

EVERBATT ARGONNE'S CLOSED-LOOP BATTERY LIFE-CYCLE MODEL

Accelerating the advancement of battery life-cycle solutions

The use of advanced batteries as a means of powering our electronics, fueling our plug-in vehicles and storing our electricity for later use in our homes is skyrocketing. Electric vehicle sales, for example, have increased 300% over the last 4 years; 100,000 of these vehicles were sold in 2013. With a lifespan of about 10 years, they will reach their end-of-life in just five more years. Argonne's new EverBatt model will help determine what to do with the batteries.



CAPABILITIES OF MODEL

- Provides techno-economic analysis of different recycling pathways
- Adapts to differing battery chemistries and formats and cathode/cell production methods
- Can be extended to future battery chemistries or different products

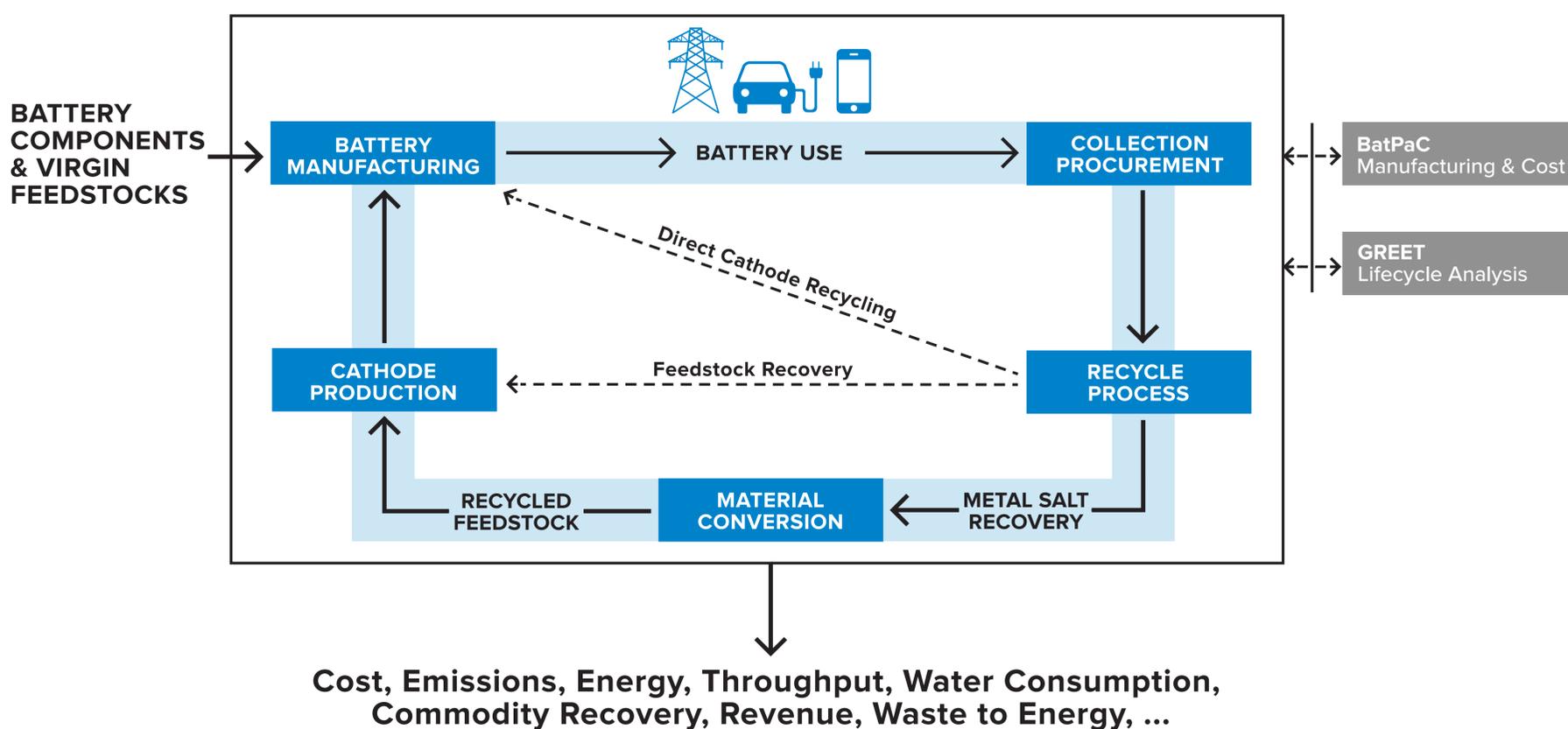
RESULTS

- A cell with a recycled cathode can cost 5 to 30 percent less than a new cell
- Direct recycling shows potential for the greatest cost savings
- A Cell production with recycled cathode can consume 10 to 30 percent less energy

BENEFITS

- Aids industry progress towards an optimized recycling system including economic, energy, and environmental aspects
- Can be adapted to analyze future battery chemistries or altogether different products
- Provides a unifying reference for all stakeholders

RECYCLING MODEL



Download EverBatt software at <https://www.anl.gov/egs/everbatt>

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