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THE IMPACT OF NET ZERO AND DECARBONIZATION ON INDIA'S HVAC INDUSTRY

Our planet is at a critical juncture. Climate change is causing irreparable damage to the environment. Health risks from indoor and outdoor air quality are on the rise.

Thankfully, there are global groups addressing climate change. The United Nations Framework Convention for Climate Change created the Conference of Parties (COP) meetings serve where governments assess global efforts to advance the key Paris Agreement aim of limiting global warming to as close as possible to 1.5 degrees Celsius above pre-industrial levels.

Nations have made specific commitments to climate action. India's Prime Minister Modi committed to a five part nectar pledge (Panchamrit). Four of these are pledges are reachable by 2030. India's goals include reaching 500GW of non-fossil electricity capacity, generate half of all energy requirements from renewables, reduce emissions by 1 billion tons and reduce emissions intensity of GDP by 45%. The fifth pledge commits India to net zero emissions by 2070. India's five commitments are a critical foundation in the global pathway to achieving the ambitious 1.5 degrees Celsius global warming target.

Carrier's 2030 Environmental, Social & Governance (ESG) Goals include helping customers avoid more than 1 gigaton of greenhouse gas (GHG) emissions by 2030. These ESG goals include investing over \$2 billion to develop healthy, safe, sustainable and intelligent building and cold chain solutions that incorporate sustainable design principles and reduce lifecycle impacts. Water neutrality, zero waste to landfills and reducing energy intensity by 10% in operations are some of our other ESG goals.

Carrier continues to make improvements across our own operations, especially with our supply chain program. This includes assessing factory suppliers against our program criteria. Many corporations like Carrier require suppliers to follow ESG goals and disclose them.

Supply chain is critically important to many RATA members, who are one of the more than 60 million micro, small and medium enterprises (MSMEs) in India. MSMEs employ over 110 million people producing over 45% of India's manufacturing output, and are responsible for emitting 90% of India's GHG emissions. These organizations have an immense role to play in India's decarbonization efforts and net zero journey.

MSMEs face challenges in adopting positive climate action. The SME Climate Hub, a non-profit global initiative that empowers small to medium sized companies to take climate action and build resilient businesses, studied 194 SMEs in India. The study found that 60% of the businesses surveyed had a climate action program. Lack of resources prevented 68% of the SMEs from taking climate action with 48% attributing lack of funds as the reason for not acting.

Over the last 15 years, Carrier India has taken several measures to help reduce GHG emissions. Changes at our Gurugram factory save 1500 Metric tonnes of CO2 equivalent GHG emissions every year. The changes also earned the 33-year-old factory a Platinum certification by the Indian Green Building Council (IGBC). These efforts include a 500kW solar power plant. For captive power generation, we shifted from diesel based gensets to bi-fuel gensets. The paint shop runs on green fuel.

LED lighting and clear sheet lighting in our plant save energy. Air compressors were upgraded to more efficient variable speed technology. Solar water heating is used for process heating.

The use of water recycling plants, waterless urinals, low orifice taps, rainwater harvesting, ground water recharge and drift cooling towers saves over 11,000 gallons of water every year.

MSMEs should note that all the improvements did not happen in a short span of time. Carrier took one step at a time tackling resources and funding at times. For those who feel they are not ready for any investment today, follow trends shaping the HVAC industry. These include climate change and sustainability, energy transition, the rapid adoption of green energy solutions accelerated by government regulations and incentives and digitalization.

With a shift from fixed speed equipment to variable speed, educate customers to do the same with the HVAC products or systems you design and install. There is also a shift from unitary products to centralized products. Technologies like VRF offer a choice of IDUs, piping flexibility, controls, part load benefits and diversity.

Another change is with the replacement of CFC/HCFCs to HFCs/HFOs. While regulation is automatically taking care of the transition, you can speed this up by offering solutions with the latest low global warming potential (GWP) refrigerants.

Digitally enabled lifecycle solutions that aggregate, analyze and visualize data are enabling real-time, intelligent outcome-based results, making buildings more efficient and responsive, while providing occupants with confidence in the health and safety of their indoor environments. Connected equipment with IoT devices, artificial intelligence and sensors improves asset management for more predictive service using data to track and optimize equipment health and energy performance.

Think of yourselves as far more than contractors, channel partners or suppliers. MSMEs are sustainability crusaders. Collectively we all make a difference in the HVAC industry.

REFERENCES:

- » Carrier Global Website
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- » www.ilo.org
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