



February 27, 2008

## Daylight Saving Wastes Energy, Study Says

By JUSTIN LAHART  
*February 27, 2008; Page D1*

(See Corrections and Amplifications item [below](#).)

For decades, conventional wisdom has held that daylight-saving time, which begins March 9, reduces energy use. But a unique situation in Indiana provides evidence challenging that view: Springing forward may actually waste energy.

Up until two years ago, only 15 of Indiana's 92 counties set their clocks an hour ahead in the spring and an hour back in the fall. The rest stayed on standard time all year, in part because farmers resisted the prospect of having to work an extra hour in the morning dark. But many residents came to hate falling in and out of sync with businesses and residents in neighboring states and prevailed upon the Indiana Legislature to put the entire state on daylight-saving time beginning in the spring of 2006.

CLOCK WATCHING
<i>Research on the impact of extending daylight-saving time across Indiana found:</i>
<ul style="list-style-type: none"> <li>• Residential electricity usage increased between 1% and 4%, amounting to \$8.6 million a year.</li> <li>• Social costs from increased emissions were estimated at between \$1.6 million and \$5.3 million per year.</li> <li>• Possible social benefits -- enhanced public health and safety and economic growth -- were not studied.</li> </ul>

Indiana's change of heart gave University of California-Santa Barbara economics professor Matthew Kotchen and Ph.D. student Laura Grant a unique way to see how the time shift affects energy use. Using more than seven million monthly meter readings from **Duke Energy** Corp., covering nearly all the households in southern Indiana for three years, they were able to compare energy consumption before and after counties began observing daylight-saving time. Readings from counties that had already adopted daylight-saving time provided a control group that helped them to adjust for changes in weather from one year to the next.

Their finding: Having the entire state switch to daylight-saving time each year, rather than stay on standard time, costs Indiana households an additional \$8.6 million in electricity bills. They conclude that the reduced cost of lighting in afternoons during daylight-saving time is more than offset by the higher air-conditioning costs on hot afternoons and increased heating costs on cool mornings.

"I've never had a paper with such a clear and unambiguous finding as this," says Mr. Kotchen, who presented the paper at a National Bureau of Economic Research conference this month.

A 2007 study by economists Hendrik Wolff and Ryan Kellogg of the temporary extension of daylight-saving in two Australian territories for the 2000 Summer Olympics also suggested the clock change increases energy use.

That isn't what Benjamin Franklin would have expected. In 1784, he observed what an "immense sum! that the city of Paris might save every year, by the economy of using sunshine instead of candles." (Mr. Franklin didn't propose setting clocks forward, instead he satirically suggested levying a tax on window shutters, ringing church bells at sunrise and, if that didn't work, firing cannons down the street in order to rouse Parisians out of their beds earlier.)

During the first and second world wars, the U.S. temporarily enacted daylight-saving time as an energy-saving measure. Over time, most states began changing their clocks, and in response to the 1973 oil shock, the country extended daylight-saving time in 1974 and 1975. Analyzing that time shift, a 1975 report by the U.S. Department of Transportation concluded that the change reduced electricity demand by 1% in March and April. But in a 1976 report to Congress evaluating that analysis, the National Bureau of Standards concluded that there were no significant energy savings.

Still, the Transportation Department study stuck. Speaking before the House of Representatives in 2002, Indiana Rep. Julia Carson said that under daylight-saving time, Indiana families would save "over \$7 million annually in electricity rates alone."

In 2005, Reps. Edward J. Markey of Massachusetts and Fred Upton of Michigan drafted legislation that would extend daylight-saving time nationwide. Congress approved the amendment, which called for clocks to be sprung forward three weeks earlier in the spring and one week later in the fall. The change went into effect last year.

The energy-savings numbers often cited by lawmakers and others come from research conducted in the 1970s. Yet a key difference between now and the '70s -- or, for that matter, Ben Franklin's time -- is the prevalence of air conditioning.

"In an inland state like Indiana, it gets hot in the summer," says Steve Gustafsen, a lawyer in New Albany, Ind., who filed a suit in 2000 in an effort to get his county to abandon daylight-saving time. "Daylight saving means running the air conditioner more."

That was borne out by the study by Mr. Kotchen and Ms. Grant. Their research showed that while an extra hour of daylight in the evenings may mean less electricity is spent on lights, it also means that houses are warmer in the summer when people come home from work.

### DOW JONES REPRINTS

This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers, use the Order Reprints tool at the bottom of any article or visit: [www.djreprints.com](http://www.djreprints.com).

- See a sample reprint in PDF format.
- Order a reprint of this article now.

Conversely, during daylight-saving time's cooler months, people may crank up the thermostats more in the morning.

Still, the case on daylight-saving time isn't closed.

"My read on this study is that it's one data point that gives us something to think about," says Richard Stevie, an economist with Duke Energy, of Mr. Kotchen and Ms. Grant's research. "I think that additional research really needs to be done." And UCLA economist Matthew Kahn points out that even if the evidence on Indiana is airtight, the effect of daylight-saving time on other states might be different -- a point that Mr. Markey makes as well.

"One study of the situation in Indiana cannot accurately assess the impact of [daylight-saving time] changes across the nation, especially when it does not include more northern, colder regions," the congressman notes.

There may also be social benefits to daylight-saving time that weren't covered in the research. When the extension of daylight-saving time was proposed by Mr. Markey, he cited studies that noted "less crime, fewer traffic fatalities, more recreation time and increased economic activity" with the extra sunlight in the evening.

In Indiana, the debate goes on. "The simpler the issue, the more people have opinions about it," says Indiana State Rep. Scott Reske, who voted against the switch to daylight-saving time. In the aftermath of the time shift, "a lot of people who hated it now love it, and a lot of people who loved it now hate it," he says. A separate debate over whether the state should be on Central or Eastern Time rages on.

**Write to Justin Lahart at [justin.lahart@wsj.com](mailto:justin.lahart@wsj.com)**<sup>1</sup>

### Corrections and Amplifications

A previous version of this article incorrectly said daylight-saving time went into effect one week earlier in the spring and three weeks later in the fall.

**URL for this article:**

<http://online.wsj.com/article/SB120406767043794825.html>

**Hyperlinks in this Article:**

(1) <mailto:justin.lahart@wsj.com>

**Copyright 2008 Dow Jones & Company, Inc. All Rights Reserved**

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by our **Subscriber Agreement** and by copyright law. For non-personal use or to order multiple copies, please contact Dow Jones Reprints at 1-800-843-0008 or visit [www.djreprints.com](http://www.djreprints.com).

---

### RELATED ARTICLES FROM ACROSS THE WEB

Related Content may require a subscription | [Subscribe Now -- Get 2 Weeks FREE](#)

**Related Articles from WSJ.com**

- Personal Technology [Apr. 24, 2008](#)
- The Money Kept Vanishing [Apr. 23, 2008](#)
- Law Blog Lawyer of the Day: American Idol's Will Hopkins [Apr. 23, 2008](#)
- Law Blog Lawyer of the Day: Will Hopkins [Apr. 23, 2008](#)

[More related content](#)

Powered by  Sphere