustainability practices. Through collaborative dialogues and informative presentations, Thermax demonstrated its commitment to driving positive change within the palm oil sector, offering tailored solutions to address environmental challenges while fostering sustainable growth.

#### Enviro's Presence at Fenasucro 2023: Advancing Solutions for the Brazilian Sugar Market



The presentation underway at the exhibition

Enviro participated in
Fenasucro, held from 15<sup>th</sup> to
18<sup>th</sup> August 2023, alongside
its business/channel partner in
Brazil. They presented a paper
titled 'Performance comparison of
(electrostatic precipitator) ESP with
particulate scrubber and its relevance in the
Brazilian market'.

The team successfully engaged with over 50 boiler OEMs and direct sugar producers in Brazil, discussing the evolving emission regulations in the country and how Thermax could offer tailored solutions to meet their needs.



#### PALMEX Thailand 2023: Thermax's Sustainable Solutions for the Palm Oil Industry

During the PALMEX Thailand 2023 Seminar and Exhibition held on 17<sup>th</sup> and 18<sup>th</sup> August 2023, Thermax participated in the specialised palm oil event in Thailand, showcasing a comprehensive array of clean air, clean energy, and clean water solutions.

Speakers from Thermax, including Saurabh Pophale and Anil Misher, delivered a presentation on 'Sustainable & Efficient Combustion and Air Pollution Control Technology for the Palm Oil Industry.'

Thailand, currently ranked #3 globally for crude palm oil, emerged as a promising market for palm oil technology firms, driven by its dynamic industry, continually advancing new technologies and equipment to enhance production.

Drawing from over five decades of experience, Thermax offered invaluable insights and cutting-edge solutions to numerous attendees, assisting them in selecting optimal approaches tailored to their specific requirements.



Visitors engaged in a conversation at the booth



Watch the inspirational story of women fitters recruited at the Shirwal factory

# **Empowering Women in Manufacturing**

#### Thermax's Journey to Inclusive Workforce Development

The significance of Diversity, Equity, and Inclusion (DEI) has now transcended mere boardroom discussions at Thermax - it's now driving tangible change on the ground level. Seeking to bolster gender diversity, Thermax took proactive steps to recruit more female machine operators and fitters at its Shirwal factory. With the guidance of Abid Inamdar, Manufacturing Head, TBWES - Shirwal, and Manohar Zanje, Employee Relations Manager, TBWES, Rhutuja Kumbhar, Assistant ER, TBWES, spearheaded the initiative, venturing into nearby villages to uncover potential candidates.

The recruitment process in itself was a challenging one. Although creating opportunities on the factory premises is easier, selecting women candidates for the same has been an arduous journey. Rhutuja visited villages within a 5-10 km radius of the Shirwal factory, such as Bawada, Shivaji Nagar, Bhade, Morve, Dhangarwadi, and others in Khandala taluka and collected 70 biodatas. Thereafter, the recruitment process began with scheduling panel interviews with Nitin Changade, Plant Manager,

TBWES, Shirwal Factory, Pravin Patil, Plant Manager, TBWES, Shirwal Factory, Manohar Zanje, and vendor shop heads.

To ease the process of the interview, the candidates were briefed on the plant work culture and job expectations. From the pool of 70 CVs, the panel selected 16 candidates for shop vendor roles. These candidates joined the company in September 2023 and underwent training on safety, prevention of sexual harassment at the workplace (POSH), work culture, and job-specific skills. Along with this, classroom and on-the-job mentorship were provided for one week, after which the candidates were assigned to identified areas within the shops.

Currently, 13 women trainees work across all three shops (section, panel, and header shop), independently performing skilled operations such as coil setup, layout marking, chamfering machine, grinding, buffing, and deburring. By December, most women trainees achieved their targets, and performance assessments are ongoing to upgrade their skills further.

Feedback from the trainees was overwhelmingly positive, with each expressing a sense of happiness and achievement. This initiative marks the successful completion of the second phase of women recruitment at Shirwal, with plans for continued progress in the future.



# Dr. Jha Achieves a Milestone: Completes PhD with Pioneering Research in Hybrid Boiler Performance



Dr. R. S. Jha, the Global Innovation Head of Heating SBU, recently celebrated a significant milestone with the completion of his PhD.

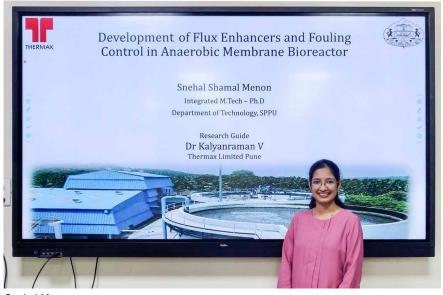
Accomplishing the rigorous journey of doctoral research, Dr Jha's thesis, titled "Experimental Investigation and Development of Predictive and Dynamic Simulation Model of a Hybrid Boiler for the Performance Prediction in Fluctuating Load Condition," stands as a testament to his expertise in the field.

His groundbreaking work involves an in-depth exploration of a hybrid boiler's performance under fluctuating load conditions, contributing valuable insights into heating technology.

Dr. Jha's successful completion of his PhD not only showcases his dedication to advancing knowledge but also reinforces his role as a leading innovator in the Heating SBU. His expertise continues to drive innovation and excellence in the domain, setting a commendable standard for the industry.

### Technological Triumph: Snehal Menon's PhD Journey at RTIC

Snehal Menon, who joined the Research, Technology and Innovation Centre (RTIC) division as a Technologist, completed her PhD from Savitribai Phule Pune University in September 2023. Her research focussed on minimising



Snehal Menon

fouling rates in tubular membranes for anaerobic membrane bioreactor applications. She successfully developed cationic coagulants from rice straw to enhance the filtration efficiency of tubular membranes, consequently reducing the need for frequent chemical cleaning.

Throughout her doctoral journey, Snehal conducted her research entirely within the RTIC facility, guided by Dr. Kalyanraman.
Additionally, Snehal was honoured with the Prime Minister's fellowship for doctoral research, sponsored by Confederation of Indian Industry (CII), Science & Engineering Research Board (SERB), with Thermax as her sponsoring company.

Well done Snehal!

#### Journey to Excellence: Siddharth Sharma's Recognition in Jombay India's HR 30 under 30



Siddharth Sharma

Siddharth Sharma, from the HR division, secured a coveted spot in Jombay India's prestigious HR 30 under 30 list. The competition drew the participation of over 980 professionals from diverse HR backgrounds and notable companies such as Amul, P&G, GSK, and Wipro. Unfolding over three and a half months, this multifaceted journey encompassed various levels, including interviews, mentorship programmes, and intensive workshops featuring CXO-level executives.

Participating in this competition provided Siddharth with a holistic view, facilitating interactions with a range of stakeholders and offering valuable insights into diverse mindsets. Siddharth expressed his joy at the opportunity to engage with numerous CHROs, panellists, and professionals from various positions, an opportunity extended to him through his involvement in Jombay's HR 30 under 30.

Congratulations Siddharth!

#### Empowering Change: Senorita Lobo's Innovative Solutions to Plastic Pollution

Senorita Lobo, daughter of Stany Lobo, Sr. Associate - EXIM, secured the fourth position in the children's competition 'Best out of waste' organised at the Environment House by the Enviro division. Her creations, a pen stand and a plant pot, were crafted from waste plastic bottles and pencil scraps. Currently enrolled in grade VII, Senorita's inspiration to utilise waste plastic bottles for these creations stemmed from reading an article about plastic pollution and its adverse effects on wildlife and human populations.

Motivated to address the environmental challenges posed by plastic pollution, Senorita channelled her creativity into crafting functional items from discarded materials. Thermax recognised and appreciated her efforts, an acknowledgement that brought her immense joy and gratitude.

Reflecting on the broader issue, Senorita emphasises the importance of raising awareness about plastic pollution and its detrimental impacts. She believes in educating children and family members about the consequences of plastic pollution to encourage sustainable practices and protect our environment and the planet.

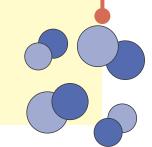


Senorita Lobo

# Meet the boffins and buccaneers drilling for hydrogen

The search is on for a clean fuel that could one day replace oil

The article discusses the growing interest in hydrogen as a potential clean fuel, alternative to oil. It explores various approaches to accessing hydrogen, including drilling for natural sources and exploring geological formations. The article highlights the historical parallels with past oil rushes and the emergence of entrepreneurs and researchers aiming to unlock hydrogen's potential. It also mentions the challenges and uncertainties surrounding hydrogen extraction and its potential impact on industries and climate change mitigation efforts.



"I believe that water will one day be employed as fuel, that hydrogen and oxygen, which constitute it, used singly or together, will furnish an inexhaustible source of heat and light." So wrote Jules Verne in 1875. Visionaries and cranks have long searched for cheap ways to manufacture hydrogen, with limited success. Now the world is once more hyperventilating about the simplest element, but with a twist. Some modern visionaries don't want to make it; they want to drill for it. A rush is starting for colourless gold.

Unlike actual gold, hydrogen is spectacularly useful. As a fuel, in theory it could power cars, buses, planes and ships. It could be burned in power plants, generating electricity. And because, unlike fossil fuels, it emits no greenhouse gases, it could help curb climate change (so long as it is cleanly obtained).

Governments are throwing subsidies at efforts to make hydrogen fuel. America's Inflation Reduction Act offers lavish support for producing it cleanly from fossil fuels (which involves the clunky process of capturing and sequestering the carbon dioxide by-product), as well as from carbonfree nuclear power and renewables (which requires lots of energy to split water into hydrogen and oxygen via electrolysis).

The snag is that making hydrogen in any of these ways is costly, and likely to remain so for years.

Hydrogen is the most common element in the universe but, says America's National Renewable Energy Laboratory, "typically does not exist freely" on Earth. It is normally found bound up with oxygen, as water, or carbon, as hydrocarbons. Releasing the hydrogen can require lots of energy, complicated kit and hassle.

So a motley crew of hydrogen hunters are searching for "natural" (or "geological") hydrogen, which they believe is more common than is widely supposed. To those who dismiss them as dreamers, they point out that the notion of plentiful oil in the ground was once dismissed as crackpot, too.

In the middle of the 19th century,

the world faced an energy crisis. Whale oil was in short supply. Some thought petroleum might work as a replacement, but many attempts to dig for it had flopped. When Edwin Drake proposed drilling for oil in Pennsylvania, investors mocked the notion: "Oil coming out of the ground...? Nonsense! You're crazy." Then, one day in 1859, Drake hit a gusher, and the oil age began.

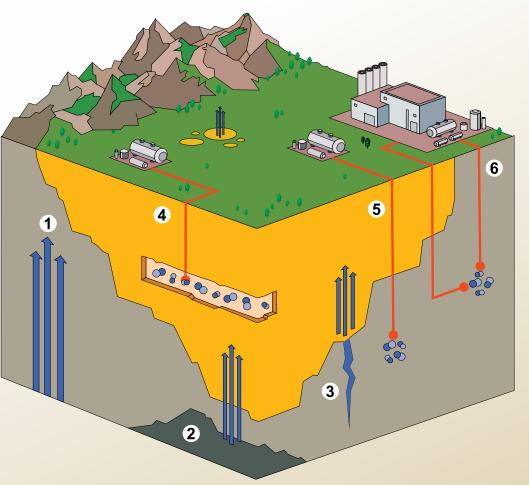
Could something similar happen with hydrogen? In a small way, it already has. In 1987 in Bourakebougou, in a remote corner of Mali in West Africa, locals searching for water drilled 100 m down and, since the hole was dry, gave up. Then, to their surprise, a mysterious emission from that hole

caught fire. The well was quickly capped and forgotten—until a sparky local businessman came along.

"I want to be the king of hydrogen!" bellows Aliou Diallo. The son of a railway worker in Mali, Mr. Diallo made his first fortune investing in distressed debt, parlayed those winnings into industrial concessions, and went on to acquire a gold mine. He has dabbled in politics, despite the dangers in a coup-prone country like Mali, running for president in 2018 and coming a respectable third. But now he has given up politics to concentrate on hydrogen.

By happenstance, the hydrogenemitting hole in Bourakebougou was within an oil and gas concession that had been granted to a firm run by Mr. Diallo. The villagers, seeing flames shooting out of the ground, assumed the place was cursed. Mr. Diallo, who is not superstitious, decided to investigate. Tests confirmed that the well was producing 98%-pure hydrogen. Mr. Diallo brought in equipment from Canada to do more drilling and testing. A coup in 2012 spooked outsiders, but he forged ahead. Now those villagers have reliable light and power day and night — a rarity in rural Mali.

The well tapped into a large reservoir of natural hydrogen that continues to flow to this day. Mr. Diallo's firm drilled over two dozen



#### How hydrogen can be formed

#### 1. Radiolysis

Energy from radioactive rocks splits water into hydrogen and oxygen

#### 2. Serpentinisation

Iron-rich rocks react with very hot water to produce iron oxide and hydrogen

#### 3. Deep-seated formation

Hydrogen is produced deep in the Earth's core or mantle

#### How hydrogen can be extracted

#### 4. From traps

Drilling into hydrogen trapped below impermeable rock or salt layers

#### 5. Direct

Harvesting hydrogen directly from fractured rocks rich in iron

#### 6. Enhanced

Stimulating hydrogen production by pumping water into iron-rich rocks

more wells, from shallow ones akin to the first water well to ones 1,800 m deep, to map and master the geology. Hoping to replicate his success elsewhere, he has set up a firm called Hydroma in Canada to scour more stable countries for the gas. (Mali has had two more coups since 2020.) "Hydrogen is the game changer for humanity," he says.

He is no longer alone in this view. Hydrogen has been found in France, America, Brazil, Australia, Colombia and Oman (see map). A place in Turkey thought to be the location of the original Olympic flame has burned for millennia thanks to an energy source now known to be rich in hydrogen. The mid-Atlantic ridge and the African rift valley emit the gas. And mysterious surface formations known as "fairy circles", spotted in the Carolinas, Poland and western Australia, also appear to seep it.

Why have these hydrogen sources not previously been noticed? It may seem odd, but big oil firms never looked for hydrogen or deployed sensors to detect it. Geoffrey Ellis of the United States Geological Survey (USGS) adds that, as well as being odourless and colourless, the gas is often gobbled up by microbes below the surface. So prospectors may have to drill with the explicit intention of detecting hydrogen if they are to find what is hidden under their noses.

#### The benefits of bad Soviet science

In 2020 Viacheslav Zgonnik, a chemist of Ukrainian origin, published a review of academic literature showing that "molecular hydrogen is much more widespread in nature than was previously thought." Earlier Western scholars had focussed on papers in English. Dr. Zgonnik, who is fluent in Russian, scoured the undigitised, untranslated paper archives of the old Soviet Union for clues. After reviewing over 500 studies, he had a breakthrough.

Much of the relevant field research over the past century took place in the Soviet Union and was largely unknown to Western researchers. Soviet engineers often found hydrogen not because they wanted it but because they had a different (and now debunked) theory of how petroleum originates. They believed it was generated from inorganic matter rather than crunched-up dinosaur bones. On this view, carbon from the earth's mantle would interact with hydrogen deep underground to produce hydrocarbons, so it made sense to look for hydrogen as a telltale sign of petroleum.

There are, by one estimate, more than a dozen ways that hydrogen might occur naturally, but only a handful seem likely to yield commercially extractable deposits (see graphic). The most promising, says Dr. Zgonnik, is serpentinisation: iron-rich rocks below the Earth's surface react with very hot water to produce iron oxide and hydrogen gas — in effect, rusting. This reaction has been well studied. Dr. Zgonnik's company, Natural Hydrogen Energy, has identified a likely spot in Nebraska and drilled the world's first wildcat well for hydrogen, to a depth of some 3,400 m. Though the pandemic and financial constraints have slowed it down ("very few investors are willing to take this kind of risk," he sighs), with new partners the firm plans to drill again soon at the site.

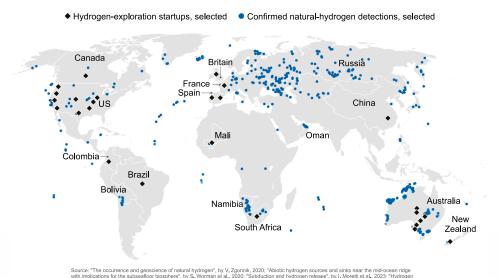
Another theory, deep-seated formation, holds that hydrogen is produced deep in the earth's core or mantle, and seeps up to the surface as it rides along cracks. Yet another, known as radiolysis, proposes that

energy from radioactive rocks splits water into hydrogen and oxygen deep underground. However hydrogen is formed, its molecules are so small and slippery that it can easily seep its way to the surface unless it is either caught in a trap (say, under an impermeable salt layer) or consumed by microbes.

Since the publication of Dr. Zoonnik's article, interest in hydrogen has been fizzing. The Geological Society of London attracted over 200 experts to a conference on the topic in July. America's Department of Energy, while still pumping billions into schemes to manufacture hydrogen, has come round to the view that "large quantities of geologic hydrogen (probably) exist in the Earth's subsurface." Dr. Ellis of the USGS reckons there could be enough to power the global economy for centuries. The USGS will soon publish an assessment of the most promising locations — in other words, a treasure map.

The search for hydrogen is attracting millions of dollars in investment, says S&P Global, a financial-data firm. Australian explorers such as HyTerra and Gold Hydrogen have raised millions more through public offerings. Other efforts are funded by government grants or quiet money from oil and mining giants. Koloma, a secretive startup based in Denver, recently attracted \$91 m in funding from the venture-investment arm of Breakthrough Energy, a climate-innovation organisation started by Bill Gates.

Talking to The Economist on the sidelines of the UN climate conference, Mr. Gates said of natural hydrogen: "It could be gigantic or it could be a bust, but if it's really there... wow!" That is why he is betting on Koloma, which rejects trial and error in favour of a rigorous scientific framework. At



Ohio State University, Tom Darrah, the firm's chief technology officer, and a team of researchers are working feverishly in an ordinary-looking cinderblock building. Dr. Darrah has drawn up his own map of where he thinks natural hydrogen can be found. He says there is "very little overlap" with where oil and gas are found.

Asked what his theory of the case is, the bespectacled academic leaps to the whiteboard and starts scribbling. "We use the SMARTS (Specific, Measurable, Attainable, Realistic and Time-Bound goals) approach," he explains, which is inspired by the subsurface modelling used by the oil industry. By applying "hydrogen smarts", his firm is looking for the best source rock that might contain hydrogen, finding traps and seals on top, and using his long experience in research to validate findings quickly in the laboratory.

When the USGS releases its treasure map, it will point wildcatting rivals in the right direction. However, he insists, his firm has an edge thanks to its systemic approach, which includes improved detection tools, reservoir simulation and in-situ stimulation of hydrogen. He says he knows "what scientific questions to ask" to find "real drillable areas".

#### The green baron

"I have a rather unpopular view that science and innovation are likely to come to our rescue on climate. rather as they did over Covid," says Baron Howard of Lympne, Michael Howard, as he used to be known, has been an oilman, an opposition leader and Britain's environment minister. Now he is chairman of Earth Source Hydrogen, a startup looking for the elusive gas in Australia. He insists his firm is not wildcatting randomly, but rather applying for licences in promising areas and doing desktop exercises before drilling. It is eyeing areas close to big mining operations, which might want to buy the fuel if he finds any.

#### With enough hydrogen, you can do anything

Dr. Ellis of the USGS calls
Australia "one of the hottest areas
for exploration". An Australian
competitor, Gold Hydrogen, has
just set the industry ablaze. Nearly
a century ago, diggers struck
hydrogen in southern Australia
and, unusually, took careful notes.
After looking at those notes,
which showed extremely high
concentrations of the gas, Gold
Hydrogen decided to drill at the

same location. Neil McDonald, the firm's boss, reports ecstatically that the initial data from drilling in October show that hydrogen levels are still high there, just as they were in 1931. That suggests a long-term source or large reservoir, he reckons. The gas can probably be tapped directly, with no need for fracking or other complicated processes to flush it out.

The most basic question has been answered, says Philip Ball of the Clean Air Task Force, an American environmental group. "We are rapidly converging on agreement that a lot of hydrogen exists," he says, "as we find the stuff everywhere." The question now is whether it can be exploited.

Great uncertainty remains about whether any of the hydrogen dreamers' dreams can be realised. But it is possible that a cheap, low-carbon fuel could be widely available at some point in the future.

Hydrogen has the highest energy density of all chemical fuels and is also very reactive, says Eric Toone, Chief Technology Officer of Breakthrough Energy. This makes it potent. It could be used to make essential but currently things such as liquid fuels, steel and ammonia. With enough hydrogen, Dr. Toone reckons it might be possible to make starch without photosynthesis. which would revolutionise agriculture. Only nuclear fusion has a comparable potential, he says, and he thinks hydrogen is a less risky bet. "If you have enough hydrogen and it is cheap enough. you can do literally anything," he summarises. Jules Verne would surely agree.

Source: The Economist



#### **Making Our Community Paw-fect!**

Our factory is an extension of our home and, therefore, an extension of our values. One year ago, as I was walking down the factory to Eco House, I noticed stray dogs wandering through the facility neglected, seeking refuge, food and a friendly hand. Having always been an animal lover, I began brainstorming on how we could help create a more compassionate workspace where the welfare of these stray dogs becomes intertwined with the heart of our culture as a company. As many companies are taking steps to make a positive impact on the lives of these furry friends, it is our responsibility to do the same. So, what are the benefits of helping these stray dogs in our factories? And what steps are we taking to create a safer, more compassionate environment for both employees and the local canine community?



Meher Pudumjee and Pheroz Pudumjee cuddle the dogs in the factory premises

Safety First: Most of the dogs in our factory have been spayed and given their rabies shots. However, there are some which still require spaying and vaccinations so that we can prevent accidents and help control the population. We will be working with local NGOs to help with this initiative. We will also be tagging all of our dogs so that we know they belong to our facility.

Food & Shelter: Most of the dogs are now being fed twice a day from the waste of our canteen food, such as chapatis, rice, bread and milk. They will be fed in designated feeding spots which will help keep their presence only in certain areas. This provides a self-sustaining model for the community.

Employee Awareness: As you walk around the factory, look out for posters which will help you understand the stray community better. A few employees who have been instrumental in helping with the feeding and building trust with the dogs are Pravin Wagh, Ganesh Koli, Sanjay Hiwale, Yogesh Sapkale, Mukunda Helode and Vijay Siyak.

Next time you are at the factory, please say hi and speak to them about their experiences. I believe that a corporate culture that extends compassion to animals creates a positive and empathetic atmosphere. A controlled and

healthier canine community also contributes to a cleaner and safer environment for all. Helping stray dogs in our factories is not just an act of kindness; it's a demonstration of corporate responsibility. If anyone has any questions or comes across a stray in our factory that might need our help, please reach out. Since this is just the beginning, we look



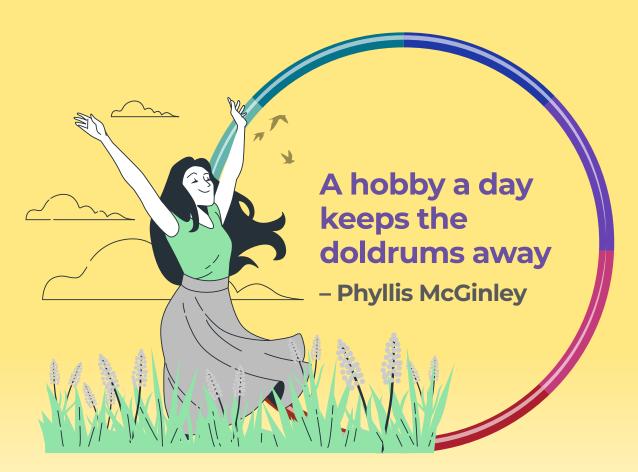
Dogs are fed leftover food from the canteen

forward to a more comprehensive support system for our canine friends around the community.

Creating a paw-sitive workplace will benefit us all!



**Lea Pudumjee**Product Manager, Heating,
Eco House, Chinchwad



Hobbies play a very important role in our lives. They occupy our minds when we are free and also make us happy.

I started hooping in my childhood as a hula hoop was gifted to me, but little did I know that it would become a life-long hobby. I started learning various tricks with my hoop. And it has given me joy since then. Hooping has given me freedom, expanding my mind and creativity and providing the hope to see the beauty of my inner potential.

Hula hooping is a fun and spirited activity where you learn various hooping tricks. Hooping tends to strengthen your muscles. Gradually, you unlock each level of hoop tricks, just like the levels in video games. Day after day, you can see yourself at the next level.

Hooping is a pleasurable practice that helps you to express yourself. Hooping is a form of expression that will connect you with your body and mind and will make you want to move for joy, freedom (from negative thoughts) and rhythmic

flow with some music.

Hooping can also be done with the help of yoga, as yoga makes you more flexible. Hence hooping and yoga both will give you more flexibility and a cheerful mind every day.

What I love about hoop flow is that it allows both the mover and the viewer to immerse in it completely. Moreover, hooping has helped me to reduce stress as it helps me to completely immerse myself in it. Over time, I've not only honed my skills but also shared my passion by volunteering in a 2023 tour organised by Eshna Kutty, teaching hooping techniques to others.

My favourite memory of hooping is practising a specific trick for a year and not being able to do it. Despite that, I kept trying and I could randomly do it one fine day. As much as I was surprised at myself, I also knew that I had been training my muscle memory to learn and master this trick and with time, I could achieve it.

I believe that engaging in diverse activities is essential as it allows us to fully immerse ourselves and find solace beyond our daily routines. After years of hooping, today, I can perform hula hooping with three hoops on three different body parts at the same time.

Thus, hooping, for me, has become a means of multitasking where I effortlessly hula hoop my way through everything that comes in life.



Jessica Yogesh Mayur Project Engineer, Enviro, Environment House, Bhosari



In the rapidly evolving landscape of the chemical industry, technological advancements have become a driving force behind innovation and efficiency. Artificial intelligence (AI) and machine learning (ML) have emerged as powerful tools with the potential to transform the way chemical companies operate. By harnessing the power of AI and ML, these companies can optimise processes, accelerate research and development,

threats that need to be addressed for a responsible and successful integration. Enhancing Efficiency and

However, as with any transformative

technology, there are also inherent

and enhance decision-making.

Optimisation: Chemical companies deal with vast amounts of data, from supply chain management to quality control. Al and ML can process and analyse this data to identify patterns, optimise operations, and enhance efficiency. By implementing intelligent algorithms, companies can automate processes, improve productivity, and reduce costs. For example, predictive maintenance models can help anticipate equipment failures, minimising downtime and maximising production output.

Accelerating Research and **Development:** In the field of chemistry, Al and ML hold immense potential for accelerating research and development. These technologies can analyse vast scientific literature, identify correlations, and suggest novel compounds or formulations for specific applications. By leveraging Al and ML, chemical companies can streamline the discovery process, reducing the time and costs associated with traditional trial-anderror approaches. Furthermore, ML algorithms can optimise experiments by suggesting relevant variables to

#### Revolutionising the Chemical Industry: The Role of Artificial Intelligence and Machine Learning

more efficient development cycles.

**Enhanced Decision-Making: Making** informed decisions is crucial in the chemical industry, where outcomes can have significant consequences. Al and ML can provide valuable insights by analysing complex data sets and generating actionable intelligence. By combining historical data, realtime monitoring, and external factors, Al-powered systems can optimise supply chain management, demand forecasting, and inventory control. These technologies enable chemical companies to respond promptly to market fluctuations, mitigate risks, and make data-driven decisions that align with their strategic goals.

Threats and Challenges: While Al and ML offer immense potential, there are also notable threats and challenges that need to be addressed. One major concern is the ethical use of data. Chemical companies must ensure the responsible collection, storage, and usage of data to protect sensitive information and maintain customer trust. Additionally, biases inherent in training data can impact Al models, leading to biased outcomes or discriminatory practices. It is crucial to mitigate bias by diversifying data sources and implementing rigorous testing and validation procedures.

Another threat is the risk of cybersecurity breaches. As chemical companies adopt Al and ML technologies, they must prioritise robust cybersecurity measures to protect intellectual property, trade secrets, and sensitive operational data. Implementing strong encryption, access controls, and regular security audits are essential to safeguard against malicious attacks.

Furthermore, the integration of AI and ML technologies requires a skilled workforce. Chemical companies need to invest in training programmes and to equip their employees with

interpret Al-driven insights effectively. Developing interdisciplinary teams that include chemists, data scientists, and domain experts fosters collaboration and ensures optimal utilisation of Al and ML tools.

Artificial intelligence and machine learning technologies are revolutionising the chemical industry, offering unprecedented opportunities for efficiency, innovation, and growth. By harnessing the power of data analysis, chemical companies can optimise processes, accelerate research and development, and make informed decisions. However, addressing the ethical implications of data usage, ensuring robust cybersecurity measures, and investing in the development of a skilled workforce is critical to successfully integrating Al and ML technologies. With responsible implementation, Al and ML have the potential to transform the chemical industry, driving it towards a more sustainable, efficient, and competitive future.

This article has been written by V. Vivek of the Chemical division who has used Chat GPT-4 available as a free plugin with the Microsoft Edge browser. The author took three minutes to draft this article and chose this route to showcase the power of artificial intelligence and machine learning and how it can help our day-to-day lives to fasten the work we do and make us more productive while taking utmost care of ethics and morals which currently the artificial intelligence and machine learning tools do not provide and need human intervention.



V. Vivek Head, Strategy & Marketing, Chemicals, Hyderabad



Recently, I was on a leisure trip with my family when I happened to stop at a colourful and petite dhaba (food outlet). We ordered aloo parathas, hot tea, and finger food items. I was amazed by the cleanliness, happy faces of the staff and of course, the fabulous taste of the food at this outlet. So much so that I felt I should give a good feedback to the manager. As I was approaching the manager, my eyes quickly spotted an elderly man who was passionately cleaning near the entrance area. He was a decent guy. I asked him what made him work so passionately to clean the floor. He replied with a smile that it was his dream to serve people with good food and bring smiles to their faces. I interrupted and asked how he was achieving it by cleaning the floor. I was astonished by the reply. He said that bringing a smile to other people's faces is an outcome of customer satisfaction. Maintaining cleanliness is one of the important parts. The manager arrived and revealed that the elderly gentleman with whom I was interacting was the owner of the outlet. I could not stop but acknowledge and salute his dream and purpose in life. This event stayed in my mind for some time. It took me back to my ongoing self-exploration journey of finding a dream and purpose for my life.

Finding a dream is a vast subject. For the sake of clarity, let me narrow it down to dreams that connect with the passion and purpose of life. Is passion and purpose the same? Well, I think they are quite different. I think passion is what excites the self, motivates the self, makes one happy or gives a sense of achievement, it's more inward. While purpose is more focussed, reasonable, deep, and outward, we often know or find our passions but, it's difficult to find a purpose. When was the last time you thought of finding a purpose in life?

The world is filled with infinite opportunities and possibilities. It's up to us whether we are cognizant of them. Many people start with their dreams but often land elsewhere. Many often crib with whatever they think they are forced to do for a living, may it be a job or some business. Many find out ways to remain focussed and be successful even though they are not close to what their passion would be. The point is even if people land up doing different things, few still find ways to be successful in whatever they do, but does that give them satisfaction or does that make them happy?

I love exploring this space. It's crucial to find purpose and, more importantly, the "why" part of it. I thought I should

pen down a few thoughts brimming in my mind for the readers. Hope it will help in igniting spark and dreams.

I have always tried to find purpose in my dreams and so far, have been able to navigate through the rough waters, trying to get clarity around it. The good part I like about dreams is there is absolutely no restriction it's an open mind that is full of unreal and fancy thoughts. But that's how dreams should be – "unreal", else how it can be a dream, it would rather be a reality.

There are many examples of people who thought differently, walked unchartered paths, and chased their dreams to make history. I can think of Steve Jobs who dreamt of "putting a computer in the hands of everyday people". Stephen Hawkings dreamt of discovering the secrets of the universe and experiencing zero gravity, which he eventually did. But this may or may not happen with everyone. We have ample examples where, despite passion, things have gone completely wrong. I think there is a big connection between having a dream and chasing it. That connecting link is "believing". Believing in dreams, believing in your abilities, believing in the outcome, believing in the people around you, believing that you can do it. This "believe" part is the biggest

hope of converting dreams into reality. The good news is that we can make ourselves believe in just anything.

Dreaming can be rogue and vague. It is, therefore, essential to refine it before you manifest it. Refining would also mean we have to believe it first. For this, we need to have conviction, we may have to work hard to convince our minds. I think mapping our dreams, processing the information, and critically analysing it to verify real-life scenarios is an important step in refining our dreams. Our ability to simulate the dreams and run the simulations in various scenarios that we could think of would better prepare us for the refining of dreams. Many leaders, thinkers and coaches are better prepared for any situation because they "simulate" things proactively. They can picture themselves acting in a crisis situation, or handling press conferences that go wild or managing shareholder demands or responding to complex questions on a holiday while sitting in

a chair comfortably. Now that there is conviction, it's important to convert the dream into a goal or vision.

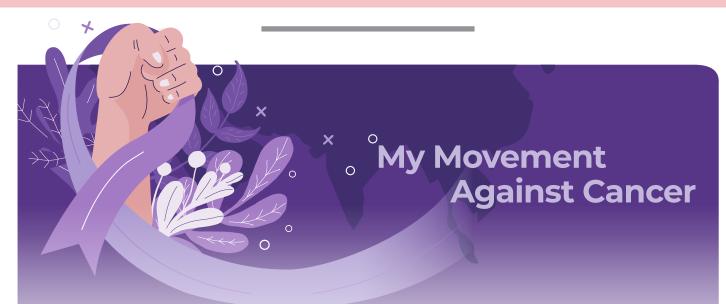
Once we have a goal or vision, I have found that sharing it with our close network, mentors and guides is important and beneficial. They can keep adding value which can help us to further refine the goal or vision. The more we keep sharing with them, the more we start believing in it. Once our goal is clear, our vision is set, half the work is done. It's then time to break down dreams into milestones or minigoals, chart an actionable plan and execute the plan. The most important thing is to enjoy this process and embrace it joyfully because finally, this connects back to the purpose. We may fail, we may deviate but it's important to rethink, revisit, recourse and enjoy the achievements in the process.

Well, this article is not intended to lay down any golden rules that can work, but I wished connecting some dots in our minds, toy with some thoughts and philosophies, provoke you to see the bigger picture, and check if all of it makes sense. I trust it will certainly trigger more thoughts and take you back to your dreams.

If you had a dream that you let be dormant, re-ignite the dream and fan the flames. Keep dreaming, keep believing in yourself and chase your dreams!



Abhishek Bhave Growth Unit Head, TBWES, Energy House, Chinchwad



Dear Everyone,

I am Shantaram Borhade from P&ES, and I have proudly been a part of the Thermax family since 1998. On 5<sup>th</sup> January, 2023, I penned a letter to our Honourable Prime Minister. The subject of this letter was Cancer, a merciless adversary that is silently but steadily tightening its grip on our nation.

In my letter to the Prime Minister, I shared my concerns about the alarming surge in cancer cases throughout the country. I am no expert on global statistics, but the increasing number of cancer patients in our nation deeply troubles me. I drew attention to the stark reality that cancer does not discriminate; it claims the lives of the young and old, the rich and poor alike. To emphasise the gravity of this issue, I recounted the tragic stories of respected leaders like

Sushma Swaraj, Arun Jaitley, and Manohar Parrikar, who succumbed to this formidable foe. Their battles with cancer serve as painful reminders of the hardships faced by countless ordinary citizens.

It is disheartening to note that a significant number of cancer cases are detected in advanced stages, making successful treatment an arduous journey. The unaffordable cost of cancer treatment compounds this suffering, leading some individuals to the brink of despair, with suicide as their last resort. Adding to the urgency of the situation, there isn't a single government hospital dedicated to treating cancer in our country.

But rather than dwelling on despair, I proposed practical solutions to the Prime Minister, drawing inspiration from our nation's victorious battles against diseases like polio, cholera, and tuberculosis. The path to defeating cancer, I believe, is also a path of progress. My suggestions included:

T.20015/215/2022-NCD-II (B189772.)
Government of India
Bharat Sayraf)
(Swasthya Aur Pariver Kayara Manuralaya)

To Shri Shuritaram Baban Borhade
Sento No. 21, Scheme No. 9189,
Semanangar Negl, Pune
Pune. Mahisashira
(e-mail: sharitaram Baban Borhade
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Sir,

- Annual Cancer Screenings:
   Advocate for regular cancer screenings for every young adult.
- Expert Committee: Form a committee of experts to identify and eradicate the root causes of cancer, such as plastic usage, pesticides, adulterated food and pollution.
- 3) Comprehensive Patient Care: Ensure every cancer patient receives the care and support they need.
- Affordable Medication: Make cancer drugs more accessible or even free, similar to the treatment of tuberculosis.
- Nationwide Cancer Hospitals: Establish specialised cancer treatment centres across India.
- 6) Promotion of Healthy Living: Encourage and support a healthier lifestyle.
- Research and Support: Provide motivation and funding to organisations and scientists dedicated to finding cancer solutions.

After sending the letter, I persistently followed up with the Prime Minister's office. On 4<sup>th</sup> November 2023, my phone rang, and it was the PMO office on the line. I was overjoyed to learn that the Prime Minister had not only read my letter but had also agreed to implement many of the suggested measures. In this context, it is said that the department of Health and Family Welfare provides technical and financial assistance to the states and union territories under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) programme.

The following points have been agreed upon by the

Prime Minister's office and Health Ministry, which outlines the planned actions.

- 1) Strengthening infrastructure
- 2) Human resource development
- 3) Health promotion
- 4) Cancer screening of citizens aged 30 years and above by Ayushman Bharat Health Wellness Centre every year.
- 5) Prompt diagnosis and effective remediation
- 6) Referral to the appropriate level of facility

When the Prime Minister's office asked for my opinion, I expressed partial satisfaction with these developments, but I understand there is still much work to be done. I vow to continue our dialogue and collaboration on this crucial issue.

At times, I encounter obstacles, such as securing the necessary funds for this noble endeavour, and earnestly call upon those who have the means to step forward and support this life-saving cause.

My dear friends, this is an arduous journey ahead, and with your support, we can make strides in the right direction. Together, we hope to save lives and bring about change.

With gratitude,



**Shantaram Borhade**Mechanical Draftsman, P&ES MPP,
Sai Chambers, Pune

#### Thermax Cannot Get Out of Us

Gopal Gureja, Author and Ex-Thermaxian shares an interesting anecdote through this speech note, a part of which was addressed to the audience at a get-together of the Wanson-Thermax Ex-Employees Association. The event was held at the Poona Club in November 2023, where about 130 ex-employees had participated.

#### Hello Everybody!

Looking at the kind of attendance and the fervour with which the old colleagues are meeting here today, it is quite obvious that whether we went out of Thermax on retirement or to grab another opportunity, Thermax has certainly not gone out of us.

You would all agree that one strong reason for our emotional engagement was the kind of work culture that the company provided us. Based on the primal values steeped in humility, openness, transparency, respect for human beings and unstinted customer commitment, it allowed us freedom of action, encouraged informed dissent and welcomed well-considered initiatives. Some of you perhaps recall the 'Welcome to Wanson/Thermax' letter.

We have three former CEOs with us – M. S. Unnikrishnan, Abhay Nalawade and Prakash Kulkarni who, in their own distinctive style, substantially added to the company's growth. But I am sure they also benefitted from the company's culture to hone their leadership skills to rise to the top position. In their own way, they



The current managing committee of Wanson-Thermax Ex-Employees Association. (Left to right) P.P. Raju, General Secretary, C.D. Mahajan, Member, K. Srinivasan, Treasurer, A.M. Nalawade, Advisor, S. Parameswaran, Chief Coordinator, Latha Mohanchandran, Member, T.D. Mohanchandran, Mentor, M.S. Unnikrishnan, President, Feroz Bacha, Member, and B. M.K. Sethi, Member

ensured that the fundamental aspects of company culture that enhance employee emotional engagement were kept intact.

Some of you have gone into your own business and done well, while others are in senior positions in their new jobs. Wish you all the best in your endeavours. Also, many thanks to the core team that has made this grand get-together possible with considerable hard work and tenacity.

Let me tell you about an unnerving experience for a newly joined service manager.

Within three weeks of my joining the company, way back in 1970, I was required to get an endorsement from R. D. Aga of my plan of action before presenting it at the sales conference coming up in the following week. I was at my desk, trying to arrange my thoughts, when the Managing Director, Mr. Bhathena, joined me at my desk to have a 'chat' with me. He told me about the famed Voltas' customer service and wanted me to adopt the same revenue-earning model for our company as well. He told me that the marketing manager and the sales guys from the branches are prone to exaggerating customer complaints and would aggressively demand unreasonable concessions. He suggested that I defy the pressure and stick to the Voltas model.

I was stunned because all this was an antithesis to my own assessment of the situation. This was my first serious encounter with Mr. Bhathena, and to say the least, I was feeling nervous. I debated for a while to put across my point of view, seemingly with no success. So, gathering myself, I finally said, "Well, if you insist,I will go by what you want. However, I think this approach is not in the best interest of our company. Besides, you are



Some of the ladies who played important roles in their respective assignments. With P.P. Raju and C.D. Mahajan, (left to right) Daphne Sundaram, Christina Fernandes, Mary D'Lima, Agnes Raphel, Jaya Lingham, Chaya Hubalikar, C. Lakshmi, and Jennifer Fernandez

making my job too easy." "No, I am not going to make your job easy," he said and walked away.

Later that afternoon, when I told R. D. Aga about my interaction with ASB, he laughed and said, "Congratulations! You have passed the conviction test. That is ASB's way of checking whether you have the guts to take a stand for the customer." Rohinton endorsed my plan fully by saying, "You are free to act as 'customer representative' within the company and ensure that his interest is served as a matter of top most priority."

No message could have been more empowering and far-reaching for a service manager than such an unequivocal statement of the company's customer commitment.



**Gopal Gureja** Author and Ex-Thermaxian (1970 – 1996)

About the association: Around 15 years ago, the idea of formalising a group for the growing number of ex-employees of Wanson and Thermax was a brainchild of the hugely popular retired Factory Director, late Kersi Kabrajee. T. D. Mohanchandran and Latha Mohanchandran, supported by a group of younger enthusiasts, added momentum to the move and the association today has an all India membership of 800 ex-employees. "We used to pride ourselves as 'mini India' in terms of employees' demographic origins at Pune Works and offices," recalls Gopal Gureja fondly. This is validated by the fact that a large number out of about 350 ex-employees living in Pune are those who decided to stay back in Pune rather than return to their home towns or states.

# Now recharge your EVs on the go!

Sweden has revealed plans to build the world's first electrified motorway, which will allow electric cars to automatically recharge as they pass over the surface of the road.

The e-motorway, which is due to be completed by the end of 2025, is part of the country's plans to decarbonise the transport industry.

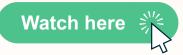
Sweden has piloted a number of similar schemes in recent years – although the latest announcement is the most ambitious yet.

In total, 13 miles of the E20 motorway will be converted, passing through three major Swedish cities – Stockholm, Gothenburg, and Malmö.

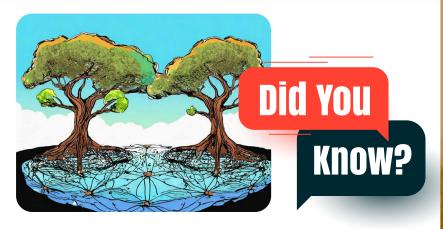
Jan Pettersson, Director of the Swedish Transport Administration, said, "We think the electrification solution is the way forward for decarbonising the transport sector, and we are working with a number of solutions."

Source: rac.co.uk





Source: World Economic Forum



### Trees Can Communicate With Each Other

Well, while trees certainly can communicate with each other, it actually can't be seen with the naked eye, making it impossible to detect on an everyday stroll through nature.

Trees 'talk' to one another through an intricate network of fungi in the soil dubbed the 'Wood Wide Web'. It connects trees at their roots, allowing them to communicate by sending signals about upcoming threats like droughts or disease — and that's just the tip of the iceberg. This allows trees to alter their behaviour upon receiving the signal.

Source: onetreeplanted.org



Source: Reader's Digest



Share your feedback on this edition

"Festivals are the embellishments that make life colourful."

Amidst the humdrum of daily routines, Thermaxians paused to celebrate a myriad of festivals, transforming the workplace into a tapestry of cultural richness. From Navratri to Diwali, and from Christmas to other festive occasions, employees donned their best attire and immersed themselves festivity as Thermaxians embraced the joyous occasions. Here, we present a curated selection of moments capturing the festive fervour that permeated throughout Thermax during these celebrations.







Energy House, Pune



Navratri colour theme @ Enviro House, Dandiya evening @ Energy House





Diwali celebrations @ Thermax House, Pune



Diwali celebrations @ Chinchwad Factory, Pune



Raas-dandiya celebrations @ Shirwal factory



Christmas celebrations @ Thermax House



Raas Garba @ Savli Factory, Gujarat



Diwali fashion show winners @ Thermax House, Pune

