



RE: The Efficiency Dilemma

A letter in response to David Owen's article (December 20 & 27, 2010)

January 17, 2011

David Owen argues that energy efficiency can lead to greater energy use, but actual “take-backs” of energy savings are usually between zero and a few per cent, rarely ten to thirty per cent, and never more than a hundred per cent (“The Efficiency Dilemma,” December 20th & 27th).

Rebound effects are small in energy-using devices for three reasons: no matter how efficient your house or washing machine becomes, you won't heat your house to sauna temperatures, or rewash clean clothes; you can't find an efficient appliance's savings in your un-itemized electric bill; and most devices have modest energy costs, so even big savings look unimportant.

Respending a saved energy dollar does indirectly use energy, but, from 1986 to 2007, only six to nine cents' worth on average, and no respent dollar can buy more energy than the hundred-per-cent energy in that original dollar saved. Owen assumes that respending inevitably buys energy-intensive activities, but mindful respending could instead buy even more efficiency. Owen also confuses rebound with wealth effects. Overwhelmingly, it is increased wealth, not past energy savings, that enables people to buy cheap, inefficient air-conditioners. Efficiency makes comfort less expensive, but it hardly affects the purchase of that air-conditioner, because future energy savings are generally poorly understood, diluted by capital costs, and heavily discounted.

Owen's complaint is fundamentally about economic growth, yet he doesn't criticize other growth promoters, such as education or public health. In 2009, America used half the energy it would have used at 1975 intensity (energy per dollar of G.D.P.), and efficiency probably boosted G.D.P. by one to two per cent—which Owen considers a cost, not a benefit. Energy savings have also offset eighty-one per cent of the energy consequences of U.S. economic growth since 1975, and effectively “fuel” half of today's G.D.P. In eleven of the past thirty-four years, U.S. energy use fell; in nine of those eleven, savings grew faster than G.D.P. Paying attention to energy efficiency could achieve this every year—as we did with oil from 1977 to 1985, when G.D.P. rose twenty-seven per cent while oil use fell seventeen per cent.

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This letter was published in the January 17, 2010 issue of *The New Yorker* and is reprinted with kind permission of the magazine. The original article, "The Efficiency Dilemma", by David Owen, can be found at [http://www.newyorker.com/reporting/2010/12/20/101220fa\\_fact\\_owen](http://www.newyorker.com/reporting/2010/12/20/101220fa_fact_owen).