

POWERING PROGRESS

CUSTOMER TESTIMONIAL

TWELVE MONTHS. 24/7. NO COMPROMISES

Twelve months. Nonstop operation. Zero downtime. In a facility that runs around the clock, Big Joe integrated lithium-ion forklifts went wheel-to-wheel with traditional internal combustion (IC) trucks to prove that clean, electric power can deliver the same muscle, reliability, and efficiency. The findings could reshape how you think about your fleet.

NON-STOP PERFORMANCE 20+ HOURS EACH DAY.

OVERVIEW

In early 2025, a high-output injection molding facility in Texas took a bold step toward electrification. Operating 24/7, the plant introduced Big Joe integrated lithium-ion electric counterbalance forklifts to test their ability to meet the demands of a continuous, high-hour operation. Each truck was equipped with a 36.8kWh battery and charged using a 12kW external charger.

The goal - prove that their operation could replace their older internal combustion units with Big Joe integrated lithium without impacting their operation.

CHALLENGE

The facility's material handling needs were intense:

- 20+ hours of daily operation per truck on peak days
- Minimal downtime windows for charging
- A need for cost predictability, emissions reduction and fleet optimization

The question was clear: Could electric trucks not only survive but thrive in demanding applications?

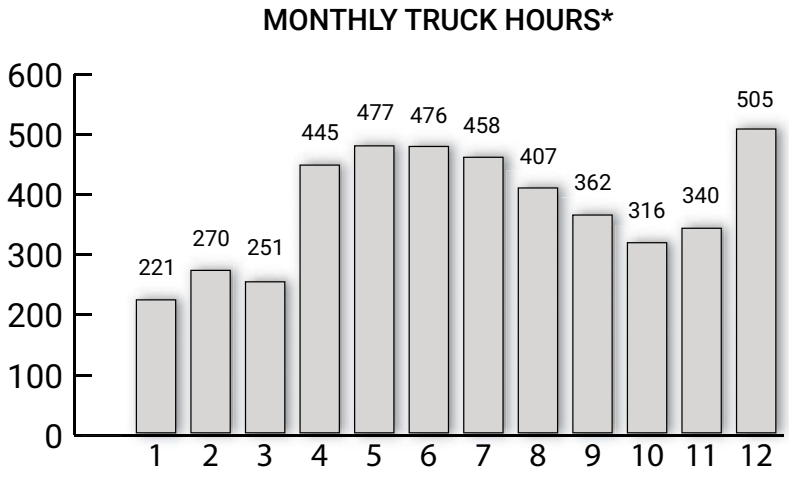
SOLUTION

All Big Joe forklifts are equipped with Pulse - Big Joe's advanced telemetry system that delivers comprehensive, real-time tracking to ensure precise, up-to-the-moment visibility into:

- Operational hours
- Battery state of charge (SOC)
- Charging behavior
- Energy consumption
- Service information

This data-driven approach allowed the facility to monitor performance trends and identify opportunities for operation improvement.

RESULTS HIGH UTILIZATION, HIGH RELIABILITY



*Example data from single unit

Fleet Operational Hours

- The unit achieved 4,528 hours in one year
- The unit was in operation an average of 13.2 hours per day, with thirty-seven days reaching a full 20 or more hours of operation
- The unit was used 342 days of the year with 192 consecutive days with at least one hour of use

This level of productivity is typical for IC trucks, but the Big Joe units performed without compromise - proving that electric trucks are not only viable, but also well suited for high-hour applications.

BIG JOE TELEMATICS. ELECTRIFY WITH CONFIDENCE.

Truck Operational Hours and Usage

The Big Joe Pulse system was successful in providing key insights on truck utilization, telemetrically. By analyzing the time each unit spends in one of four key states, operation managers gain a better understanding of the utilization patterns. These patterns give a snapshot of how each forklift is used throughout a typical day and can identify missed charging opportunities during idle periods. Additionally, these insights can help in shift planning, precise ROI calculations, emission reduction estimations, reducing downtime and extending the battery life through better charging practices.

The four key states of the forklift are:



WORKING

Truck is key-on and actively driving, lifting, lowering or running an attachment.



CHARGING

Truck is key-on or off and actively charging the battery.



IDLE

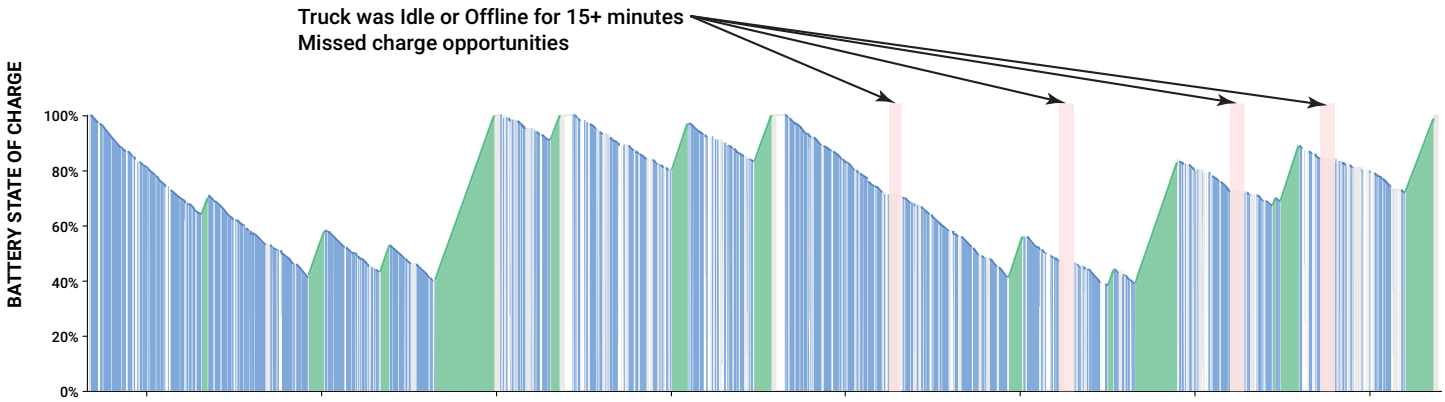
Truck is key-on and not actively driving, lifting, lowering or running an attachment. (LPG forklift would be idling in this state)



OFFLINE

Truck is key-off, parked and powered down.

Example of a High Usage 48-Hour Period



In the below 48-hour period telematics shows the unit was:

Working: 25h 38m Idle: 10h 35m Charging 8h 22m Offline 3h 25m



Free Energy Through Regenerative Braking

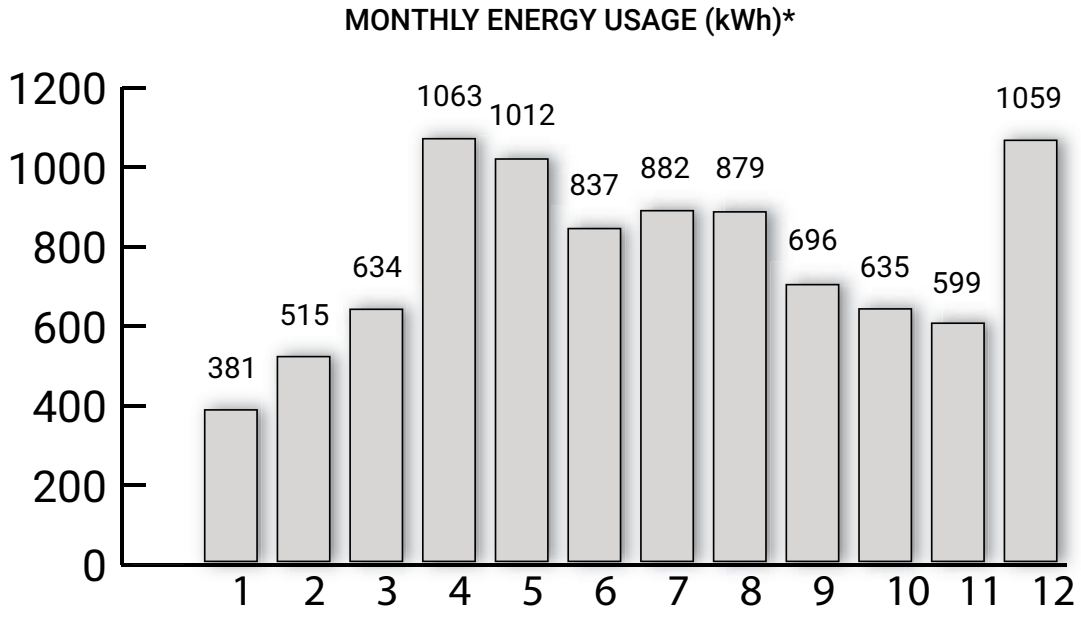
REGENERATIVE BRAKING: THE UNSUNG HERO

Big Joe's integrated lithium-ion battery recharges whenever an operator slows the truck down via regenerative braking. Over the last three months, the forklift averaged one hour of operation a day powered by energy from regenerative braking - essential when every second counts. Lithium's ability to charge via braking extended run times by 6.1%, a key to unlocking 24/7 applications that other power sources, such as lead acid batteries may have struggled with.

UP TO 1.75 HOURS PER DAY POWERED BY REGENERATIVE BRAKING.

ENERGY USAGE

Over a twelve month period the unit used 9,192 kWh.



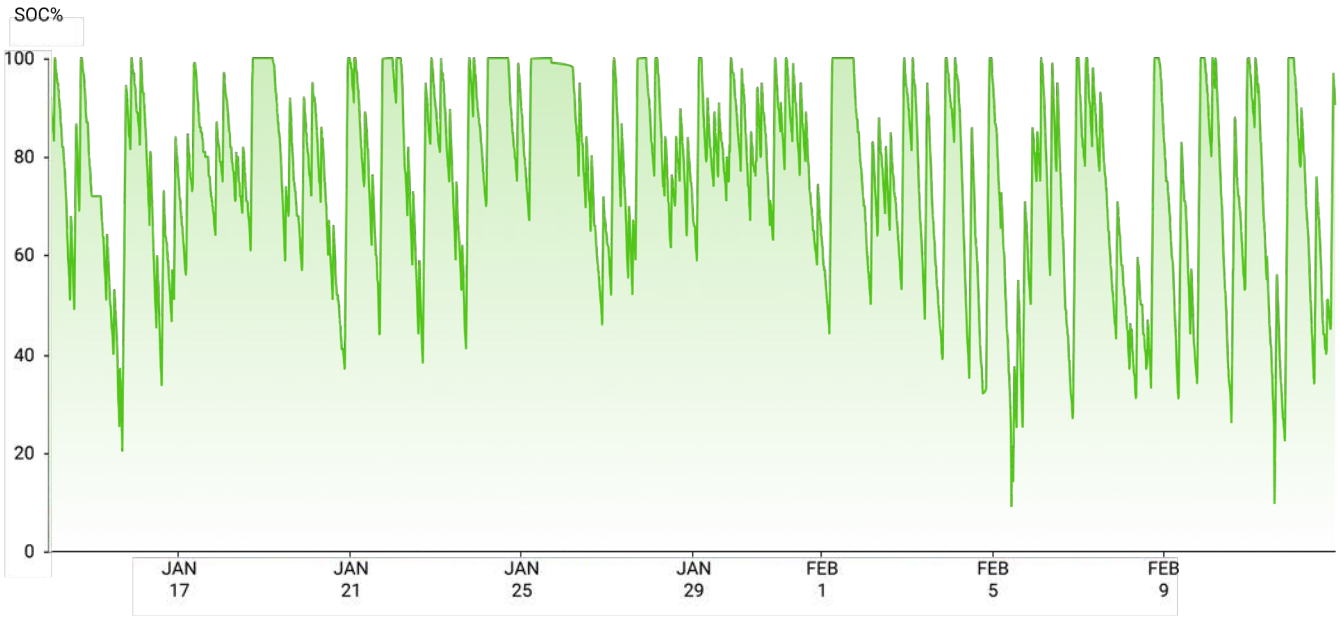
*Example data from single unit

CHARGING BEHAVIOR

In the final month of the year-long review, the unit delivered more than 500 hours of reliable performance (16.2 hours per day)

Thanks to consistent charging practices and powerful 12kW fast charging, the operation ran seamlessly - never once slowed down by a low state of charge.

BATTERY STATE OF CHARGE - MONTH 12



OPPORTUNITY CHARGE: 15 MINUTES = +8% BATTERY SOC.

Faster charging options available



ENERGY EFFICIENCY AND COST SAVINGS

- Total electricity cost: $927 (at $0.1009/kWh)
- Cost per operational hour: $0.204
- Regenerative braking saved 602 kWh, reducing energy costs by $60

Compared to LPG fuel costs, the electric fleet provided significant savings, with predictable and stable energy prices and no need for fuel delivery logistics.

ONE YEAR OVER $5,200 FUEL SAVINGS.

Per truck

Fleet Comparison to ICE: Fuel Cost

Big Joe telematics provided detailed breakdowns on how the trucks are used. This allowed for a more informed calculation on fuel savings vs. internal combustion units.



	Working	Idle	Total
Truck hours	2,661	1,867	4,528
Energy usage (kWh)	9,192	0	9,192
Energy Cost ($/kWh)		$0.09	
Energy Spend	$927	$0	**$927**

STOP BURNING MONEY. $1,300 IDLE COSTS ELIMINATED.



LPG

	Working	Idle	Total
Truck hours	2,661	1,867	4,528
Est. Energy usage (gal LPG)	1,587	461	2,048
Energy Cost ($/gal LPG)		$3.00	
Energy Spend	$4,761	$1,382	**$6,143**

The calculations presented are based on publicly available or manufacturer-stated energy consumption data for comparable LPG forklift models.

ENVIRONMENTAL IMPACT

Zero Exhaust Indoors

Big Joe integrated lithium-ion forklifts produce no local emissions, creating healthier, cleaner workplaces without indoor exhaust. The only emissions are those from the grid while charging.

Emissions Comparison - Electric vs. LPG

- Electric (Texas average*): 0.768 lb. CO_2e per kWh
- LPG: 12.676 lb. Co_2e per gallon burned

Impact Example

Over six months of operation, each Big Joe integrated lithium-ion forklift reduced emissions by 11,000 lb. of CO_2e compared to LPG - the equivalent of removing 2.2 passenger cars from the road.

** https://www.epa.gov/egrid/data-explorer*

SMALL SWITCH, LARGE IMPACT. 1 FORKLIFT = 1.75 CARS OFF OF ROAD.

Fleet Comparison to ICE: Emissions



x



=

7,060
lb, CO_2e



x



=

25,950
lb, CO_2e

-18,890
lb, CO_2e
reduction, per twelve month period, by converting 1 unit



-18,890
lb, CO_2e
Reduction, per unit

=



Removing 1.75 passenger cars from the road

https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle

CONCLUSION

For operations looking to modernize their fleets, cut emissions and better control costs, this case study delivers a clear message: ***Big Joe's Lithium-ion equipment represents a suitable replacement for their IC counterparts.***















Big Joe Forklifts, established in 1951, is a North American leader in material handling solutions with a mission to empower the people who move things and a vision to be the trusted partner delivering disruptive solutions that accelerate the industry's transformation from internal combustion to electric to fully autonomous. Our tagline, Powering Progress, reflects our commitment to innovation and partnership as we deliver lithium-ion forklifts, advanced material-handling equipment, and autonomous solutions through our nationwide dealer network.



Certification: Big Joe lift trucks are built in compliance with ANSI B56.1 and OSHA section 1910.178(A)(2). Lift trucks specifications are subject to change without notice. Any specifications critical to the intended application of the forklift should be reviewed with your Big Joe dealer. Images may show optional equipment not available in all regions.

BIG JOE

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