

Re-X Before Recycling Phoenix Mobile Energy

Technology Summary

Our team plans to repurpose end-of-life electric vehicle (EV) batteries to create a portable, rechargeable battery system capable of powering an average American home for a week. This product, equipped with an inverter and control system, will be housed in a trailer for easy transportation. Designed to be towed by most trucks.

This solution addresses the significant need for power in homes across the US, particularly in remote, rural, and tribal areas without grid access, offering a cleaner and cheaper alternative to diesel generators. Our product will be available for rent at central locations such as grocery stores or gas stations.



An illustration of our product.

Team Members

Mostafa Ardakani an associate professor at the University of Utah with a PhD in energy engineering
Mojtaba Ardakani a software engineer at Google Research with a PhD in Electrical Engineering and MS in Statistics from UCLA, **specializes in machine learning and optimization to enhance repurposed EV battery systems.**

Project Plan

Task	Goal
Engineering Design	Identify specs for top 10 EV batteries.
Business Model Development	Summarize interviews with customers and partners.
Economic Feasibility Study	Report cost estimates and future projections.

Technology Impact

The used EV battery market is poised for dramatic growth, forecasted to surge from \$300 million in 2022 to \$8.5 billion by 2030. EV batteries, with a 10-20 year lifespan, retain around 60% capacity after 9-12 years. Our analysis predicts the production cost of our product to range from \$18,000 to \$36,000, with breakeven rental prices varying based on cost scenarios and life expectancy, offering a competitive alternative to traditional diesel generators in terms of costs and sustainability.

Empowering homes, one battery at a time - sustainability meets innovation.