



# Electric Forklifts



## Overview

Electric forklifts, or lift trucks, function like traditional internal combustion forklifts to lift, handle and move materials. The primary difference is that they are powered by industrial batteries rather than a fossil fuel, like propane, diesel or gas. Although electric forklifts have been employed for years, recent improvements and technology advances have given them the edge over their internal combustion counterparts because of lower operating and maintenance costs, fewer emissions and quieter operation.

## Forklift Classifications

Forklifts are classified by their power source and design. Classes 1-3 are electric, while Classes 4-5 use internal combustion engines. Today, Class 1 electric forklifts can perform the same work as Class 4 internal combustion forklifts, as well as many applications of Class 5 equipment.

## Benefits



**Total Cost:** Electric forklifts have fewer moving parts than internal combustion versions and electricity is less expensive than fossil fuel, meaning they typically cost less to run and maintain over their lifetimes.



**Efficiency:** New technologies continue to optimize energy efficiency, performance and runtime between charges.



**Charging Flexibility:** Multiple charging setups exist. Your local electric cooperative can assist you through an assessment to determine the appropriate technology and charging patterns to meet your needs and lower your costs.



**Emissions:** Electric forklifts produce no local emissions, providing cleaner air in the surrounding environment.



**Quiet Operation:** Electric forklifts are quiet and vibration-free.



**Safety:** The emissions and noise benefits provide a safer and more comfortable workspace. In addition, outdoor forklifts use pneumatic tires to improve handling and have enclosed motors and electronic systems to ensure safety.

## Barriers



**Upfront Cost:** Batteries and charging equipment make electric forklifts initially more expensive than their fossil-fuel counterparts, but incentives may be available, and low operating costs make up the difference.



**Lifting Requirements:** Electric forklifts may not be suitable for certain tasks that require very high lift capacities (over 40,000 pounds).

# Cost Comparison

|                                                                                                                | Electric Forklift | Propane Forklift |
|----------------------------------------------------------------------------------------------------------------|-------------------|------------------|
|  Upfront Cost                  | \$50,100          | \$36,000         |
|  Annual Fueling Cost           | \$3,000           | \$10,240         |
|  Annual Maintenance Cost       | \$5,160           | \$7,500          |
|  Total Annual Operating Cost   | \$14,030          | \$21,970         |
|  Total Cost of Ownership (NPV) | \$121,070         | \$187,360        |



*The table is an example only. For actual projects, official equipment quotes from relevant vendors must be obtained to determine project payback. Assumptions: 8,000-pound forklift application; 10-year life; 16-hours per day; 7 days per week; 67% utilization; electricity cost = 8¢/kWh; propane cost = \$2.00/gallon. Per EIA Annual Energy Outlook 2020 the escalation rate is 2% for electricity, and 3% for propane. An escalation rate of 3% was used for equipment and maintenance costs*

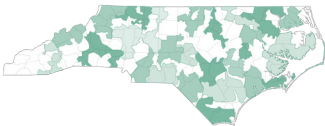
# Business Solutions from Your Electric Cooperative

As a local electric cooperative, we are here to support your business as you decide to make the switch to electric forklifts. We can help you with an initial assessment, including cost savings, as well as provide vendor recommendations and ensure all infrastructure needs are met.



# Contact Us

For more information, please contact your local electric cooperative. Visit [ncelectriccooperatives.com/our-members](http://ncelectriccooperatives.com/our-members) to find contact information for your co-op. Ask for your co-op’s key accounts representative.



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