

COVID-19 Supply Chain Assessment

New Jersey's Clean Energy Program

October 2021



Agenda

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- 2 COVID-19 Impacts Assessment
- 3 Larger Market Impacts
- 4 Industry and NJ Specific Insights
- 5 Mitigation Approaches

About Energy Solutions

Energy Solutions creates large-scale environmental impacts by providing cost effective, market-driven carbon, energy, and water management solutions.

- Founded in 1995
- Mission-driven
- Employee-owned
- Nationwide reach with offices in NY, CA, MI, MA & OR
- Clients received 13 national program awards
- 20+ years of Midstream experience across Lighting, HVAC, Water Heaters, and Foodservice - currently active in 18 states



Energy Efficiency



Distributed Energy Resources



Policy & Ratings



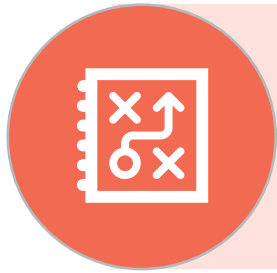
Strategies – COVID Supply Chain Analysis




National Trade Ally Management team reached out to manufacturers and distributors nationwide to collect data on C&I lighting, foodservice, HVAC, water heating, cold storage, and pumps markets



Compiled feedback and sales trends to inform program forecasts and inform outreach strategy




Evolved into publicly available resource listed on Energy Solutions' website: energy-solution.com/covid-19-supply-chain-updates



COVID-19: Supply Chain Assessment

January 29, 2021 | Vol. 2, Issue 1

 Energy Solutions

Welcome to Volume 2. At the start of a new year, the up-and-down trend we saw in 2020 continues into 2021. As the country races to distribute the COVID-19 vaccine, Life Sciences programs are experiencing historic sales volumes, while other technologies are hitting supply chain slow downs. High demand at the end of 2020 spurred by promotions may be suppressing demand in early 2021 for some programs. Additionally, customers continue to manage costs tightly as many hunker down to survive until the vaccine brings relief. Contractors, having been sustained somewhat as they worked through the backlog of projects in the later part of last year, are seeing pipelines decline which may mean fewer projects on the immediate horizon.

It promises to be another unpredictable year - at least in the beginning and we look forward to launching new programs in 2021 that support the market and keep savings on track. We'll share news of those in the coming issues and we encourage our readers to give feedback for what they like about this series and what other things they want to see.

We hope you'll join us for our second Commercial Market Roundtable on February 10, 2021 at 10AM Pacific when we'll discuss "Midstream in the Cold Chain: Meeting the COVID-19 Challenge." [Register here.](#)

Findings

1. Product Availability

a. HVAC / Water Heating — A distributor reported supply chain issues are impacting materials, production, and shipment of units. For example, one order placed in October 2020 is expected to be filled in March 2021; and other orders are still pending a fulfillment date.

b. Life Sciences — Manufacturers of cold storage equipment continue to experience historic sales volume. Demand is predicted to hold strong through 2021, though not all vaccine types will require specialized freezers. Currently, any units ordered in Q4 of 2020 will not be delivered until April 2021. To increase production, some manufacturers are running two 12-hour shifts instead of 8-hour shifts.

For these updates, the Trade Ally Team has communicated with the following number of market actors per technology area:

	This Issue	Communications to Date - Vol. 2
HVAC	9	9
Foodservice	18	18
Water Heating	7	7
Pumps	5	5
Lighting	6	6
Total	45	45

Table 1.

2. Equipment Sales

a. Foodservice — Multiple dealers report strong sales at the end of 2020, thanks to regional promotions. Across the board, sales in the new year are tracking far below normal volume, as compared to this time last year, as much as 60% lower in some regions. Dealers have noted demand is down as some customers have permanently shut down and others are focused on keeping costs low, deferring non-critical equipment purchases and operating on slimmer margins due to dining restrictions. Many are bracing for another potential shut down in anticipation of a spike in infections as a result of the holiday gatherings. Dealers expect the next few months to be uncertain but are hopeful for government relief.



COVID Supply Chain Analysis

National Trade Ally Relationships

- Trade Ally Management team regularly surveys manufacturers and distributors across 22 states to help update forecasts
- Monthly market assessment is compiled for our clients with estimated sales impacts on major technologies
- To compile Supply Chain Assessment data, Energy Solutions has surveyed >590 market actors since March 2020

Midstream Perspective

- All Energy Solutions-implemented midstream programs have continued operations across technologies
 - Energy Solutions launched new programs in the height of the pandemic
- Many equipment dealers/distributors were “essential businesses”
- Midstream participants are in the middle of these supply chains, helped provide insights into the fluid supply chain constraints

Visit www.energy-solution.com/covid-19-supply-chain-updates/ for more information

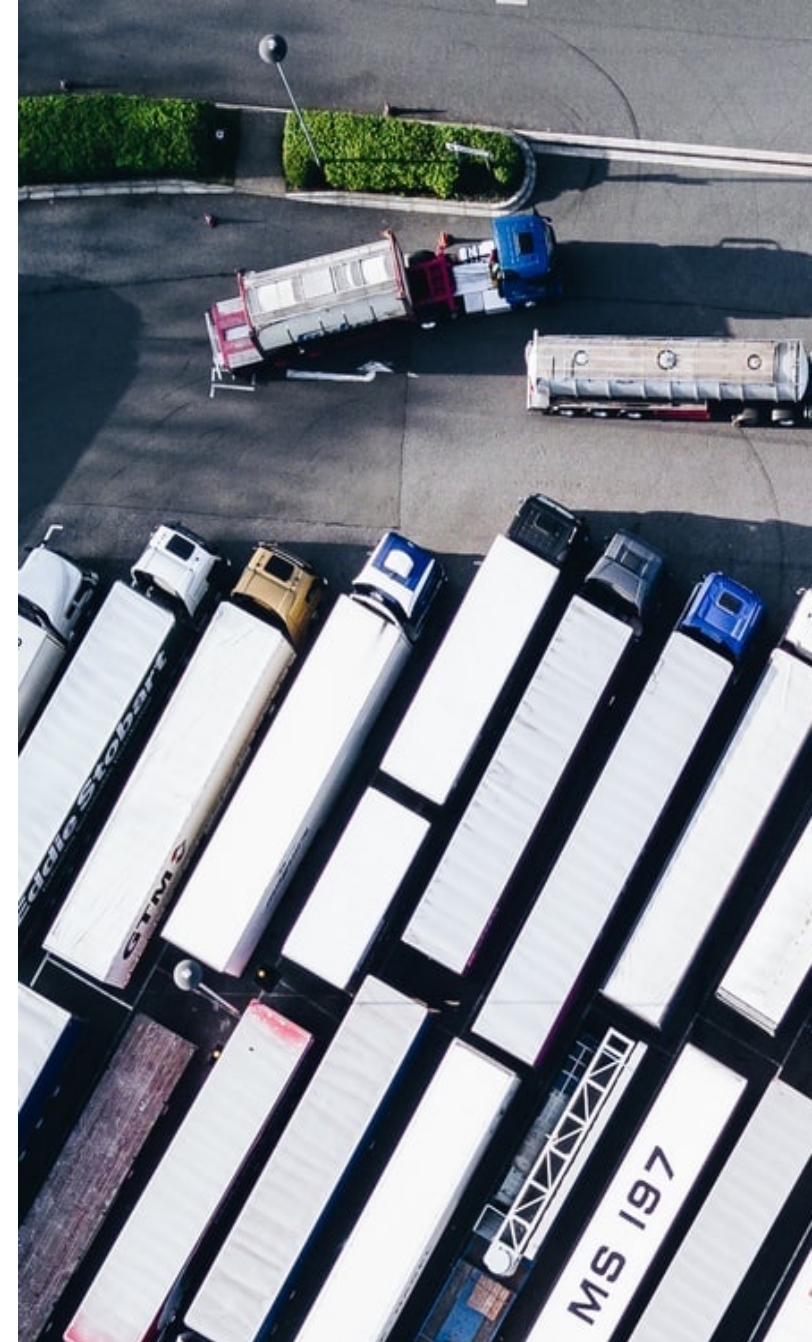


Big Picture Supply Chain Trends

Long Lead Times

- "Chip" related supply chain delays are impacting multiple industries from cars to water heaters
- White House announced that the Port of Los Angeles will remain open 24/7
- The hot tub example: Parts come from 7 countries and 14 states and travel a cumulative 887,776 miles to make one
 - Chemical materials, motors, trucking, ports, chips*

* <https://www.wsj.com/articles/why-is-the-supply-chain-still-so-snarled-we-explain-with-a-hot-tub-11629987531>



Big Picture Supply Chain Trends

Price Increases

- A major HVAC distributor recently reported a 13% raise in costs, impacting all markets,
- Many organizations can no longer guarantee previously quoted projects
 - Distributors were only giving seven-day turnaround on quotes because of pricing volatility.
 - Some manufacturers are not quoting equipment until it is made because of uncertainty about how much it will cost to assemble
 - Some manufacturers are building and selling equipment at losses just to maintain relationships and take market share
- Prices are expected to continue to increase into 2022



Big Picture Supply Chain Trends

Uncertainty Leads to Delays

- In 2020 the big sales had already been financed so those were going to get built.
- 2021 was more challenging due to uncertainty
- Fewer initial 2021 commitments, so manufacturers were not seeing the demand.
 - When sales started back, they came back quickly, and manufacturers could not keep up with the demand.
 - Manufacturers may have solved their own labor shortage issues at first, components manufacturer also had labor and materials shortage
- Competing priorities – Example: Distributors are reusing warehouse space and cash flow to buy copper to turnaround and sell it all in a week to a competitor for a huge margin.

Supply Chain Assessment Highlights – Foodservice

Product Availability

- Nov 2020 – Manufacturer’s report supply chain issues, resulting in production delays up to a few months
- Sept 2021 – Supply chain delays affecting all equipment types; fryer lead times from 8-28 weeks
- Ongoing – Smaller dealers are struggling to bring in stock since they don’t order in bulk, but potential glut of used equipment in the market due to restaurant closures
- Ongoing – Chains are going to get their equipment, although difficult to get traction with them

Equipment Sales

- Apr 2020 – Sales are down by at least 50% and “business is horrible”
- Oct 2020 – Increase in refrigeration sales, reflecting customer trends to buy in bulk and freeze
- Ongoing – Dealers across the country are reporting difficulty keeping up with customer demand

Service Providers & Contractors

- Jan 2021 – Project backlogs sustained contractors in 2020, but surplus is gone with fewer projects for bid

Administrative and Application Submittal

- April 2020 – A top 100 foodservice dealer based in New York has gone out of business



Supply Chain Assessment Highlights – Water Heating

Product Availability

- Jun 2020 – Manufacturers report that factories in Mexico were impacted by COVID outbreaks, some closed
- Mar 2021 – Texas storm further delays shipment timeline and rising commodity prices drive up prices
- Jun 2021 – Distributors report historically long lead times, some reported 40 days from order to fulfillment
- Sept 2021 – Low inventory across product types, except HPWHs. Chip shortage will impact HPWHs.

Equipment Sales

- May 2020 – Market starting to report that sales are significantly down
- Apr 2021 – One distributor noted that water heater product prices are up ~37%, multiple price increases
- Ongoing – Sales are more about shift than total volume, as hot water is the end goal for emergency replacements (whether it is tankless, storage, indirect, etc.). Often more work for contractor or higher cost.

Service Providers & Contractors

- Ongoing – Additional safety measures on job sites, project completion times are extended
- July 2021 – Distributors report that contractors are requesting fixed pricing to hedge against future

Administrative and Application Submittal

- Ongoing – Limits on face-to-face equipment upselling opportunities impact high efficiency sales



Supply Chain Assessment Highlights – HVAC

Product Availability

- Mar 2020 – North American factories are operational, Asian factories (mini splits, VRF) down 20-40%
- July 2020 – Limited availability of parts such as coils, motors, compressors, IAQ components
- July 2021 – Distributors report that product availability is largely dependent on the manufacturer

Equipment Sales

- Apr 2020 – Major distributor reports 20% decline in sales
- Sept 2021 – Manufacturers report material shortages; HVAC prices could increase 7-8%, parts up to 20%
- Ongoing – Manufacturers are reporting record breaking sales for Indoor Air Quality (IAQ) products

Service Providers & Contractors

- Aug 2020 – Contractor's report increasing residential sales due to more people working from home, with greater sales of high-end equipment to support better IAQ
- July 2021 – Contractors are extremely busy but logistical and trucking shortages are impacting the availability of thermostats and other parts



Supply Chain Assessment Highlights – Lighting

Product Availability

- Apr 2021 – Manufacturers report the increased cost of copper, brass and other required materials are driving up prices
- Aug 2021 – Lead times range from 2 – 8 weeks, driven by logistical delays and raw material shortages
- Sept 2021 – LED products are taking the brunt of supply chain woes

Equipment Sales

- Sept 2021 – Increased lead times for controlled products have caused customers to opt for non-controlled products

Administrative and Application Submittal

- July 2020 – Program promotions have largely driven program engagement and application submittals
- Ongoing – Dealers report application backlogs as staff struggle to cover sales and back-end operations

New Jersey Insights

Foodservice

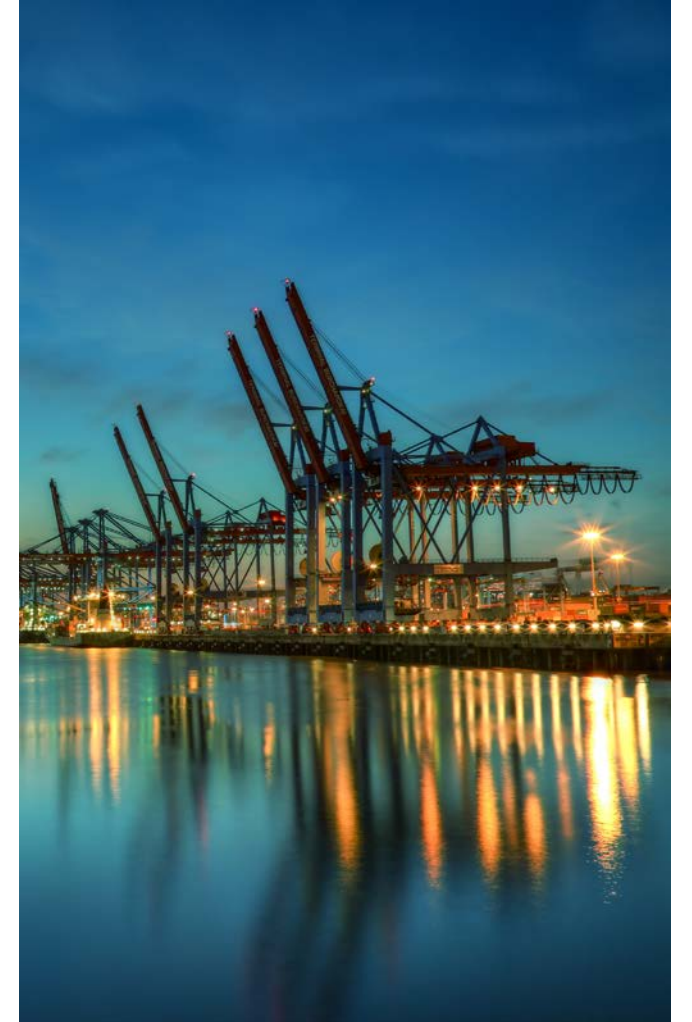
- A few large dealers are heavily involved in the market
- Product availability is strong overall due to prevalence of major dealers and their overall purchasing power
- Strong interest in program support as in other markets

Water Heating

- Similarly, a few large national dealers have significant positions in the market
- Most dealers impacted by regional considerations – Several major distributor have bigger distribution facilities in NJ or are headquartered in NJ
- During the pandemic branches are fighting with each other for who gets the product because of such shortages

HVAC

- One of the largest heat pump manufacturers in the world is opening their largest US facility in NJ because of the expected demand in the region
- Similar distribution concerns and considerations as for water heaters



Mitigation Approaches

Identifying New Opportunities

- Emphasis on IAQ results in more HVAC opportunities
- Increased demand for lab grade equipment of all types
- Significant growth in potential planned replacements in the residential sector due to rise in home renovations

Working with the Market

- Helping dealers bring in similar equipment with shorter lead times
- Streamlining program participation requirements and supporting application submission with short-staffed dealers
- Targeting segments that have relief funding (schools, restaurants, etc.)

Working with the Programs

- Updating forecasting frequently as circumstances change
- Providing local market intelligence based on supply-chain interviews
- Proposing revised measure mixes to meet savings shortfalls
- Increasing incentives and promotions to help in the worst times





Thank You

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