

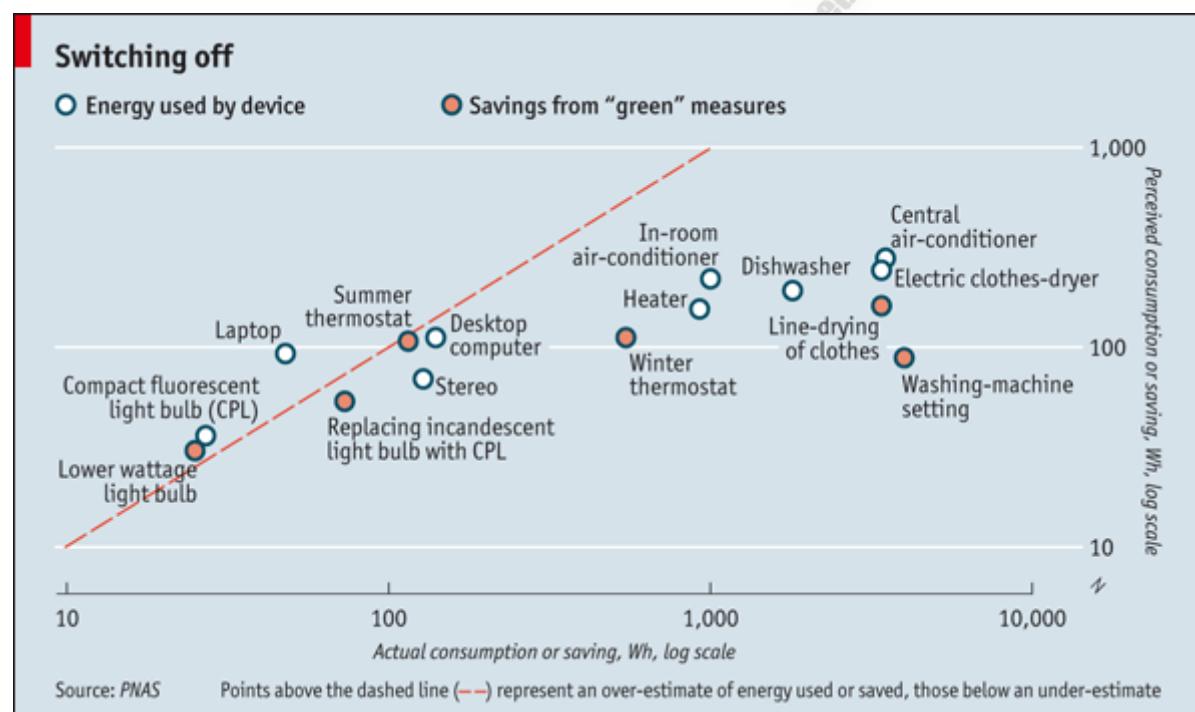
Watts up?

People habitually underestimate their energy consumption.

ENVIRONMENTAL asceticism has created a vogue for upgrading light-bulbs and tweaking thermostats. But according to a new piece of research, many of these actions—however virtuous—arise from faulty perceptions of energy savings.

Shahzeen Attari of Columbia University and her colleagues used Craigslist, an online marketplace, to recruit 505 volunteers from across America. Each was asked to estimate the energy consumption of nine household devices (such as stereos and air conditioners) as well as the energy savings incurred by six green activities (like swapping incandescent bulbs for fluorescent ones). The researchers then compared the volunteers' estimates with the actual energy requirements or savings in question.

Their results, published this week in the *Proceedings of the National Academy of Sciences*, suggest that although people do grasp basic energy trends, they are decidedly hazy on the details. On average, participants underestimated both energy use and energy savings by a factor of 2.8—mostly because they undervalued the requirements of large machines like heaters and clothes dryers. As a result, they failed to recognise the huge energy savings that can come from improving the efficiency of such appliances.



Miscalculations like these hinder conservation efforts. When asked to rank the single most effective way to save energy, participants typically endorsed activities with small savings, such as turning off lights, while ignoring what they could economise on larger devices. This suggests that people misallocate their efforts, fretting over an unattended lamp (at 100 watts) while neglecting the energy they could save by nudging their washer settings from “hot” to “warm” (4,000 watt-hours for each load of laundry).

A quirk of human psychology could help to explain these persistent underestimates. When calculating such things, people often adopt a familiar unit as a mental yardstick and then generate predictions based on that unit. As a side-effect, their estimates cluster too closely around the yardstick measure—a phenomenon called “anchoring”. In Dr Attari’s study, for example, the survey provided a reference measure by stating the amount of energy used by a

standard light bulb. Participants may have responded by unconsciously anchoring their estimates to this value, compressing their predictions into the relatively low range of an incandescent bulb.

This suggests an obvious criticism: by providing the light-bulb figure, the researchers primed their subjects to underestimate energy consumption. But the authors argue that rather than introducing a methodological flaw, they simply acknowledged a shared point of reference. When it comes to an accessible, quantitative measure of energy, consumers are uniquely familiar with the 100W bulb. As a result, Dr Attari expects bulbs to exert an anchoring effect on the general population as well as on her volunteers, contributing to widespread underestimates of the energy demands of large appliances.

Fortunately, increased information seems to combat such miscalculations. In the study those who were better at maths made more accurate predictions, as did those with broadly pro-environmental attitudes. Ways of making energy consumption clearer, such as devices that constantly monitor household appliances, could therefore help people make better decisions about how to save energy.

Fonte: The Economist, Aug. 19th 2010. Disponível em: <www.economist.com>.

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