

Extended Daylight Saving Time Not an Energy Saver?

Brian Handwerk
for [National Geographic News](#)

March 7, 2008

On Sunday people in the [United States](#) will roll their clocks forward an hour at 2 a.m. and begin the country's second consecutive year of extended daylight saving time.

The change, adopted into law last year, was touted as a way to save energy. But some studies suggest the move actually has consumers using more power—and paying bigger energy bills.

Hendrik Wolff, an environmental economist at the University of Washington in Seattle, is skeptical of the purported savings.

Wolff and colleague Ryan Kellogg studied [Australian](#) power-use data surrounding the 2000 Sydney Olympics, when parts of the country extended daylight saving time to accommodate the games.

The pair compared energy use in the state of Victoria, which adopted daylight saving time earlier than normal, to South Australia, which did not.

"Basically if people wake up early in the morning and go to bed earlier, they do save artificial illumination at night and reduce electricity consumption in the evening," Wolff said.

"Our study confirmed that effect. But we also found that more electricity is consumed in the morning. In the end, these two effects wash each other out."

Wolff stresses that it's difficult to determine how increased daylight saving time affected energy use across the U.S. last year. But he's inclined to reject the government's pre-change projections of modest energy savings.

Lights Out, But Bills Up

In 2007 the [U.S. Congress passed a bill mandating that daylight saving time begin on the second Sunday in March and end on the first Sunday in November](#), creating an extra month of earlier mornings.

The U.S. Department of Energy is now sorting through the variables that drive power use—from weather patterns to the proliferation of high-definition televisions—to determine the yearlong impact of extended daylight saving time. (Related [photos: sunrises and sunsets](#).)

Meanwhile the quirky chronology of [Indiana's](#) daylight saving time history allowed Matthew Kotchen, an economist at the University of California, Santa Barbara, to measure the time change's energy impact in that state.

No federal rule mandates that states or even individual counties observe daylight saving time, so for years only 15 of Indiana's 92 counties made the time switch.

When the entire state adopted daylight saving time in spring 2006, Kotchen and colleague Laura Grant were able to observe changes in energy use in homes throughout southern Indiana over a three-year period.

Their finding was clear: The switch to daylight saving time cost Indiana homeowners dearly on their electric bills.

"Just in the state of Indiana, it turns out to be almost seven million dollars a year in increased residential electricity bills," Kotchen said. "And that's at a far lower price for electricity than the national average."

The study found that daylight saving time did save on lighting use but that heating and air-conditioning use more than offset any gains.

"At least in southern Indiana, and probably in other places that have a similar climate, it's resulting in an increase in residential electricity consumption. Our estimates range between one and four percent."

But Kotchen cautions about applying results from Indiana to the entire nation.

For example, "we really don't know what's happening in California, Florida, or Texas," he said.

Steve Nadel, executive director of the nonprofit American Council for an Energy-Efficient Economy, noted that people will have to wait and see whether extended daylight saving time saves energy—and if so, in which parts of the country.

He also stressed that electricity-use patterns have changed significantly since the 1970s, when studies were done that suggested modest energy gains from the time shift.

"I would say certainly since the 1970s there's a lot more use of air conditioning," he said.

UCSB's Kotchen added that "in places where you have to use a lot of air conditioning [daylight saving time] may have a detrimental effect for the same reason that we [see] in Indiana, but it's difficult to say."

Impacts Beyond Energy

Massachusetts Democrat Ed Markey was one of the co-sponsors of the bill that mandated daylight saving time begin on the second Sunday in March and end on the first Sunday in November.

Jessica Schafer, press secretary in Congressman Markey's office, said she hasn't seen any hard data about energy savings since the switch.

"We've always said that the energy savings from this would be small compared to other changes you could make, but every little bit counts."

Other effects have been easier to identify, she said.

"People walk up to [Congressman Markey] and tell him what they think," she said. "By and large it's been positive. People feel that it's very family friendly."

That's because the shifting schedule allows most people to be more active during actual daylight hours—daylight saving time is about more than just saving energy.

"Added to the other reasons—increased traffic safety, increased leisure time, reduced crime—all told, I think the benefits are significant and meaningful."

Such social benefits may be even harder to quantify than energy savings. If they do exist, however, they may outweigh the original reason for the change.

"There are lots of reasons we might want to have daylight saving time," UCSB's Kotchen said.

"But the notion that it's an energy-saving policy—as people have been suggesting for at least 200 years—is not necessarily the case."

Free Email News Updates

[Sign up for our Inside National Geographic newsletter.](#) Every two weeks we'll send you our top stories and pictures ([see sample](#)).

© 1996-2008 National Geographic Society. All rights reserved.