

Supply Chain Assessment

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U.S. importers are preparing for potential disruptions to port operations as labor contract negotiations approach for West Coast dockworkers. Some shippers are preemptively accelerating their seasonal holiday orders to ensure early arrival into domestic networks while others are circumventing West Coast ports and routing cargo to the East and Gulf Coasts. This latter approach has spread congestion to the ports of Houston, Savannah, and Charleston, extending delays.

Findings

1. Product Availability

a. Across Technologies

The Russian invasion of Ukraine has intensified the ongoing global microchip shortage and disrupted shipments of critical materials due to port sanctions and closures. Ukraine is a major supplier of neon, a crucial element in microchip production, and pressures to diversify material sources are mounting for microchip suppliers. Industry analysts estimate the current reserve of neon at one to six month's supply. Meanwhile, nickel, a commodity produced largely by Russia and used in stainless steel, saw a price jump of 76% compounded by its limited supply.

b. HVAC

HVAC manufacturers face continued challenges with trucking, labor, and component availability. A recent survey by the National Association of Manufacturers (NAM) found that 79% of respondents reported an inability to hire and retain a qualified workforce and 85.7% cited increased raw material costs. One manufacturer relayed high material costs are inhibiting as much as 70% of their production. To offset inflated prices, some have found success in dual-sourcing or increasing prices and automation hours. Material shortages have affected both code-minimum and high efficiency equipment, including 14, 16, and 18 SEER units, such as condensers and variable speed heat pumps. A major manufacturer is facing lead times exceeding six months and expecting this to grow through 2023. A distributor noted lead times of up to ten weeks on select heat pump and air conditioning equipment.

c. Water Heating

Washington State's moratorium on the CTA port requirement for demand response connection in heat pump water heaters (HPWHs) has been extended from the end of March to June 2022. This may be extended further due to continued microchip shortages that have delayed product launches among water heater manufacturers. One manufacturer's new HPWH unit launch was postponed from Q4 of 2021 to Q2 2022 with limited production.

Trade Ally Team Communications per Technology Domain

	This Issue	Volume 3 to Date
HVAC	33	97
Foodservice	14	60
Water Heating	18	60
Pumps	13	39
Lighting	11	38
Life Sciences	11	36
Total	100	330

TABLE 1.



d. Foodservice

Lead time reports indicate six to ten weeks for fryers and convection ovens, up to 20 weeks for refrigeration equipment, and up to eight weeks for some brands of combination ovens.

e. Lighting

A leading LED lighting manufacturer is expanding its distribution footprint across the country by adding new facilities to improve stocking capabilities and reduce customer delivery times to three days or less.

f. Life Sciences

One ultra-low temperature freezer (ULT) manufacturer has resolved warehouse staffing issues, enabling accelerated delivery shipments within three weeks. For others, component sourcing challenges have pushed production of lab freezers and refrigerators, delaying deliveries to April and May.

2. Equipment Sales

a. HVAC

Manufacturers are implementing various strategies to offset material and labor shortages to meet product demand. A joint venture of manufacturers will be introducing a third assembly line to expand its plant productivity by 30%. In April, one major manufacturer will increase prices by up to 9% across residential, light commercial, commercial applied, and HVAC product components.

b. Water Heating

Multiple HPWH manufacturers are launching new products, including 120-volt units anticipated in Q2 and hybrid HPWHs expected to alleviate winter peak electric demand. One distributor attributed notable stocking improvements for high efficiency water heater units to their midstream program.

c. Foodservice

Despite delays in equipment and capital budgeting that have affected the industry, dealers report that participation in our programs and their high incentives have helped offset equipment price increases while allowing flexibility to sell high efficiency models across customer bases.

d. Lighting

A major manufacturer has launched a new DesignLights Consortium (DLC-listed) product line that expands offerings across multiple outdoor lighting applications with a single design solution.

e. Life Sciences

A ULT manufacturer has observed a trend of slowing sales with backorders of 12 weeks, up from eight weeks in December 2021. One distributor notes that increased incentives for controls would translate to higher sales in those product categories. Distributor sales have additionally been impacted by COVID restrictions that limit building entry for sales calls.

3. Service Providers / Contractors

a. HVAC

The HVAC labor shortage continues to cause project delays and spur wage increases to retain contractors. Emerging solutions range from mentorship programs to the use of universal



HVAC parts that don't require specialized training. The latter approach has been favored due to added benefits of lower costs, simplified stocking, and greater onsite efficiency. In addition to labor shortages and refrigerant transitions, contractors are navigating a rapid spike in fuel costs impacting fleet operations.

4. Administrative / Application Submittal

a. Across Technologies

Distributors continue to implement process efficiencies for qualifying sales submissions through billing system programming, data reporting, claims forecasting, and training.

From the Field

From March 13th through 15th, Energy Solutions attended leading foodservice industry events hosted by **RestaurantPoint West (RPW)** and the **Restaurant Facility Management Association (RFMA)** that gathered restaurant chain executives and senior facility managers. Our staff connected with industry stakeholders to advance partnerships, promote participation opportunities through our **Instant Rebates** programs, and influence present and future energy-efficient product development for rebate consideration.

The **American Council for an Energy-Efficient Economy Hot Water Forum (ACEEE HWF)** was held from March 21st to 23rd, gathering industry leading manufacturers, utility and program administrator professionals, and energy efficiency program planners and evaluators. Energy Solutions served as panelist members to discuss pathways for energy efficiency, emissions reduction, and program design to bolster 120-volt HPWH installations.

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: jjohnston@energy-solution.com | www.energy-solution.com

Disclaimer: This report reflects our best estimate of market impacts, with the information available at this time. As the pandemic recedes, Energy Solutions will continue to provide valuable reporting on supply chain conditions. These updates will be versioned and dated to indicate at what time they apply.

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