



Hummer vs. Prius 2008 Redux

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In 2007, the Pacific Institute's [Integrity of Science initiative](#) published a set of case studies on bad science or the misuse of good science in the public policy arena. One of those cases, "[Hummer versus Prius](#)," drew attention to flaws, inaccuracies, and misleading assumptions in an automotive industry consultant's report that claimed to evaluate the comprehensive energy costs of automobiles over their lifetime.¹ New data recently released in *Consumer Reports'* "2008 Annual Auto Issue" reaffirms and strengthens our critique of CNW Marketing Research, Inc.'s 2007 report, "Dust to Dust: The Energy Cost of New Vehicles From Concept to Disposal."

The CNW report offered the startling conclusion that large SUVs like the Hummer were more energy efficient over their entire lifecycles than small cars and even hybrids, such as the Toyota Prius. Although the data, assumptions, and methods used to produce that conclusion were largely unavailable for analysis and peer-review, the Institute assessed the approach and limited data used in the analysis as well as evaluated other comprehensive automobile lifecycle energy assessments. Our analysis identified key assumptions in the CNW report that were unsubstantiated, grossly inaccurate, and misleading. When those assumptions were corrected, the CNW report conclusions were completely reversed, supporting conventional wisdom: smaller cars, and especially the Prius, are far more energy efficient over their lifetimes than larger ones.

In our analysis, we noted that the original CNW report assigned peculiarly low lifetimes and lifetime mileage to the Prius (and other smaller cars), and abnormally long lifetimes and mileage to the Hummer (and other large SUVs). For example, the Prius was assumed to expire after 109,000 miles; the Hummer H1 after 379,000 miles. The lifetime of the Prius was assumed to be 12 years; the energy costs of the Hummer were amortized over 35 years. After our critique, CNW also admitted further inflating the energy cost of the Prius by amortizing some estimate of the entire energy costs of the factories building the car over a very small number of vehicles.²

Now, new data support our original critique. Using actual data from nearly one million vehicle reliability reports, the *Consumer Reports'* "2008 Annual Auto Issue" shows that the assumptions of a short lifetime for the Prius and a long lifetime for the Hummer are invalid. Toyota vehicles,

¹ The original report is CNW Marketing, 2007. "Dust to Dust." <http://cnwmr.com/nss-folder/automotiveenergy/>. The Institute's critique and re-analysis is available at http://www.pacinst.org/topics/integrity_of_science/case_studies/hummer_versus_prius.html. No additional data to support the CNW analysis have been released.

² <http://cnwmr.com/nss-folder/automotiveenergy/>. See "Response to Pacific Institute.pdf."

and in particular the Prius, have far fewer problems than cars from other manufacturers. In fact, seven-year-old Toyotas have the same number of problems as three-year-old vehicles from most other manufacturers, including General Motors, the maker of the Hummer. Among the small cars rated as most reliable? The Toyota Prius. Among the SUVs rated as least reliable? The Hummer. Indeed, the Hummer was rated 86 percent less reliable than the average vehicle.³ As Consumers Union (the publisher of *Consumer Reports*) wryly noted in their Vehicle's Profile section, "fuel economy has not been the H2's strength." As for the H3, "reliability has been well below average."⁴ In contrast, they write about the Prius: "Reliability is outstanding."⁵

In *Consumer Reports*' "Quick Recommendations," the Toyota Prius received the highest rating for "predicted reliability," "owner satisfaction," and "fuel economy." The Hummer failed to make this list entirely.

Finally, the assessment methods developed over many years by the Consumers Union also support our initial assessment of a car's actual mileage lifespan. In determining overall costs of car ownership, including energy costs, Consumers Union assumes a standard 12,000 miles per year—a value they based on data collected from their national survey,⁶ rather than artificially assigning different lifetime mileages to different cars.

Our updated conclusion? The information on data, methods, and assumptions released by CNW to date are inadequate to support their conclusions, which other peer-reviewed or independent data suggest are, at best, unproven, and most likely wrong. Their conclusions still appear to be the result of faulty analysis, untenable or unsupported assumptions, manipulation and misuse of facts and data, numerical mischaracterization, and inadequate review. In contrast, the new data recently released by Consumers Union on automotive reliability and expected lifetimes, based on millions of data points, reinforces and support our conclusion that the CNW report is fatally flawed. If consumers want to reduce the overall energy and greenhouse gas emission costs associated with transportation, buy a car that has a high mileage rating, that uses flexible fuels, or that uses no fossil fuels at all. Other options? Explore public transportation or get out of your car altogether.

³ *Consumer Reports*. April 2008. Annual Auto Issue. "Reliability Trends," pages 20-22.

⁴ *Consumer Reports*. April 2008. Annual Auto Issue. "Vehicle Profiles." Page 56.

⁵ *Consumer Reports*. April 2008. Annual Auto Issue. "Vehicle Profiles." Page 74.

⁶ *Consumer Reports*. April 2008. Annual Auto Issue. "What that car really costs to own." Page 24.