

304 Consulting

<u>Team Member Name</u>	<u>Year</u>	<u>Major</u>
Sogol Chekani	2028	Accounting Major
Morgan Baker	2026	Data Science, Economics
Julia Vanatta	2026	Marketing, Sales Emphasis
Nicholas Hage	2029	Economics/Finance
Allie Prudhomme	2026	Marketing, International Business

Advisor(s): Dr. Li Wang, Dr. David Dawley

Topic Title: Production to Recycling: the Ethical Double-Edged Sword of EV Batteries

Audience: Tesla's Board of Directors

Sustainable Development Goal

SDG #9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

SDG #12: Ensure sustainable consumption and production patterns

SDG #13: Take urgent action to combat climate change and its impacts

Executive Summary

Our team, 304 Consulting, proposes a closed-loop, which is an enhanced battery materials partnership, that helps Tesla reduce costs, secure its supply chain, and strengthen its sustainability leadership. As global demand for electric vehicles continues to rise, Tesla's growth increasingly depends on lithium, nickel, and cobalt materials that are volatile in price and concentrated in politically sensitive regions. Even small fluctuations in raw material costs can significantly impact battery production expenses at Tesla's scale.

Our solution converts Tesla's end-of-life batteries and manufacturing scrap into battery-grade cathode precursor materials that can be directly reintegrated into Gigafactory production. By recovering and refining these materials, Tesla can realistically achieve 15-20% recycled material input within five years. A conservative reduction of \$5-\$10 per kilowatt-hour in cathode material cost could translate to over \$100 million in annual savings, while also reducing exposure to global supply instability.

Beyond financial benefits, this closed-loop system ensures compliance with emerging recycled-content regulations and eliminates the risk of batteries entering fragmented or informal recycling markets. If highlighted in the media, this initiative would position Tesla not only as an EV leader, but as a company actively closing the loop on its own environmental footprint.

By transforming battery waste into battery-grade input, Tesla can lower costs, reduce risk, and reinforce its commitment to sustainable innovation.