

Why SEER Ratings Matter

From “Political Heat” by Malcolm Gladwell, a review of *Heat Wave: A Social Autopsy of Disaster in Chicago* by Eric Klinenberg (*The New Yorker*, August 12, 2002). To read this entire article plus other articles written by Malcolm Gladwell, go to www.gladwell.com. Used by permission.

“All air-conditioners consist of a motor and a long coil that acts as a heat exchanger, taking hot air out of the room and replacing it with cold air. If you use a relatively unsophisticated motor and a small coil, an air-conditioner will be cheap to make but will use a lot of electricity. If you use a better motor and a larger heat exchanger, the air-conditioner will cost more to buy but far less to run. Rationally, consumers should buy the more expensive, energy-efficient units, because their slightly higher purchase prices is dwarfed by the amount of money the owner pays over time in electric bills. But fifteen years ago Congress realized that this wasn’t happening. The people who generally bought air-conditioners—builders and landlords—weren’t the people who paid the utility bills to run them. Their incentive was to buy the cheapest unit. So Congress passed a minimum standard for air-conditioning efficiency. Residential central air-conditioning units now had to score at least 10 on a scale known as SEER—the seasonal energy-efficiency ratio. One of Bill Clinton’s last acts as President was to raise that standard to 13. This spring [2002], however, the Bush Administration cut the efficiency increase by a third, making SEER 12 the law.

“It should be said that SEER 13 is no more technologically difficult than SEER 12. SEER 12 is simply a bit cheaper to make, and SEER 13 is simply cheaper to operate. Nor is this a classic regulatory battle that pits corporate against consumer interests. The nation’s largest air-conditioner manufacturer, Carrier, is in favor of 12. But the second-largest manufacturer, Goodman (which makes Amana air-conditioners), is in favor of 13. The Bush decision is really about politics, and the White House felt free to roll back the Clinton standard because most of the time the difference between the two standards is negligible. There is one exception, however: heat waves.

“Air-conditioning is, of course, the reason that electrical consumption soars on very hot days. On the worst day in August, electricity consumption in, say, Manhattan might be three or four times what it is on a cool spring day. For most of the year, a local utility can use the electricity from its own power plants, or sign stable, long-term contracts with other power companies. But the extra electricity a city needs on that handful of very hot days presents a problem. You can’t build a power plant just to supply this surge—what would you do with it during the rest of the year? So at peak periods, utilities buy the power they need on the ‘spot’ market, and power bought on the spot market can cost fifty times as much as the power used on normal days. The amount of power that a utility has to buy for that handful of hot days every summer, in other words, is a huge factor in the size of our electric bills.

“For anyone wanting to make electricity cheaper, then, the crucial issue is not how to reduce average electrical consumption but how to reduce peak consumption. A recent study estimates that moving the SEER standard from 10 to 13 would have the effect of cutting peak demand by the equivalent of more than a hundred and fifty power plants. The Bush Administration’s decision to cut the SEER upgrade by a third means that by 2020 demand will be fourteen thousand megawatts higher than it would have been, and that we’ll have to build about fifty more power plants. The cost of those extra power plants—and of running a less efficient air-conditioner on hot days—is part of what will make air-conditioning less affordable for people who will someday desperately need it.

“The sheer volume of electricity required on a very hot day also puts enormous strain on a city’s power-distribution system. [For example, during the Chicago heat wave of July 1995 (which killed 739 people in the week that it lasted), blackouts affecting hundreds of thousands of people occurred when the high demand for electricity to run air conditioners caused transformers in the city’s power grid to burn out (literally burst into flames).]...All around the city that week, between Wednesday and Sunday, there were 1,327 separate equipment failures that left an additional hundred and forty-nine thousand customers without power. Those are staggering numbers. But what is really staggering is how easy it would have been to avoid these power outages. Commonwealth Edison, the city’s utility, had forecast a year earlier that electricity use in the summer of 1995 would peak at 18,600 megawatts. The actual high, on the Friday of the heat wave, was 19,201. The difference, in other words, between the demand that the utility was prepared to handle and the demand that brought the city to its knees was six hundred and one megawatts, or 3.2 percent of the total—which is just about what a place like Chicago might save by having a city full of SEER 13 air-conditioners instead of SEER 12 air-conditioners.”

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