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Global Air-Conditioning Market Set For Growth and Technology Changes

BRACKNELL, BERKSHIRE, U.K.—Air conditioning already represents the biggest segment of the global HVAC market, and with rising global average temperatures, the need for cooling will keep growing, according to a BSRIA market report published in March.

However, as the world’s focus will remain on the efforts to limit global warming, the air-conditioning market will keep shifting toward more efficient products, the use of refrigerants with lower global warming potential and toward connectivity that will allow for remote monitoring of units and systems bringing vital energy and operational efficiencies.

In 2019 the global sales of air-conditioning units increased by 2.3% year-on-year in volume and by 2.5% in terms of USD value.

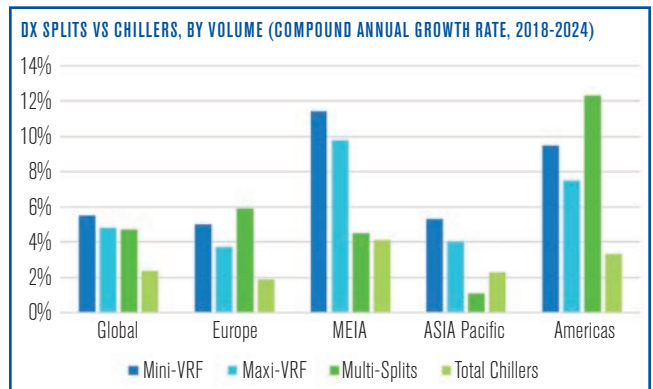
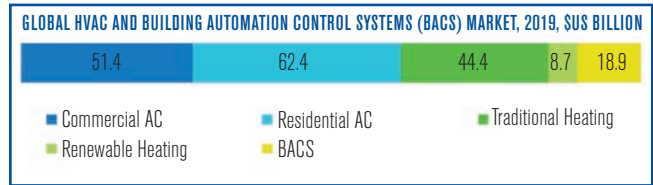
In the United States, the AC market recorded overall growth in 2019, despite being a mature market, driven by a healthy economic growth, accessible and affordable credit and robust although weakening construction activity. Growth was common to both the packaged and central plant markets, although the percentage rates differed by product category.

On the technology side, improvements to efficiency and a combination of approaches in the same system or project (e.g., ducted and ductless) have been noted as the main trend. For refrigerants, suppliers are planning to introduce new, lower GWP gases disregarding the progress of the regulation.

On the value side, with few exceptions, the average selling prices increased or remained stable. This reflects the impact of trade tariffs, the increase in production costs and the shift of the market toward higher efficiency products.

In the medium-term, 2023 will be an important year for the U.S. market. Efficiency standards for ducted splits and rooftop units are set to be enhanced, and new refrigerants may be required at least in some regions of the country such as California.

Latin America’s market analysis is a new addition to the BSRIA AC report offering. The air-conditioning market in the region reached close to \$5 billion in 2019, a year-on-year market growth of 6%, exceeding that of North America. Brazil, Mexico and Argentina are the top



three markets. Despite political and economic fluctuations, the market offers strong commercial opportunities, and in 2019 several companies increased their sales in the region.

China, by far the biggest AC world market, has seen a decrease in sales in 2019. In 2020 the market is expected to see a shift toward more efficient AC units. Due to new regulations on energy-efficiency levels starting in 2020, non-inverter and inverter splits with low efficiency will be rapidly phased down in China.

Hot weather boosted sales in the residential air-conditioning market in Europe in 2019. The key southern European markets are going through replacement of old systems, and predominantly commercial markets like France and Germany are increasingly becoming more residential markets. Brands from Asia lead the residential sector. Across the European Union the HFC phase-down regulation is having a strong impact on products and prices with major countries progressing quickly with the change.

The African air-conditioning market represents strong potential but is still in an emerging phase. Currently, strong demand for split air-conditioning units is observed there. Chinese brands increased their presence through active promotion in the region.

Performance of Different Air-Conditioning Products

Giving a slightly closer look at the performance of different air-conditioning products, growth has been slower in 2019 than in previous years for all except airside.

Growing penetration of multi-splits and VRFs has been noted in residential and light commercial projects, but chillers have maintained moderate growth rates with centrifugal chillers leading the way.

Globally in 2019 the biggest growth has been observed in mini-VRFs, with double-digit growth recorded on three continents.

Americas and Middle East and Africa regions are really embracing ductless splits with strong growth observed in multi-splits and VRF technology.

2019 heat waves and the replacement of installed units pushed sales of multi-splits in Europe with France, U.K. and Russia recording year-on-year growth of over 20%.

The BSRIA prediction of the expected market compound annual growth rate (previous page) is based on research carried out in the first quarter of 2020 and before the full extent of the COVID-19 pandemic. Although it is difficult to assess its impact on the market fully today, COVID-19 will disrupt market demand as well as the global supply chain in 2020. BSRIA will reevaluate its market forecast in early Fall 2020 when the impact of lockdowns on countries' economies, supply chains and purchasing power of consumers are better known.

ASHRAE Offers Building Reopening Guidance

ATLANTA—The ASHRAE Epidemic Task Force has developed guidance on mitigating potential health risks during reopening of buildings closed during the COVID-19 pandemic. ASHRAE's recommendations for reopening buildings are outlined in the frequently asked questions section of its COVID-19 Resources webpage (ashrae.org/COVID19). Recommendations for building readiness and reopening include:

- Create a strategic plan prior to opening a building that includes ensuring supply chain for critical items such as filters.
- Review HVAC programming to provide flushing two hours before and post occupancies. This includes operating the exhaust fans as well as opening the outside air dampers. For buildings without the capacity to treat large quantities of outside air and when outside air conditions are moderate, open all windows for a minimum of two hours before reoccupation.

William Bahnfleth, Ph.D., P.E., Presidential Member/Fellow ASHRAE, the chair of ASHRAE's Epidemic Task Force, said a strategy to limit the spread of COVID-19 is performing needed HVAC system maintenance such as filter changes. He also suggested running HVAC equipment before reoccupancy.

A decrease in water use in buildings closed or with limited access during the pandemic can increase the risk of bacteria growth in building plumbing and associated equipment. Facility managers and building owners can help mitigate the risk of waterborne

pathogens, such as *Legionella* bacteria, by developing a water management plan.

For more information, visit ashrae.org/COVID19.

INDUSTRY ROUNDUP

Working from Home May Not Cut Energy Use

OXFORD, ENGLAND—University of Sussex academics have concluded reduced commuter travel due to the COVID-19 pandemic may not substantially reduce energy consumption. The researchers analyzed studies on the energy and climate impact of telecommuting and found the more rigorous studies did not estimate energy savings from telecommuting. Potential energy savings can be offset by increased travel for recreational purposes and additional home energy use. *Source: Centre for Research into Energy Demand Solutions*

System Cools Air Without Adding Humidity

CAMBRIDGE, MASS.—Harvard scientists and designers have developed a low-cost, highly efficient cooling system, dubbed cold-SNAP. Unlike conventional evaporative cooling systems that are less effective in humid areas, cold-SNAP can work efficiently in hot, humid climates. The technology works like water-repellant duck feathers and consists of a 3D-printed ceramic. A hydrophobic material coats the ceramic and functions as a barrier to water vapor, limiting humidification and promoting heat transfer. *Source: Wyss Institute*