News from India

*Reported by **Rakesh Kumar**, managing editor, ISHRAE Journal*

RAMA Chalks out HVAC&R Industry Roadmap in Webinar on PLI

The Indian Refrigeration and Air-conditioning Manufacturers Association (RAMA), an association that represents 80% of manufacturers and sellers of residential and commercial air conditioning and also refrigeration products, has played an important role in implementing the policies of the government. It has been working for over three decades with various ministries and government departments closely in policy formulation and implementation of programs. It has made significant investments in ensuring the launch of environment friendly non-ozone-depleting refrigerants in conformity with India's global commitments on climate change. It has also been engaged in improving the energy efficiency of air conditioners under the Standards and Labeling Program of the Bureau of Energy Efficiency (BEE), Ministry of Power.

A screenshot of the webinar

RAMA organized a webinar on production-linked incentive (PLI) on March 2, in which senior government officials from the Department for Promotion of Industry and Internal Trade (DPIIT), industry leaders, and business associates participated. The program was supported by the Businessworld magazine, and attracted more than 700 participants.

The keynote address was delivered by Anil Agrawal, additional secretary of DPIIT, who has played a leading role in the launch of the PLI scheme. He has been very proactive by constantly interacting with the industry and maintaining a two-way communication.

K. J. Jawa, president of RAMA, delivered the opening address and recounted the journey of PLI. He thanked Anil Agrawal for his initiative in launching the scheme and for his consistent support and encouragement to the industry. He mentioned that the PLI scheme will transform the air conditioning industry, which is targeting to raise the country's annual air conditioner production to 40 million in 10 years from just about four million now. About 75% of the country's air conditioner components are imported from countries like Thailand, China, and Malaysia. "This must change, and the PLI scheme is an important driver of this change," he said. He also mentioned that PLI will help build scale and enhance global quality manufacturing in India.

C. P. Mukundan Menon, vice president of RAMA and president and chief operating officer (COO) of Blue Star, and Gurmeet Singh, chairman and managing director of Johnson Controls-Hitachi Air Conditioning India, also participated in a session to deliberate the way forward for the Indian air conditioning industry. The discussion covered the opportunities and challenges of the industry and plans for growing the business. The participants thanked the government for its support to develop India into a major hub for exports. Some of the key points that emerged are summarized below.

– The industry has a plan in place to grow the Indian air conditioner market to 24 million units by 2030. It has already taken several major initiatives to grow the business by increasing the production capacity, setting up new plant facilities and global technology centers, etc. In addition, new products have also been developed to provide the best – in technology, new features, safety, and enhanced consumer experience. It is planned to increase the local value addition to 75% from the current level of 25%.

– In conformity with the vision of making India a reliable manufacturing hub for the world, the industry has the confidence to commit that it will scale up to 15% of the world export market from the current level of 0.5%. Revenue generation is expected to go up to Indian rupee (INR) 350 billion (about US$ 4.6 billion) through export of 16 million air conditioners. The industry has huge employment generation potential in the manufacturing as well as the servicing sectors. This goal is to be achieved by benchmarking with the best international practices, Free Trade Agreements (FTAs), export incentives, and policy stabilization to ensure competitiveness by addressing the challenges for exports from India.

– The industry is keen to create a world-class eco-system and synergies for growth of domestic production, development of micro, small, and medium enterprises, new product development, and standards development, and for expanding testing facilities with improved logistics and infrastructure.

Anil Agrawal gave a wide range of suggestions in his closing comments. He urged the industry to look at mentoring and collaborating with start-ups to come up with innovative solutions for the air conditioning industry.

Samsung to Set up Compressor Plant in South India

M. K. Stalin, chief minister of the Southern state of Tamil Nadu, witnessed the signing of a memorandum by the South Korean manufacturer Samsung to invest INR 15.88 billion (about US$ 208 million) to set up a new compressor manufacturing plant in Sriperumbudur near Chennai in the Southern state of Tamil Nadu.

The plant, spread over 8.9 hectares, will have a capacity to produce 8 million compressor units a year, which will be expanded in the future. Compressors produced at the plant will be used in refrigerators that Samsung manufactures in India, and will also be exported. The new plant will generate jobs for 600 persons. Set up in 2007, the manufacturing facility in Sriperumbudur is one of two factories that Samsung operates in India. WindFree air conditioners are manufactured at this plant.

Ken Kang, president and chief executive officer (CEO) of Samsung Southwest Asia and Byong Jin Kong, managing director of Samsung Chennai factory, were present on the occasion.

Government Reopens PLI Application Window for RAC Components

The Indian Ministry of Commerce announced on March 8 that it is reopening the application window for its PLI scheme for room air conditioner (RAC) components from March 10 to April 25. The government had approved the PLI for such components in April 2021 as part of its 'Make in India' push. The scheme is to be implemented over a seven-year period from fiscal year (FY) 2022 to FY 2029 with an outlay of INR 62.38 billion (about US$ 816 million).

The first set of online applications for manufacture of white goods components was invited in June 2021, where applicants could choose a gestation period up to March 2022 or March 2023. A total of 52 companies had applied, of which 42 applicants with a committed investment of INR 46.14 billion (about US$ 603 million) were provisionally selected. This included 26 air conditioner manufacturers with a committed investment of INR 38.98 billion (about US$ 510 million).

The latest economic survey expects manufacturing and construction to be the growth drivers of the Indian economy, triggered by PLI schemes and the government's capital outlay on infrastructure allocated in the budget.

Johnson Controls Opens Manufacturing Plant in Pune

Johnson Controls has announced the opening of its new manufacturing plant in Pune in the Western state of Maharashtra. The plant will produce smart, sustainable, cost-effective, and market-leading chillers. The plant covers a total of 10,485 m^2 and is equipped to produce industry leading water-cooled screw and centrifugal chillers as well as air-cooled chillers.

Johnson Controls plant in Pune

Daikin Launches New Range of Split Systems

Daikin Airconditioning India has launched a new range of split-type RACs indigenously conceptualized and manufactured for Indian consumers. The new U series range claims future ready technologies. Due to customer emphasis on air quality and health, Daikin has extended its patented streamer discharge technology to the 4-star segment in addition to offering an upgrade to products with Wi-Fi. Its dew clean technology enables indoor units to self-clean. The new range of Daikin RACs is compact and takes care of air quality needs.

Daikin India had recently signed a land purchase deal at Sri City in the Southern state of Andhra Pradesh for manufacturing of air conditioners and components as part of the PLI scheme of the government of India, entailing an investment of INR 10 billion (about US$ 130 million) during the first phase.

Godrej Appliances Aims at 10% RAC Share

Godrej Appliances aims to double its sales growth in the RAC segment this summer, and increase its market share despite a recent price hike and inflationary pressure on inputs, said Kamal Nandi, business head and executive vice president of Godrej Appliances. He, however, hinted at another price hike by the air conditioner industry in April this year if the commodity prices continue to soar. Like other manufacturers, Godrej Appliances had hiked prices in January this year due to the soaring rates of metals such as copper and plastics, and freight charges.

Continued on page 22

Special Report

Italian & European Residential Ventilation Markets

*Reported by **Jacques Gandini**, managing director of Studio Gandini (Italy)*

In 2021, Italy experienced strong growth in the residential ventilation market, compared with 2020. This growth was driven in part by the governmental incentive packages available for the renovation of buildings and largely by the high energy efficiency targets linked to the design of the heating, ventilation, and air conditioning (HVAC) equipment in new or renovated buildings.

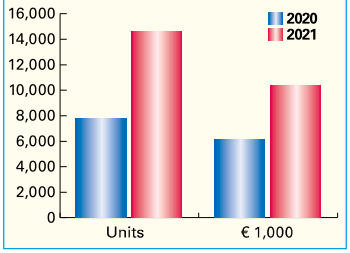
This in turn depends on a new decarbonized vision of Europe that is emerging. The vision takes into consideration the fact that most of the housing stock in the European Union (EU) is old and inefficient and is responsible for around 40% of energy consumption and 36% of greenhouse gas (GHG) emissions in the area. Restructuring the building stock is, therefore, an essential measure for decarbonization, at the heart of the Roadmap 2050 of the EU member states.

Ventilation in European buildings has been developing along with the development of nearly Zero Energy Buildings (nZEBs). nZEBs are now mandatory under the European Directive (EU) 2018/844, which stipulates that all new buildings and major renovations must fall within the framework of the highly efficient nZEB building concept. These efficient buildings, both residential and non-residential, adopt mechanical ventilation, which is a very important factor for comfort and energy savings.

Italy: 2021 vs 2020

The Italian residential ventilation market increased by about 89% from 7,724 units in 2020 to 14,577 units in 2021, and also increased by about 70% from €6,084,000 (about US$ 6.8 million) in 2020 to €10,314,000 (about US$ 11.5 million) in 2021 as shown in Fig. 1, showing rapid growth, according to the Assoclima statistical panel.

Fig.1 Italian Residential Ventilation Market



Source: Studio Gandini internal elaboration based on Assoclima statistics

The Italian residential ventilation market data in this report are based on an interview with Eng. Federico Musazzi, secretary general of Assoclima, the Italian association of manufacturers of HVAC systems federated to ANIMA Confindustria Meccanica Varia, the Italian industrial organization that represents companies operating in the mechanical engineering sector.

Since 1991, Assoclima has been drawing up an annual statistical survey on the market for components of air conditioning systems. This year, the association newly added the residential ventilation segment, including dual flow and single house/dwelling central heat recovery ventilation systems, to its data collection and created a well-established HVAC statistic report recently.

Because this was the first year of collection of data on residential ventilation, it is possible that the collected values do not represent the entire Italian market. Therefore, in absolute terms, the sales volume of residential ventilation systems in Italy could be considerably higher than that represented in the statistic.

Official Assoclima statistic panel for ventilation systems is currently open to all stakeholders with such product lines operating in Italy that are willing to take part in the survey.

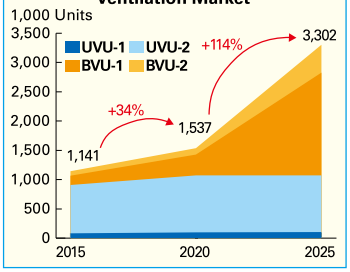
Eng. Federico Musazzi, secretary general of Assoclima

Europe: 2020 to 2025

Studio Gandini forecasted that the residential ventilation market in the EU 27 countries and the United Kingdom will double in 2025 compared with 2020, growing from about 1.55 million units in 2020 to 3.32 million units in 2025, in its report, 'Residential and Non-residential Ventilation: Multiclient Market Intelligence Report – European Market 2022'. The residential ventilation market in the report consists of centralized and decentralized units for single houses and apartments, mainly with dual flow and cross flow heat recovery systems, and is in many ways oriented to demand-controlled ventilation.

As shown in Fig. 2, during the period spanning 2020 to 2025, the report foresees great development for ventilation, air renewal, air purification, and air sanitation inside buildings, which will offer major business opportunities for manufacturers of air handling units (AHUs), commercial ventilation units, and residential ventilation units that make buildings healthier and more sustainable.

Fig.2 EU 27 + UK Residential Ventilation Market



Notes
UVU-1: Unidirectional ventilation units with nominal airflow of up to 100 m^3/h
UVU-2: Unidirectional ventilation units with nominal airflow of 101 to 1,000 m^3/h
BVU-1: Bidirectional ventilation units with nominal airflow of up to 100 m^3/h
BVU-2: Bidirectional ventilation units with nominal airflow of 101 to 1,000 m^3/h

Source: 'Residential & Non-residential Ventilation: Multiclient Market Intelligence Report– European Market 2022' by Studio Gandini

Following the first edition in 2021, Studio Gandini published the second edition of the report this year. The first and second research projects are totally dedicated to the air renewal, air purification, and air sanitation markets, in order to objectively grasp the market volume and value in the EU 27 countries and the United Kingdom.

Studio Gandini has established solid networks with management consulting, business consulting, training institutes, technical researchers, scientific conferences, and component suppliers in HVAC&R market during its over 25 years of activities. In addition to utilizing these networks, Studio Gandini has interviewed over 500 managers and professional stakeholders from a panel of over 200 European manufacturers of air handling units (AHUs), commercial ventilation units, and residential ventilation units, in order to conduct market research.

The second research project was based on the study of the best information sources at the European Community level, using the models introduced by the studies on 'Commission Regulation (EU) No 1253/2014: Ecodesign requirements for ventilation units' and 'Commission Delegated Regulation (EU) No 1254/2014: Energy labelling of residential ventilation units'. Thus, the data obtained were cross-referenced with the European Building Stock Observatory database and other sectorial sources in the public domain, specialized in the field of ventilation, air renewal, air filtration, air sanitation, and air purification.

Very often, analysis was carried out on a national association basis, namely individual EU countries, since in the field of ventilation, air renewal, air purification, and air sanitation, apart from some voluntary associations, there are no sectoral groupings structured at the levels of EU 27 countries and the United Kingdom, which have specialized and supranational databases.

Based on the research for 2010 to 2020, the report provides a mid-term forecast for 2025 and a long-term forecast for 2050, taking into account the building and ventilation evolution foreseen with a view to complying with the decarbonized vision of buildings in the EU from now until 2050.

Studio Gandini publishes a report on the European ventilation market

Continued from page 20

News from India

The company, while introducing its lineup of RACs for 2022, expressed that a pent-up demand coupled with a good summer season ahead would help its market share of 6 to 7% reach 10%.

"While summer sale for air conditioners in 2021 was better than 2020 summer, the business still has not reached pre-pandemic level. With the third wave practically over, vaccination drive covering a larger population and summer temperatures rising, we expect more than double growth in our air conditioner sales this summer in comparison to last year," he said.

Presently, the company has a manufacturing capacity of 0.5 million units at its Shirwal near Pune in Western India, and is also planning to expand its capacity by starting manufacturing at its plant at Mohali, Punjab in Northern India.

Godrej Appliances has launched a premium range of air conditioners with advanced cooling, air purification technology, Internet of Things (IoT) controls, and differentiated aesthetics. To cater to consumers' growing acceptance of smart air conditioners, the company has introduced its new Godrej Eon D series, which are Wi-Fi-enabled and can be operated remotely through android smartphones.