



Fire and Environmental Concerns Drive the Innovation of Zinc Battery Chemistry

About Us

Urban Electric Power (UEP) is a manufacturer of rechargeable zinc alkaline battery energy storage systems. UEP's core technology revolutionized the chemistry found in alkaline primary batteries, like the AA battery, and created a rechargeable battery. Zinc batteries offer a wider operating temperature range, longer calendar life, a lower cost per kilowatt-hour than today's leading batteries, including lithium. The UEP technology is a module, offering flexible designs for long-duration storage. The UEP battery systems are non-toxic, recyclable, and made from abundant and inexpensive materials. The UEP technology is very safe, it is non-flammable, and permitted for indoor use and dense environments, where physical safety is essential.



Recent Zinc Installations

San Diego Supercomputer Center - CA
1 MW / 2 MWh - Uninterrupted Power Supply
Displaced 20,000 lbs. of toxic lead and increased duration 4x



Navajo Tribal Utility Authority - AZ
4 kW / 13 kWh - Solar Residential Microgrid
Replaced existing Lead-acid batteries



5 Spoke Ceamery - NY
15 kW / 50 kWh - ESS Coupled with Solar
Displaced Diesel Generator



Sustainable Supply Chain

Material benefits -

- Established recycling processes
- Non-toxic & safe
- 140x more zinc processed annually than lithium

Access to raw materials in North America

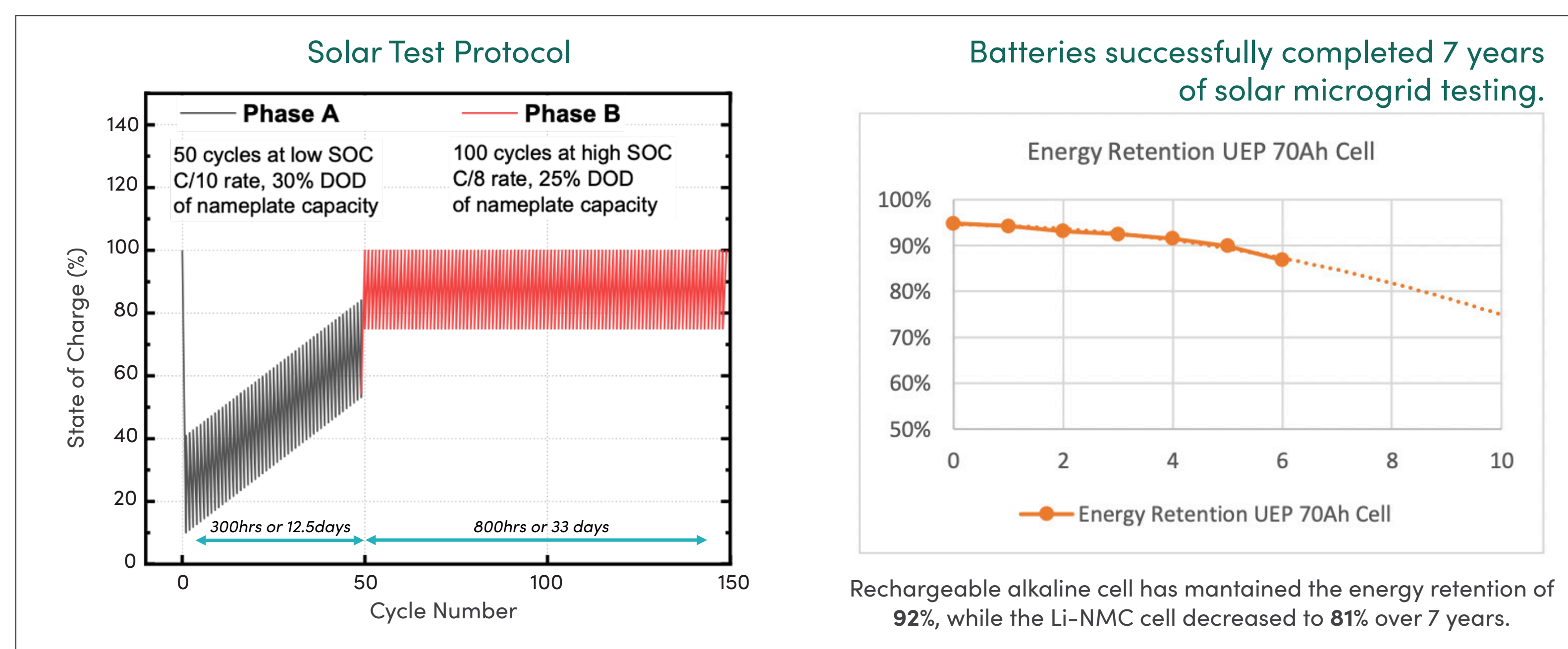
Material	Mine Location	Refinery Location	kg/yr production
Zinc	Red Dog Mine, Alaska, USA	Southern British Columbia	445,155,000
Manganese Dioxide	Molango, Hidalgo, Mexico	Tamos, Veracruz	218,500,000
Graphite	Eagle Graphite, British Columbia	Hopkinsville, KY	8,600,000



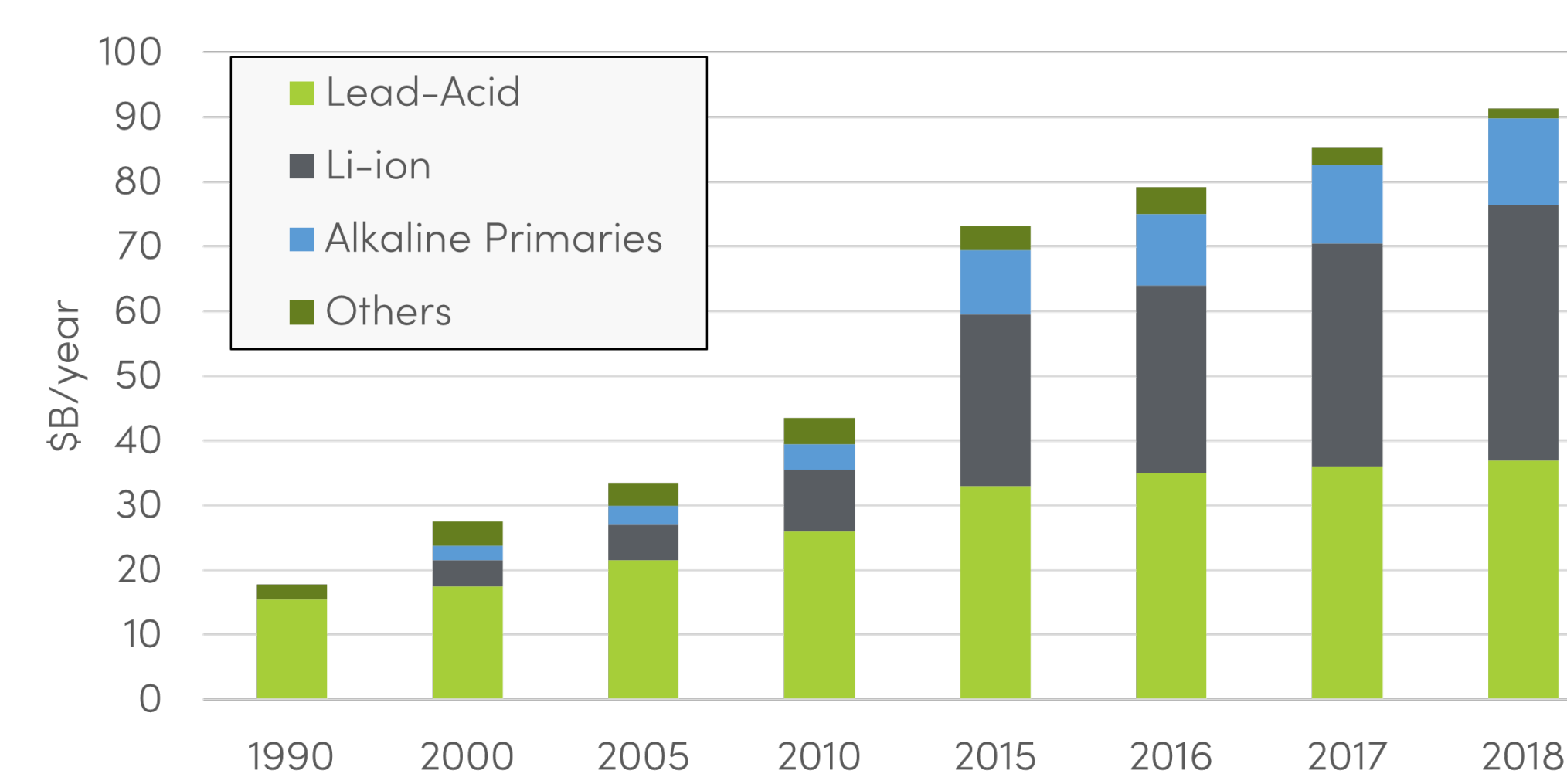
Lithium
85,000
18,000,000 in reserve

Zinc
12,000,000
250,000,000 in reserve

Zinc Enables Renewables



Established Supply Chain



Where are we today?

Zn-MnO₂ primary cell sales ~ \$13B/yr growing

Li-ion sales ~\$40B/yr growin

Lead-Acid sales ~\$38B/yr stable

Other battery sales (NiCd, NiMH, Flow batteries, NAS, ...) ~\$1.5B/yr decreasing

Zinc and Manganese dioxide have established supply chains to meet demands of \$13Bn/year of Zn-MnO₂ alkaline (primary) cells.

Safety Testing

"Unlike lithium ion batteries, UEP's cell is essentially nonflammable" - DNV



Cell Certification



Environmental Impact Report Highlights

