Lockheed Martin Energy is pioneering a new flow battery designed to provide affordable, durable, and safe long-duration (>4 hours) energy storage for utility and industrial applications.

Applications:
- Large-scale renewables integration
- Transmission and distribution asset deferral
- Large-scale industrial energy management
- Utility reserve capacity and peak power
- Microgrid support

Advantages
- Long discharge duration and deep charge-discharge cycles
- Low total cost of ownership
- Long useful life
- System-level safety and siteability – non-flammable battery chemistry
- Full Lockheed Martin warranty

Coordination Chemistry Flow Battery (CCFB)
Flow batteries differ from sealed batteries (e.g., lead acid, lithium-ion) - they separate the power and energy portions of a battery system and allow each to be independently sized. Energy is stored in a liquid electrolyte and flowed through a stack of a stack of electrodes.

Lockheed Martin’s GridStar™ Flow system is based on our proprietary battery chemistry comprising metal ligand coordination compounds. The chemistry combines low-cost, earth abundant transition metals with commodity chemical ligands to optimize battery performance and affordability.

GridStar™ Flow systems are designed to exhibit lower system cost, higher efficiency, and longer useful life than currently available long-duration batteries.