

FUEL CELLS FOR COLD CHAIN ENVIRONMENTS

Plug Power's hydrogen fuel cell solutions are great in freezer environments, boosting productivity to improve your bottom line.

Your mission as a cold storage facility professional: to manage product in an efficient and profitable manner, enabling business growth.

We can help with that!



POWERFUL CHALLENGES

Today, many forklifts and other material handling equipment in cold storage and freezer facilities are powered by lead-acid batteries. Batteries do not perform well under these conditions. A battery rated for an 8-hour shift in 77°F/25°C temperatures may have 50% life in a cold or frozen environment. This leads to multiple negative consequences:

- Inconsistent power levels over a shift due to the drop in battery performance in cold temperatures means fewer picks per shift
- Valuable workers are needed to manage the battery fleet and its need for more frequent battery change-outs or charging
- Excess equipment (trucks and batteries) must be purchased or leased in order to manage maintenance needs
- Battery life is compromised, leading to the extra cost of replacing batteries prematurely
- Fast-charge equipment added in some facilities to compensate for diminished battery capacity leading to further expense and infrastructure
- Safety issues can include acid spills and battery flareups due to heat buildup during quick charges

THERE IS A BETTER WAY!

Plug Power's GenDrive hydrogen fuel cells offer a better solution for electric lift truck power:

- A drop-in replacement for batteries in any generation of major OEM lift trucks. By removing the overhead associated with batteries, users can see 20% savings
- 100% power in cold storage or freezer conditions down to -22°F/-30°C
- Hydrogen refueling takes less than three minutes, and the on-board fuel tank holds enough fuel to operate a full eight to ten hour shift
- Electrical issues are eliminated through constant voltage. Fork trucks increase performance time with less downtime
- Eliminates the need for a battery room or charging stations throughout the facility, lowering electricity bills
- Takes facilities out of the "power management" business and returns workers to value-add, revenue-generating activities
- Fuel cells are a clean, zero-emission power solution, and can be used to help achieve corporate sustainability goals

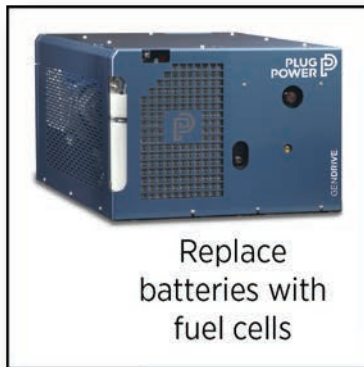
THE PLUG POWER DIFFERENCE

Cold chain organizations including Walmart, FreezPak, Newark Farmer's Market, Golden State Food, Kroger, Central Grocers and Dietz & Watson improve the productivity of their cold storage facilities through the use of Plug Power's hydrogen and fuel cell solutions. Through its GenKey turnkey package, facility professionals can rely on Plug Power for fuel cell power, fueling infrastructure, hydrogen fuel and 24/7 intelligent data, service and support.

Plug Power leads the technology revolution for fuel cells in manufacturing facilities and beyond. The company has the experience factory professionals can depend on and has completed more than 3 million fuel cell refuelings to date.



THE BUSINESS CASE IS SIMPLE:



24/7/364 operation

x



30+ vehicles

x



< 3 minute refueling

= **BIG SAVINGS**

4,668 hours/year (8.55 minutes saved per fill x 3 shifts x 30 trucks x 364 work days)
Production time that can be used to move payable goods in, out and around your facility, improving your bottom line.

JOIN THE GROWING NUMBER OF COLD CHAIN FACILITIES CHOOSING HYDROGEN AND FUEL CELLS TO MOVE THEIR BUSINESSES INTO THE FUTURE.

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