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Daylight saving doesn't save energy

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Starting daylight saving a couple of months early doesn't seem to cut energy consumption, as many of its supporters claim.

Ryan Kellogg and Hendrik Wolff, two PhD candidates from the [University of California, Berkeley](#), wanted to test the popular idea that lengthening the period when clocks are put forward will reduce electricity use by delivering an extra hour of evening daylight.

In other studies, mostly based on simulations, researchers have estimated that extending daylight saving could cut electricity demand from 0.6% to 3.5%, the authors say.

Given this, environmental concerns and the high cost of fuel are pushing countries to consider starting daylight saving earlier.

The US, for example, started daylight saving this week, three weeks earlier than normal, to cut energy consumption by 1%.

But Kellogg and Wolff challenge whether such moves save energy by studying Australia's experience around the time of the 2000 Olympics.

For their experiment, they compared energy use in the states of Victoria and South Australia around the time that Sydney, New South Wales, was hosting the Games.

Normally, those three states switch to Daylight Saving Time in late October, but that year Victoria and New South Wales started in late August to facilitate the Olympics.

Facing rural opposition, however, neighbouring South Australia kept its start date in October.

Kellogg and Wolff looked at detailed data on half-hourly electricity consumption, prices, and weather conditions in Victoria and South Australia during September and October.

For each state, they compared energy use during that time with energy use in the previous year, ignoring the two weeks of the Olympics.

"Our results show that the extension failed to conserve electricity," they write in a working paper for the university's [Energy Institute](#).

"The point estimates suggest that energy consumption increased rather than



Putting the clock forward in spring gives us an extra hour of daylight in the evening, so we need less energy to light and heat our homes. But daylight saving gives us cooler, darker mornings, which pushes up energy consumption, giving us no net saving (Image: *iStockphoto*)

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decreased, and that the within-day usage pattern changed substantially, leading to a high morning peak load."

These findings match the expected effects of daylight saving on people's behaviour, the US scientists write.

"Less lighting and heating are required in the evening; however, demand increases in the morning - particularly from 07:00 to 08:00 - driven by reduced sunlight and lower temperatures."

Overall, these two effects cancel each other out, they say.

Saying 'yes', then 'no', then 'yes' again

Daylight saving has had a turbulent history in Australia. It was introduced across the country in 1917 as a wartime fuel saving measure, but public opposition saw it abandoned the same year.

It was introduced again in 1942 and 1943-44, but there was no Daylight Saving Time after World War II until Tasmania introduced it in 1967.

New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory adopted Daylight Saving Time in 1971.

But Queensland abandoned it in 1972, reintroduced it in 1989, only to abandon it again after a referendum in 1992.

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