Self-Driving Car Company Waymo is Repurposing its Old EV Batteries

Waymo is joining with a startup that gathers worn-out EV batteries and gives them a new function harnessing power for the electric grid

By
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A Waymo car drives up a hill in San Francisco. PHOTO: JEFF CHIU/ASSOCIATED PRESS

Alphabet's Waymo is set to recycle its old electric-vehicle batteries as storage for solar power.

The self-driving car company told WSJ Pro Sustainable Business it is partnering with B2U Storage Solutions in an effort to reuse thousands of its EV batteries, finding a new use for the old batteries as large-scale energy-storage systems that can stash power to shore up the electric grid.

Waymo isn't the first car company to recycle its batteries with B2U, but its fleet of self-driving cars go through EV batteries far more frequently than regular electric vehicles because the autonomous ride-hail cars rack up more miles more quickly.

"The average personal vehicle is parked, but ours are shared and highly utilized," said Adam Lenz, head of sustainability and environment at Waymo. That means batteries from its autonomous cars would be repurposed at a faster rate than those from a personal EV, he said.

The number of autonomous rides in the U.S. is expected to rise rapidly, from around 15 million in 2025 to about 36 million this year, according to a Morgan Stanley estimate. Waymo said its fleet of vehicles are making about 500,000 trips every week.

B2U, which has been repurposing EV batteries since 2020, has also worked with other car companies including Nissan and Tesla to collect their batteries for grid storage.

A B2U energy storage system in Lancaster, Calif. PHOTO: AWARDED GOODS

To repurpose EV batteries—which B2U buys from auto and other companies—the units are removed from the cars, tested and ultimately packed into 9-foot tall "cabinets," which look like small shipping containers. Each cabinet contains dozens of old EV batteries.

The system captures excess solar energy during periods of low demand and eventually makes it available to consumers via the electricity network through wholesale markets where power is traded. That helps firm up the grid, said Freeman Hall, B2U's chief executive.

"We're literally plugging them in and charging them when prices are low—when there's a lot of sun or wind, when supply is plentiful—and then discharging them after the sun is setting," he said.

The company estimates that one cabinet could power an average home for up to three months.

The initiative will be carried out in California and Texas for now—states where solar energy is some of the most abundant in the country. The Texas electricity grid is increasingly relying on solar and wind, according to a report on the U.S. Energy Information Administration's website from late last year.

Each battery reused by B2U can add $8,000 to $10,000 in added electric power value, Hall said. The clean energy startup is part of a budding desire for businesses to get more out of the glut of electronic waste.

"To take an asset made for one purpose and use it for a different purpose—it is fairly novel," Hall said.

While the initiative has environmental benefits by finding a new use for a retired battery and lowering carbon emissions through renewable energy, Waymo said it also helps secure the electricity grid that its cars rely on.

"By deploying EV batteries for beneficial second use, we can source renewable energy for our fleet," Lenz said.

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