

WHITE PAPER

Leveraging Refrigerated Trailers to Empower Convenience Store Chains Amidst HVACR Technician Shortages



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Convenience stores have long been a staple in communities,

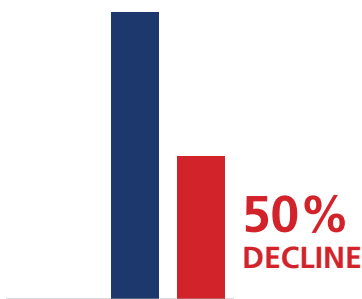
offering round-the-clock access to essential and perishable goods. However, the freshness and quality of these products rely heavily on efficient refrigeration systems. As convenience store chains face an alarming shortage of qualified heating, ventilation, air conditioning, and refrigeration (HVACR) technicians, maintaining these crucial systems has become increasingly challenging. In response to the escalating scarcity of HVACR technicians, convenience store chains are strategically turning to refrigerated trailers as a practical solution. These mobile units are rapidly emerging as a vital resource, offering flexibility and efficiency in refrigeration management and, ultimately, reshaping convenience store logistics.



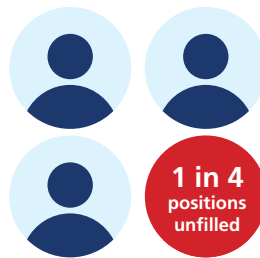
CHALLENGES

Posed by the Growing Shortage of HVACR Technicians

The convenience store sector faces daunting obstacles due to a significant shortage of qualified HVACR technicians, particularly in the U.S. The severity of this issue is staggering:



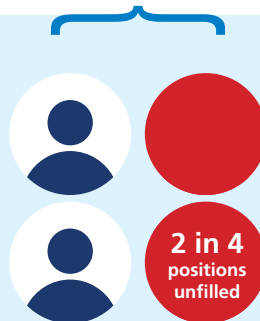
Over the past decade, the U.S. has witnessed a drastic decline of more than 50% in the number of qualified HVACR technicians.



With an ideal workforce requiring 400,000 technicians, the industry currently grapples with a **shortfall of nearly 110,000 professionals**, equating to one in four technician positions being unfilled.



Compounding the problem, approximately 25,000 qualified HVACR technicians leave the field annually, resulting in an overwhelming year-over-year net loss of nearly 9%.



If this trend persists, the HVACR industry is projected to face an additional shortage of 100,000 technicians within the next four years, potentially leaving half of all HVACR technician positions vacant by 2028.

Consequently, the shortage of technicians has led to significant challenges in servicing refrigeration systems, exacerbating delays in repairs, increasing downtime, and inflating maintenance costs. This situation presents considerable difficulties for convenience stores striving to maintain seamless operations and 100% uptime.



Rising Demand for Convenience Stores Presents **OPPORTUNITIES**

In the ever-evolving landscape of convenience stores, remaining competitive is paramount. Store operators are increasingly focusing on enhancing food service offerings and providing ultra-fast delivery as central components of their development strategies.

150,174
convenience
stores
operating in the U.S.

Despite inherent challenges, convenience stores are witnessing growth trends. Last year alone, the number of [convenience stores in the U.S. expanded by 1.5%](#), marking a reversal from a four-year decline primarily attributed to the decrease in single-store operators. According to the latest statistics from the NACS/NIQ Convenience Industry Store Count, there are currently 150,174 convenience stores operating in the United States.

Convenience store growth is substantial across the nation, with nearly every state experiencing an uptick in store counts. The momentum is continuing into 2024, with an additional 1.5% surge observed in the first month alone, bringing the total number of convenience stores to 152,396.

Among these establishments, the top 20 convenience store chains, such as 7-Eleven, Sheetz, and BP, hold considerable control, collectively representing roughly 25% of all stores nationwide. While 7-Eleven stands out with an impressive 12,854 stores, the other 19 leading chains each operate an average of 1,266 stores, each with a critical reliance on dependable refrigeration.

However, the burgeoning shortage of HVACR technicians poses a significant impediment to the operational efficiency and growth aspirations of these convenience store chains. Without adequate technicians to service their refrigeration systems, the envisioned transition to an ["experience-driven destination,"](#) where differentiation is key, remains out of reach. This emerging gap presents a substantial opportunity for refrigerated trailer solutions to catalyze growth within the convenience store sector.



How Refrigerated Trailers Can **BENEFIT** Convenience Stores



Amidst the shortage of HVACR technicians, refrigerated trailers offer a practical solution for convenience store chains. These mobile units can be easily parked outside stores to provide temporary refrigeration storage, offering several key benefits:

1

FLEXIBILITY

Mobile units provide flexibility in refrigeration solutions, ensuring minimal disruption to store operations during emergencies or routine maintenance.

2

TEMPORARY STORAGE

Refrigerated trailers offer additional storage space for perishable goods during peak seasons or unexpected spikes in demand, enabling stores to capitalize on sales opportunities without compromising product quality.

3

COST-EFFECTIVENESS

Investing in refrigerated trailers can be more cost-effective than hiring HVACR technicians for every maintenance task, reducing overall maintenance expenses.

4

REMOTE MONITORING

Modern refrigerated trailers come equipped with remote monitoring technology, allowing store managers to monitor temperature levels and receive real-time alerts, ensuring optimal product freshness.

5

ENERGY EFFICIENCY

Many refrigerated trailers feature advanced energy-efficient technologies, reducing energy consumption and operating costs compared to traditional systems.

In light of these advantages, refrigerated trailers emerge as indispensable assets, offering convenience stores the means to navigate through the challenges of HVACR technician shortages with efficiency and resilience.

KEY BENEFITS



Flexibility

Temporary Storage

Cost-Effectiveness

Remote Monitoring

Energy Efficiency





How Polar King Mobile is Driving Growth Through **SERVICE**

Kwik Trip is a well-known chain of convenience stores with locations throughout Michigan, Minnesota and Wisconsin under the name “Kwik Trip,” and in Illinois, Iowa and South Dakota under the name “Kwik Star.” This past summer, the chain’s La Crosse, Wisconsin, store purchased a total of five **large-capacity PKM616 refrigerated trailers** from Polar King Mobile’s dealer 51 Trailer Sales.

REQUIRED RESOURCES RATIO

$$X \text{ stores} \div 30 = X \text{ service teams}$$

$$X \text{ service teams} \div X \text{ teams per trailer} = X \text{ trailers needed}$$

Typically, an HVACR service team comprises two technicians responsible for servicing around 30 convenience stores within a specific geographic area. To grasp the scale of this opportunity, we can calculate the required resources using a ratio-based approach:

- The total number of convenience stores divided by 30 yields the number of service teams required.
- Subsequently, dividing the number of service teams by the number of teams sharing one trailer provides the total number of trailers needed.

For Kwik Trip, which operates 847 convenience stores, the calculations reveal a demand for 28 service teams to ensure the maintenance and repair of its refrigeration systems. Each PKM refrigerated trailer can then be efficiently shared among five service teams, necessitating a total of 5-6 trailers to effectively support Kwik Trip’s operations.

Top 20 Convenience Stores in North America

RANK	CHAIN NAME	# OF STORES
1	7-Eleven Inc.	12,854
2	Alimentation Couche-Tard Inc.	7,008
3	Casey's General Stores Inc.	2,470
4	Murphy USA Inc.	1,712
5	EG America LLC	1,682
6	GPM Investments LLC	1,404
7	BP America Inc./Thorntons	1,224
8	Extra Mile Convenience Stores LLC	1,037
9	Wawa Inc.	988
10	QuikTrip Corp.	963
11	Kwik Trip	847*
12	Sheetz	670
13	Pilot Co.	641
14	Love's Travel Stops & Country Stores Inc.	607
15	RaceTrac	566
16	United Pacific/Rocket	503
17	Anabi Oil/Rebel	490
18	BW Gas & Convenience Holdings LLC/Yesway, Allsup's	425
19	Sunshine Gasoline Distributors	415
20	United Refining Co.	404

Let's extend this ratio to a hypothetical scenario, purely for illustrative purposes, to showcase the potential market for refrigerated trailer manufacturers such as Polar King Mobile.

If we maintain the assumptions from the previous analysis, considering a major convenience store chain like 7-Eleven, with its extensive network of 12,854 stores, the demand for refrigerated trailers becomes apparent.

Dividing the total number of stores by the estimated number of stores each service team can manage (30), we find that approximately 430 service teams would be required to maintain and repair the refrigeration systems across 7-Eleven's vast network.

Further dividing these service teams by the number of teams that can efficiently share one refrigerated trailer (5), we arrive at the conclusion that approximately 86 PKM616 refrigerated trailers would be needed to fulfill the maintenance needs of 7-Eleven's expansive operations.



This theoretical exercise underscores the substantial market potential for refrigerated trailer manufacturers like Polar King Mobile, demonstrating the significant demand for their products and services within the convenience store industry.



GUIDELINES

for Integrating Refrigerated Trailers into Convenience Store Operations



To leverage the benefits of refrigerated trailers effectively, convenience store chains must carefully consider several factors before implementation. Here's a comprehensive overview of key considerations for store managers:

1. Assessment of Refrigeration Needs

Conduct a detailed evaluation of refrigeration requirements, including perishable goods volume, types, and peak demand periods. This assessment guides the selection of the appropriate trailer size, capacity, and specifications based on store-specific needs.

2. Vendor Selection

Choose a reputable supplier with a proven history of reliability, quality, and customer support. Consider factors such as warranty coverage, maintenance services, spare parts availability, and operational costs.

3. Regulatory Compliance

Ensure compliance with health, safety, and sanitation standards by verifying that the refrigerated trailers meet all relevant regulations. Establish protocols for regular inspections and maintenance checks to uphold regulatory compliance consistently.

4. Integration with Existing Systems

Seamlessly integrate refrigerated trailers with existing store infrastructure for efficient operation. Coordinate with maintenance teams to ensure compatibility with electrical systems, access points, and logistical factors like parking space availability. Integration of remote monitoring capabilities with store management systems streamlines maintenance processes.

5. Training & Education

Provide comprehensive training and education to all store employees, particularly those responsible for operating and monitoring refrigerated trailers. Training should cover safety protocols, temperature control procedures, and emergency response plans. Continuous education programs reinforce best practices and ensure compliance with operational standards.

6. Contingency Planning

Develop contingency plans for unforeseen events such as equipment malfunctions or power outages. Establish protocols for handling emergencies, including alternative storage options, backup power sources, and communication channels with suppliers and service providers. Regular drills test the effectiveness of contingency plans and ensure preparedness for any scenario.

7. Performance Monitoring & Optimization

Implement continuous monitoring of refrigerated trailer performance to identify potential issues and optimize efficiency. Establish protocols for deploying and managing units, including key performance indicators (KPIs) for temperature control, energy consumption, and maintenance schedules. Regular data analysis and performance reviews inform strategic decisions regarding trailer usage and maintenance.

In conclusion, as the shortage of HVACR technicians persists, refrigerated trailers emerge as invaluable solutions for convenience stores. By following the selection guidelines provided, convenience store chains can uphold product quality, reduce downtime, and optimize operational efficiency, thereby bolstering overall performance in the competitive market landscape.

Want to Explore Our Line of Refrigerated Trailers?



Polar King Mobile will be exhibiting at the North American Convenience Store (NACS) Show in Las Vegas on Oct. 8-10, 2024. Visit our booth to demo our large-capacity refrigerated trailers.

Visit Polar King Mobile at

NACSSHOW

Oct. 8-10, 2024

ABOUT POLAR KING MOBILE

Polar King Mobile was founded in 2020 to provide North America with the first affordable, small, refrigerated trailer solution. The company's refrigerated and freezer trailers, engineered specifically for outdoor and over-the-road use, feature a 100% seamless fiberglass design with a continuous surface. Polar King Mobile trailers are used by single-unit operators, chain restaurants, schools, health care facilities, government agencies and many others requiring dependable outdoor refrigeration. For more information, visit polarkingmobile.com or call (866) 260-4686.



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