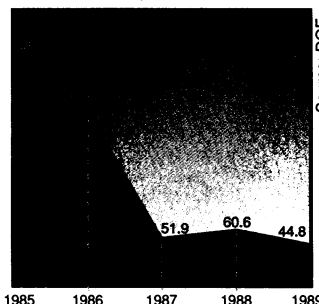


## Briefings

edited by DAVID P. HAMILTON

### Uncle Sam, the Energy Spendthrift

As you might expect, the federal government uses a lot of energy to heat, cool, and power buildings—830 trillion BTUs in 1989, to be exact. As you might also expect, quite a bit of that is wasted. According to a recent report\* by the Alliance to Save Energy, a Washington advocacy group, the government wasted nearly \$174 million in



Source: DOE

**Downhill slide.** Federal efficiency investments have languished since 1985.

energy in 1989 alone when measured by its own 1985 efficiency standards.

The biggest reason, according to the report, is the government's failure to invest in energy conservation during the latter half of the last decade. "As recently as 5 years ago, the federal government was spending over \$250 million a year for conservation improvements, but its investment in conservation measures dropped to less than \$45 million in 1989," says Mark Hopkins, the report's author. The government could save \$864 million a year if it took advantage of existing energy-saving products, the report states.

To fix things, the report suggests a host of familiar-sounding recommendations that have typically enraged political conservatives: creating an energy

\* "Energy Use in Federal Facilities: Squandering Taxpayer Dollars and Needlessly Polluting the Environment," Alliance to Save Energy, January 1991.

efficiency investment fund at the Department of Energy, demonstrating new energy technologies in DOE pilot programs, and allowing federal facilities to retain two-thirds of any energy cost savings they implement.

### Seeing the Future of Pharmaceuticals

A large pharmaceutical company sponsors a study to predict the benefits of new treatments for cardiovascular disease and several types of cancer in the next quarter century. Does it find that a new generation of biotech wonder drugs will wipe these scourges from the planet?

Not exactly. A new report\* conducted for Schering-Plough does find that innovations in treatment of heart disease—the leading killer of the two—over the next 25 years will save 13 million American lives and more than \$500 billion dollars of indirect costs (a strict extrapolation of current disease trends projects 31 million dead and \$1.2 trillion in indirect costs). But the study predicts that fully half these benefits will result from changes in lifestyle, such as healthier diets

and more exercise—not from new drugs. Similarly, drugs will account for only 24% of the predicted decline in lung cancer mortality, while a drop in the number of smokers accounts for most of the rest.

That's not to say that new drugs get slighted in this study. It predicts that 40% of the reduction in cardiovascular mortality should stem from new pharmaceuticals, particularly lipid-lowering agents and anti-hypertensive drugs. New chemotherapies also receive credit for half the predicted decline in colorectal cancer mortality (200,000 deaths) and 95% of the predicted decline in leukemia mortality (1.6 million deaths).

\* "The Value of Pharmaceuticals: An Assessment of Future Cost for Selected Conditions," Battelle Medical Technology Assessment and Policy Research Center, BHARC-013/90/025, 1991.

### Know Thy Reviewers

Every scientist knows instinctively that a journal's selection of peer reviewers may make or break a paper's chance of being immortalized in print. But how about some scientific evidence of the effect?

Johns Hopkins radiologist Stanley Siegelman, editor of the journal *Radiology*, decided to develop some documentation by comparing the scores and rejection rates of nearly 6800 papers submitted to his journal over a 4½-year period ending last summer. Using a computer-based manuscript tracking system, he calculated the mean ratings by reviewers who were sent 10 or more manuscripts.

On a scale of 1 to 9, he found the mean rating was 4.8. The reviewers whose ratings fell within 1.5 standard deviations of the mean he labeled "mainstreamers." Those who exceeded 2.5 standard deviations below the mean he dubbed "zealots" who think practically everything is worth publishing. At the other extreme he found "assassins."

Siegelman, whose findings appear in the March issue of the journal, says he was surprised to find that 87% of the reviewers fell in the mainstreamer category. Zealots and assassins were about equally divided.

Siegelman's point? Editors should take reviewer variation into account to avoid being unfair to authors. He himself assigns three reviewers to a manuscript, and if one doesn't like it,

### Stinging the "Killer" Bees

Short of comparing their mitochondrial DNA, there are only two ways bee specialists have been able to tell Africanized "killer" bees from milder domestic varieties: by measuring minute differences in physical characteristics such as wing size and leg length, or by tempting an angry hive to attack a piece of leather in which they can count the number of embedded stingers.

Now, U.S. Department of Agriculture researchers Hayward Spangler and Eric Erickson have come up with a better way. Using their "temper tester"—which their less serious colleagues call the "sting-o-meter"—they're able to identify hives of cranky bees quickly. Consisting of

a motion sensor within a plastic tube, the temper tester allows entomologists to measure the number of stings a disturbed hive delivers after the researchers have enraged it with a blast of compressed air.

Since Africanized bees sting more furiously than domestic bees—Spangler typically records about 24 stings a second from an Africanized colony, compared to four stings a second from a domestic colony—the temper tester should allow entomologists to target overly aggressive colonies quickly for destruction. Alternatively, they might replace an aggressive Africanized queen with a gentler domestic queen—a real bee "sting."



**Temper, temper.** Spangler and Erickson with their sting-o-meter.