Why Electric Car Batteries Are a Problem In More Ways Than One

But we could solve it if only we were willing to try

EV batteries have a significant environmental cost.
Recycling them has its own set of human and environmental problems.
The bigger problem is that we still insist on using cars for everything.

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We are putting batteries in everything, from scooters to SUVs, and calling them green. But batteries have their own environmental problems.

Fossil fuels are *the worst*. It wouldn't be a stretch to blame them and the industries they have enabled for pretty much the entirety of our spiraling climate meltdown. From this point of view, almost anything is better. We need to ditch coal and oil ASAP, no matter what it takes. At the same time, we should be taking a long look at the problems with batteries—battery fires, the use of child labor to mine rare minerals, etc.—so they don't become yet another disaster.

"Lithium-ion batteries, especially those powering most e-bikes and scooters, need to improve drastically. In addition to long charging times, the most pressing concern is catching fire. Lithium-ion batteries have already sparked 22 fires that caused 36 injuries and two deaths in New York City this year," Charlie Welch, CEO and co-founder of ZapBatt, told Lifewire via email.

EV Battery Life

Batteries are fueling EV growth, from giant SUVs to humble electric bikes. We focus on the good aspects: that they can be recharged, there are no local emissions, electric motors are silent, etc. But we also ignore the problems. First, producing batteries has a significant environmental and human impact.

> *Until a battery can be made sustainably from both a human and environmental perspective, the growth of battery use won't be sustainable.*

"Too commonly, batteries are made with cobalt, which is a highly volatile and unsustainable mineral to source. There are several cobalt mines in Africa, particularly in the Congo, where child labor is all too common," Ashish Gadnis, CEO of sustainable-sourcing company BanQu told Lifewire via email.

And even after manufacturing, the lifecycle of a battery is shorter than you might expect.

"Because many e-bike and scooter OEMs use cheaper batteries with shorter life cycles, there is unfortunately a growing mountain of e-waste. With micro-mobility operators swapping a tsunami of conventional lithium-ion batteries on e-bikes and e-scooters, and with few recycling options available at present, we are well on our way to building a massive battery graveyard and squandering the rare earth minerals used to manufacture them," says ZappBat's Welch.

EV Battery Recycling

Then, too, recycling itself has an impact.

"Oftentimes, we think that encouraging recycling is the catch-all solution to making the material more sustainable. But unfortunately, it isn't. Recycling programs are often happening at these very mines where child labor is rampant. So until a battery can be made sustainably from both a human and environmental perspective, the growth of battery use won't be sustainable," says Gadnis

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And that's if you can even recycle them. At the end of their lives, batteries can become pretty toxic.

"Many batteries and solar panel parts are not recyclable, which obviously increases our waste generation. Improperly disposed [of] batteries can also cause soil, water, and air pollution," Caio Bersot, energy analyst at EnergyRates.ca, told Lifewire via email.

Alternatives Like Hydrogen Fuel Cells

One other option is hydrogen. It's not perfect, of course, and it would require a distribution network similar in principle to that of gasoline rather than using our existing electricity grid. But the advantage is that refueling can be faster than charging a car (you can fill up in just four minutes), and the car still runs on electricity and produces only water as waste.

"Hydrogen fuel cells, although a bit more expensive than electric vehicles, have a smaller impact on the environment as they only emit water when powered with hydrogen. However, all vehicles, regardless of how they are powered, will require multiple resources, both natural and manufactured," says Bersot.

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But hydrogen is also—like batteries— less energy dense than gas, so you need to carry more of it and store it at high pressure.

The real problem is that we have built some societies around individual vehicles for both extended and short-distance use. Those vehicles are far too big, a hangover from the plentiful energy of cheap gasoline. Long-distance journeys are best made on electric trains that don't run on batteries, while shorter trips can be made by bike or public city transport—again, all of which can be battery-free.