

Researchers argue energy policy rebound effect is overestimated

January 24 2013, by Bob Yirka



A close-up of a plug-in hybrid car. Critics of energy efficiency programs in public policy debates have cited the 'rebound effect' as a reason that hybrid cars and plug-in electric vehicles, for example, don't really save energy in the long run. But an economist has found the so-called 'rebound' effect is inaccurate. Credit: Karin Higgins/UC Davis

(Phys.org)—Researchers from Yale University, the University of California, Davis, and the U.S. Environmental Defense Fund argue in a *Nature* commentary piece that those who suggest the rebound effect, as it applies to energy policy, negates gains, are exaggerating its impact.

The rebound effect is where energy savings due to implementing programs or technology that reduce the amount of [energy use](#), are offset by increased use in another way. One example is where drivers of [electric vehicles](#) drive more miles because they know it costs less. In their commentary, the researchers suggest that the percentage of savings lost does not override the benefit of the initial savings, and thus such

efforts should continue. They say their research indicates that the rebound effect may vary overall from 5 to 30 percent – not nearly enough to cancel out the savings and benefits.

The rebound effect actually comes about in four ways – one direct, one indirect and two via macroeconomic changes. The direct way is when consumers use their car or [washing machine](#) more after purchasing one that is more energy efficient. The indirect way is where consumers, upon discovering they have more cash on hand due to energy savings, use that money to purchase other products that consume energy. A macroeconomic rebound effect can occur when an entire nation reduces its consumption of a resource such as oil, causing its price to fall. That in turn causes people in other nations to use more. Another instance is where reduced consumption of a resource on a national or even global scale can cause more economic growth, which of course leads to using more of that resource.

The researchers looked at all the various scenarios where the rebound effect can play out and calculated that despite a resurgence of consumption via other means, even if it were to approach 50 percent, it's still worth the conversion effort – both from a financial perspective and as a means to slow [global warming](#). Because of that, they suggest that scientists and people in the media, who suggest it's pointless to try to implement [energy savings](#) plans due to the rebound effect, reconsider their stance as it serves only to harm such efforts.

More information: Energy policy: The rebound effect is overplayed, *Nature* 493, 475–476 (24 January 2013) [doi:10.1038/493475a](https://doi.org/10.1038/493475a)

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