

Slate

THE GREEN LANTERN

Tank vs. Hybrid

Is it possible that a Hummer's better for the environment than a Prius is?

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I'm shopping for new wheels and was considering a Prius. But one of my co-workers insists that the Prius isn't

nearly as green as Toyota boasts, due to the energy required to manufacture the car's battery. The guy also claims that scientific studies have shown that a Prius is more environmentally harmful than a Hummer is. Really?

Like those old chestnuts about [poisoned ATM deposit envelopes](#) and the [dangers of flashing your headlights](#), the bizarre anti-Prius meme cited by your colleague refuses to die. It keeps making the e-mail rounds every few months, with multiple versions landing in the Lantern's inbox. There's a minuscule grain of truth to the allegation, since the Prius' nickel-metal hydride battery is a more complicated beast than your typical [EverStart](#). But the rest of the case against the best-selling hybrid? Malarkey.

The Hummer-beats-the-Prius talking point began with [this report](#) (PDF) from [CNW Marketing Research](#). The report, titled "Dust to Dust," was cited in a [March 2007 editorial](#) in the *Recorder*, a student newspaper at Central Connecticut State University. That editorial, in turn, was [praised by Rush Limbaugh](#), thereby guaranteeing its eternal life in blog comments, online forums, and the [musings of George Will](#).

The skeptics' basic argument is that the Prius' battery is irredeemably un-green, mostly because of its high nickel content and complex manufacturing process. As a result, "Dust to Dust" contends that a Prius will consume \$3.25 worth of energy per mile over its cradle-to-grave lifetime. A Hummer H2, by contrast, will use \$3.03 per mile and the Hummer H3 just \$1.95.

Such a contrarian conclusion is manna to those who sneer at Prius owners as effete or

snobbish. It's also unsubstantiated bunk. As [numerous learned folks](#) have pointed out, the 458-page "Dust to Dust" makes zero sense, and not just because it betrays its scientific shortcomings early on by referring to "gigajoules" of energy. For starters, the report automatically penalizes the Prius by prorating all of Toyota's hybrid research-and-development costs across the relatively small number of Priuses on the road. New technologies obviously require massive upfront investment, so this puts the Prius deep in the energy hole right off the bat. (CNW Marketing defends this decision [here](#).)

Second, "Dust to Dust" makes a gaggle of inexplicable assumptions, such as claiming that a Prius will last only 109,000 miles, well below the stated "industry straight average" of 178,739 miles—not to mention the whopping 379,000 miles ascribed to the Hummer H1. CNW says that Prius owners simply drive less than their peers, but it's impossible to tell where that data (as well as virtually everything else in the report) come from. In at least seven states, Toyota offers a 150,000-mile warranty on the Prius' hybrid components, including the battery—it's tough to fathom the company's actuaries agreeing to such a warranty if that 109,000-mile figure was correct. (More nutty assumptions are highlighted [here](#).)

"Dust to Dust" also posits that the vast majority of a car's cradle-to-grave energy gets expended during production. That assertion runs contrary to virtually every other analysis of vehicular life cycles, including those conducted by [MIT](#) (PDF) and [Argonne National Laboratory](#). The authors of "Dust to Dust" try to explain this discrepancy on pages 277 and 278 of the report, by invoking a truly weird analogy to coffee production. (How weird? CNW proposes factoring a consumer's post-coffee "bathroom run" into the commodity's life-cycle equation.) The Lantern is, to say the least, unconvinced, especially since CNW refuses to reveal its methodology—about as bright a red flag as you could ever hope to see. CNW's science is so feeble, in fact, that the Central Connecticut student who first cited it went on to publish a partial [recantation](#), admitting that "Dust to Dust" is "dubious at best." (The writer says he's still no fan of gas-electric hybrids, claiming they've been embraced to the exclusion of more promising technologies.)

Another major part of the anti-Prius meme is that the car's battery uses 32 pounds of nickel, mined in Sudbury, Ontario. The skeptical e-mails often state that Sudbury is an environmental wasteland that resembles "a surrealistic scene from the depths of hell." That assertion might have been true about three decades ago, long before the Prius. Nickel mining is by no means a clean endeavor, but Sudbury's conditions have [improved in recent years](#). On top of that, all cars contain nickel in their frames—the Hummer's frame, for example, has twice as much nickel as the Prius'. Also, nickel is 80 percent to 95 percent recoverable during the [recycling process](#). (Future hybrids [may use lithium batteries](#) instead of NiMH, though the next-generation Prius does not.)

All that said, Toyota acknowledges that manufacturing a Prius is more energy intensive than making a nonhybrid car. Argonne's scientists estimate that producing a pound's worth of a hybrid car requires 38,650 British thermal units, 23 percent more than that required to build a pound of a traditional car. But the Prius' fuel savings can [make up that difference rather quickly](#), at least compared with the average car, which gets a measly 22.9 miles per gallon. (The EPA estimates the Prius' fuel efficiency at 48 miles per gallon in the city, 45 on the highway—estimates that Prius owners typically claim are far too low.)

Sadly, the Lantern fully expects to continue receiving the same anti-Prius e-mails, citing the same flimsy evidence. Perhaps because of its [association with the glitterati](#), the Prius attracts a large amount of venom, mostly from critics who specialize in knocking the stuffing out of straw men. These naysayers gleefully point out the hypocrisy of stars who drive Priuses while jetting around the globe in private planes or lambaste Toyota for milking the car for publicity.

None of these critiques should obscure that fact that the Prius represents a step in the right direction—innovation designed to increase fuel efficiency and reduce emissions and that the market (abetted by tax breaks) [seems to be rewarding](#). Will the car slow climate change all by its lonesome? Of course not, but no one has ever suggested as much. Will it soon be eclipsed by newer technologies? Quite likely, and quite hopefully. But attacking the Prius for not being perfect—especially with lame scuttlebutt masquerading as science—strikes the Lantern as dangerously inane.

Is there an environmental quandary that's been keeping you up at night? Send it to ask.the.lantern@gmail.com, and check this space every Tuesday.

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