CLiMBS Explorer

(Costs of Li-Metal Battery Scenario)

Energy Technologies Area
BERKELEY LAB

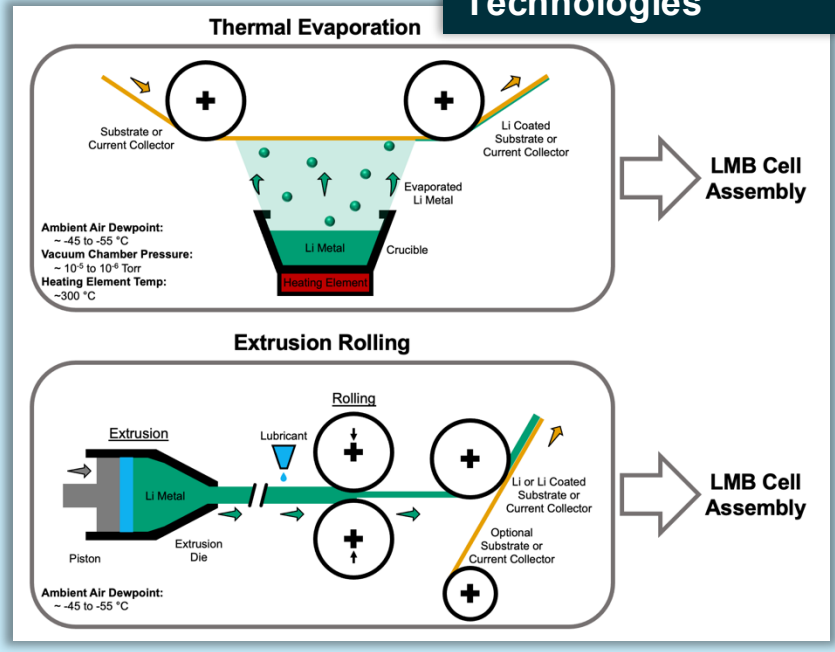
U.S. DEPARTMENT of ENERGY | Advanced Materials and Manufacturing Technologies Office

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The Costs of Li-Metal Battery Scenario (CLiMBS) Explorer is a technoeconomic model designed to aid the decision-making process of industry, researchers, and policy makers in the Li-metal battery (LMB) landscape. Through scenario comparison, users can identify key cost drivers and necessary design advancements to achieve desired cost and performance targets for LMBs. Crucially, the CLiMBS explorer can forecast manufacturing costs across different production scales and technologies, providing insight to guide private and public investment towards growing LMB manufacturing and research efforts. The CLiMBS Explorer was developed with validation from critical industry players in the Li-metal battery sector with an emphasis on Li anode production through thermal evaporation and extrusion rolling technologies.

Li Anode Production Technologies



User Specification

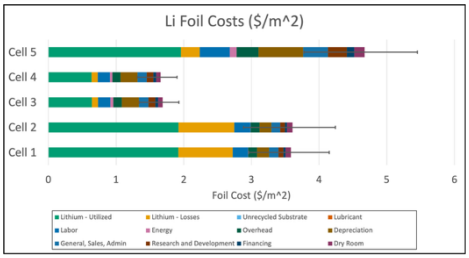
Production Technology
Production Rates
Operation Specs.

Input Prices
Material
Energy
Labor
Land

Cell Specs.
Anode Thickness
Cell Dimensions
Component Quant.

Adv. Inputs
Region
Capacity

Results and Outputs



Production Cost Breakdowns
Anode Production
LMB Assembly
Cost Categories

Job Creation & Critical Mat. Demand

Forecasting

Users can enter specific values or possible ranges for cell-level component characteristics, manufacturing technology operating parameters, and economic inputs. Results include cost estimations and breakdowns for Li-metal batteries and anodes, as well as job creation and critical material demand associated with production activities. Forecasting and geography-specific analyses can also be performed through bottom-up and top-down methodologies built into the CLiMBS Explorer.

Accessing CLiMBS Explorer

The CLiMBS Explorer and supporting materials are hosted by Berkeley Lab's Energy Technologies Area and is available for free at https://ets.lbl.gov/climbs-explorer. Please direct inquiries and feedback to jasonporzio@lbl.gov and gliu@lbl.gov.