

Supply Chain Assessment

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As ongoing disruptions at the Panama and Suez Canals impact East and Gulf Coast supply chain conditions, importers in pursuit of shorter transit times and lower costs are rerouting cargo to West Coast ports with extensive truck and rail connections. Meanwhile, US shippers are circumventing the Red Sea amid attacks on commercial vessels. The resulting disruptions to global trade along the route connecting Asia to East Coast and European markets are driving up shipping costs, transit times, and delays that have prompted some companies to pause their production. Such geopolitical risks compounded by lead times and cost pressures have fueled predictions of shipping network realignment, localization, and other operational strategies to achieve greater supply chain resilience in 2024.

Findings

1. Product Availability

a. HVAC

- i. In Michigan, a major manufacturer opened a commercial air-cooled chiller production facility to meet data center and high-tech market demand that is estimated to grow 20 percent by 2027. Another manufacturer has partnered with an innovation company to develop and commercialize dehumidification and cooling technology.
- ii. A global manufacturer announced they will commit a multibillion-dollar investment to the research and design of electric equipment and bolster domestic production and training opportunities.

b. Water Heating

In December, a major manufacturer introduced a line of high efficiency commercial boilers and volume water heaters, available in six sizes. Meanwhile, heat pump water heater (HPWH) product launches continue to trend in 2024, including one manufacturer's January release of a 50-gallon unit that will be followed by 65- and 80-gallon options.

2. Equipment Sales

a. HVAC

- i. In February, a manufacturer will raise prices between two and six percent for select commercial controls and applied and unitary equipment. In March, another manufacturer will raise residential and commercial equipment prices an average of six to ten percent. This will include price increases of up to five percent for ductless and variable refrigerant flow (VRF) equipment, with anticipated price increases for chillers due to a switch to refrigerants with a lower global warming potential (GWP).

Trade Ally Team Communications per Technology Domain

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HVAC	32
Foodservice	10
Water Heating	23
Pumps	3
Lighting and Electrical	10
Life Sciences	9
Total	87



- ii. Although the use of gas equipment remains prevalent in New York, a manufacturer observes a rise in VRF system adoption within the multifamily sector and predicts that New York City efficiency measures will further bolster VRF and heat pump sales, particularly for water-source equipment.
- iii. Minimum heat pump efficiency requirements in Massachusetts and New Hampshire have prompted some distributor concerns that limited brand availability of compliant models will impact their sales of program-eligible equipment.

b. Water Heating

- i. Massachusetts distributors and contractors anticipate a rise in standard efficiency gas water heater sales following incentive changes that will no longer support high efficiency gas equipment starting in Q4 2024. Some distributors plan to push residential and commercial gas water heater sales in tandem with a manufacturer's spring and summer promotions.
- ii. Distributors in Massachusetts and New York are leveraging HPWH program incentives to support bid packages and bolster sales of residential equipment, including 50- and 80-gallon units.

c. Foodservice

A New England manufacturer's representative is hiring to expand staff coverage within their territory and working with local dealers to promote energy-efficient equipment sales by leveraging Instant Rebate program incentives.

d. Lighting and Electrical

In surveys conducted by the National Electrical Manufacturers Association in December 2023, one third of respondents observed improved market conditions and 75 percent predicted continued improvement in six months. A leading manufacturer attributes increased demand for their products and higher order rates to post-pandemic normalization of the industry.

e. Life Sciences

- i. On January 18, the nonprofit organization My Green Lab commenced its annual International Freezer Challenge for laboratories to reduce their cold storage impact by minimizing energy-intensive practices and upgrading outdated units. Energy Solutions will connect participants seeking to purchase energy-efficient equipment with midstream rebate opportunities.
- ii. Industry forecasts predict that Boston, Massachusetts, and the cities of San Francisco and San Diego in California, will account for 79 percent of new life sciences development in 2024.

3. Service Providers and Contractors

a. HVAC

- i. As part of the US Department of Energy's Residential Cold-Climate Heat Pump Technology Challenge, prototypes from four manufacturers have advanced to the field-testing phase where they will join four other companies' heat pumps to be installed and monitored in cold climate locations.
- ii. In Massachusetts and New York, schools and housing authorities are working with a Northeastern distributor to install new high efficiency packaged terminal heat pump window units with inverter technology.



iii. The industry's transition to lower-GWP refrigerants has prompted uncertainty around project timelines for heat pump installations. Manufacturers are hosting contractor-facing webinars to support their transition to lower-GWP, hydrofluoroolefin-based mildly flammable (A2L) refrigerants.

4. Administrative and Application Submittal

a. Across Technologies

Some distributors whose claims submissions have been challenged by the collection of required customer information are implementing new internal processes or motivating staff with a financial incentive. Those that aim to ramp up program participation in 2024 are hosting training to familiarize their staff with midstream incentives and the claims submission process.

From the Field

From January 20 to 24, the **2024 AHR Expo** and **ASHRAE Winter Conference** gathered manufacturers, manufacturers' representatives, distributors, and contractors in the HVAC/R, water heating, and pumps markets. Energy Solutions attended to promote energy efficiency and emerging technology program awareness, engagement, and enrollment; socialize new measures and program changes; discover eligible product offerings; and participate in ASHRAE Technical and Standards Committees. Market conversations revealed industry trends, including a rise in air-to-water heat pump technology and transition toward low-GWP and A2L refrigerant use. We would like to thank our market and program administrator partners in attendance for sharing their valuable time and feedback with our staff.

About Energy Solutions

For more than 25 years Energy Solutions has provided cost-effective, market-driven solutions that deliver reliable, large-scale impacts. We implement more midstream and upstream programs in North America than any other company, which gives us access to valuable insights across technologies.

Our program success is fueled by a deep connection to the market. These market relationships have allowed us to closely monitor supply chain impacts to keep you informed.

To learn more about Energy Solutions' programs and services, contact Jeff Johnston at:
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