

News from India

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Global Cooling Prize Winners Announced



The global coalition that announced the Global Cooling Prize in 2018 and administered it during the following two and a half years had a strong Indian component. The Department of Science and Technology, Government of India, was a leader of the coalition; the Alliance for an Energy Efficient Economy (AEEE) in New Delhi and CEPT University in Ahmedabad were among those that administered the prize. Rocky Mountain Institute (RMI) of Colorado, the United States, a non-profit organization (NPO), working to speed up the clean energy transition, Mission Innovation, a global initiative to accelerate progress towards the Paris Agreement goals and pathways to net zero, and Conservation X Labs in the United States were also deeply involved in the initiative. Sir Richard Branson, chairperson of the Virgin Group, supported the initiative passionately.

The Global Cooling Prize was a challenge meant to catalyze transformative and scalable innovations in room air conditioner (RAC) technology that would meet its climate impact head-on. Upon its launch, the prize called upon innovators, entrepreneurs, and industry leaders from around the world to design a RAC with at least five times lower climate impact and no more than twice the cost of standard RACs already on the market. The cooling solution had to be designed keeping in mind an existing apartment in a mid- or high-rise building in a dense urban environment, and had to perform within predefined boundary conditions on indoor temperature and humidity levels, refrigerants, materials, water consumption, maximum power consumption, volumetric size, and on-site emissions.



Prototypes under testing at CEPT University

The prize received an overwhelming global response with over 2,100 teams from 96 countries vying for it. One year into the challenge, eight teams were short-listed for



Kanwaljeet Jawa, MD & CEO of Daikin Airconditioning India receives interview at Global Cooling Prize Virtual Grand Award Ceremony

the final round, including some of the world's largest air conditioner manufacturers as well as start-ups. The finalist teams were given US\$ 200,000 each to develop and deliver working prototypes. The prototypes were subjected to concurrent field testing in a 14-storey apartment building in Bahadurgarh, India, throughout the month of October 2020, then lab-simulated year-round performance testing for 10 days conducted at the state-of-the-art testing facility of CEPT University to determine full-year simulation-based performance, and finally, the Indian Seasonal Energy Efficiency Ratio (ISEER) test based on the Indian Standard IS 1391: Room air conditioners.

Four of the finalist teams successfully demonstrated the operation of their prototypes in both the field and lab-simulated tests. Two finalists exceeded the five times lower climate impact criteria and were so close in their performance that the Technical Review Committee of the prize selected both to be the winners: Daikin in partnership with Nikken Sekkei, and Gree Electric Appliances in partnership with Tsinghua University. The winners were announced in a grand virtual ceremony by Sir Richard Branson on April 29, 2021.

Honeywell Launches Upper Air Disinfection Solution

Honeywell launched U-Prism, an air and surface purification device that uses ultraviolet C (UV-C) technology to disinfect air in highly vulnerable areas in buildings in India on June 4, 2021. U-Prism offers continuous disinfection by deactivating pathogens with up to 99% efficacy. It is a part of Honeywell's Healthy Buildings offering.

The solution was designed by engineers at Honeywell Technology Solutions, the company's global technology development and engineering facility based in Bangalore, India.



Honeywell U-Prism

U-Prism is suitable for places where large numbers of people are in close proximity with a possibility of disease transmission through airborne pathogens, such as in hospitals, clinics, healthcare facilities, educational and commercial establishments, metro stations, and other public places.

"U-Prism was created to help facilities better respond to the need for more frequent and thorough sanitization of public spaces, especially those that witness high footfalls such as hospitals and healthcare facilities," said Ashish Modi, vice president and general manager – Asia Pacific, Honeywell Building Technologies.

The key features of U-Prism are easy installation and continuous application, deactivation of up to 99% airborne pathogens, and safe and cost-effective operations. The product complies with the recommended guidelines of National Institute for Occupational Safety and Health (NIOSH) for permissible exposure time over an eight-hour period.

Indian Companies Gear up to Supply Vaccine Storage Units

Voltas and Godrej Appliances are expanding their vaccine storage unit production and developing technology suitable for the Pfizer and Moderna vaccines against COVID-19, which require storage under ultra-low temperatures.



Godrej GVR 50 vaccine refrigerator

Voltas will launch the freezers this August. Voltas is also ramping up manufacturing of storage units for Covaxin, Covishield, and Sputnik V vaccines, which require positive temperatures. Voltas managing director Pradeep Bakshi said that the company is importing freezers that can support storage at temperatures down to -86°C . He added that Voltas has partnered with a foreign company for production.

Blue Star is also working on scaling up its production of medical refrigeration units that can store Covaxin and Covishield, and units that can accommodate the Sputnik V and Johnson & Johnson COVID-19 vaccines. Blue Star has announced that the Pfizer and Moderna vaccines can be stored in its medical freezers, if transported along with dry ice and administered quickly.

Godrej Appliances has already developed ultra-low-temperature

freezers and will commence manufacturing once it receives orders.

Food Processing Industry Poised for Fast Growth

According to a recent report by BDB India, a marketing research company based in Pune, the food processing industry in India is ranked fifth in terms of production, consumption, exports, and growth potential. It provides a linkage between the industrial and agricultural sectors, and is vital for India's development and food security by reducing wastage of food. Now that India has enough surplus in food production, the potential for increasing the processing levels is growing fast. The food industry output in India is expected to reach US\$ 535 billion by 2025–2026. Within the Indian food and beverage industry, specific segments are increasingly gaining acceptability and creating opportunities for increasing domestic consumption as well as exports.

The processed food market is expected to grow at a compound annual growth rate (CAGR) of approximately 12% during 2020–2024. Major industries contributing to the food processing industry are grains, sugar, edible oils, and beverages. The major sub-segments of the food processing industry in India are dairy, fruit and vegetables, poultry and meat processing, fisheries, and food retail. Indian annual household consumption is expected to treble by 2030, which will make India the fifth-largest consumer. Since all these sub-segments need a robust cold chain to deliver their products to consumers and ports, it augurs well for rapid growth of the cold chain industry in India.

Horticulture Cluster Development Program Launched

The Indian Ministry of Agriculture and Farmers Welfare (MoA&FW) has announced a new program for horticulture cluster development to enhance the global competitiveness of the Indian horticulture sector. The National Horticulture Board (NHB) has been designated as the nodal agency for implementation of the Cluster Development Programme (CDP) as a component of the central sector scheme of NHB. The program complements central government schemes for incentivizing the cold chain for horticultural produce.

CDP is designed to leverage the geographical specialization of horticulture clusters and promote the integrated and market-led development of pre-production, production, post-harvest, logistics, branding, and marketing activities. MoA&FW has identified 53 horticulture clusters, of which 12 have been selected for the pilot launch of the program.