Battery-Size Regenerative Fuel Cells

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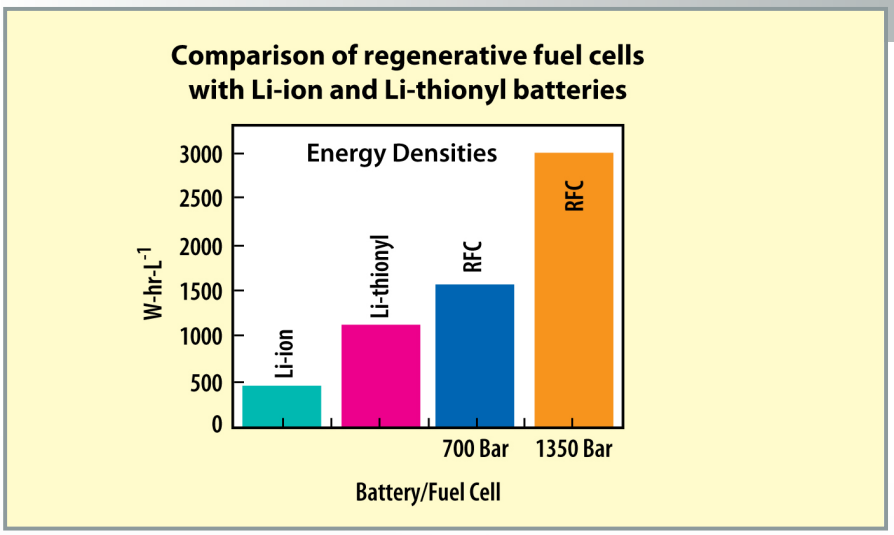

Technology Summary

A battery-size regenerative fuel cell with energy density and performance characteristics potentially superior to those of lithium-ion counterparts has been disclosed by an ORNL inventor. The invention is of great significance to the military, whose Li-ion batteries are falling so short of projected performance that the run times of critical portable electronics are as little as 20% of theoretical capability.

Advantages

Significant improvements over current Li-ion technology include

- **Greatly improved energy density.** The invention potentially achieves four times the energy density of Li-ion batteries.
- **Good cycle life.** With reagent-grade materials sealed in the battery, virtually no damaging electrochemical side reactions are anticipated.

Potential Applications

- Powering portable military electronics, especially for remote unmanned vehicles and operations.
- Powering electronics that need high-density energy, long life, and rapid and repeated recharge

Patent

Patent application in preparation.

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