The Oil Drum: Local
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

Daylight Savings - A drop in the Oil Drum?

Posted by Glenn on March 29, 2006 - 6:02pm in The Oil Drum: Local
Topic: Demand/Consumption
Tags: conservation, daylight savings, electricity, oil, peak oil [list all tags]

[Editor's Note: See Peakguy interviewed by local TV station NY1. I can't believe that they edited out the part where I show them the Hubbert Curve T-Shirt! /joking]

The Energy Bill passed into law last year extended daylight Saving hours by three weeks starting with the spring of 2007 as a way to cheaply save some energy, without having to make much sacrifice.

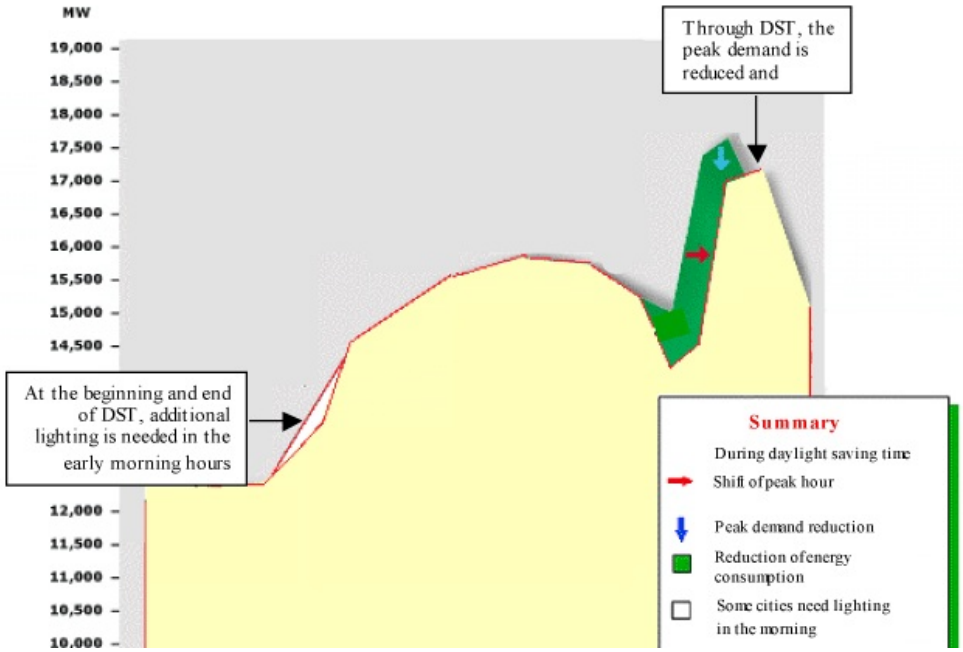
Daylight Saving Time (DST) is not a new concept. In 1784, when Benjamin Franklin was Minister to France, an idea occurred to him: in that part of the year when the sun rises while most people are still asleep, clocks could be reset to allow an extra hour of daylight during waking hours. The rationale behind this is that you basically shift an hour of daylight from the morning when most people are still asleep (lights out), to the evening when people are in their homes and require light. He calculated that the French could save one million francs per day on candles. This same logic was applied in both world wars in Europe and the US and later during the oil embargos of the 1970s. More historical background here.

But how big is this impact? Is DST really as meaningful now as it was in the past?

The logic seems simple enough and according to studies in the 1970s and a more recent one from the California energy crisis in 2001, Daylight Savings does save a little electrical energy demand. Overall it is estimated that it reduces electrical demand by a marginal amount (~1%) or as some have argued the equivalent of 100,000 barrels of oil a day for time it is extended. Nevermind that only a tiny fraction of electricity generation comes from burning oil and that we consume over 20 million barrels of oil a day, mostly on transportation fuels.

The real benefit may be in smoothing out periods of peak demand in the early evening when industrial, commerical and residential are all demanding electricity from the grid. This might save some natural gas, which is also running short of demand.

Here is an example from a study done in Mexico during the 1990s when they were considering how to control peak demand:



Note that the chart begins at 10,000 MW and therefore the green area is not as big as it appears. Another study in California concluded that peak demand would drop by about 3.5%, but overall daily demand would only reduce by 1%.

Then they looked at what a two hour DST vs. one hour vs. regular Standard Time would do to overall daily energy demand:

Not much change here in overall peak demand in August, but some nice gains in the Spring and Fall.

What are the costs if any of doing DST? According to a National Geographic article last year, they pointed out a few issues, including this:

> The airline industry is adamantly against a change of the daylight saving calendar, which officials say will severely affect scheduling.
>
> "There will be disruption all over the place. If [daylight saving time] is extended [by] four weeks, we'll end up with some really major difficulties," Anthony Concil said. Concil is spokesperson for the International Air Transport Association, which represents 265 airlines that account for 94 percent of all international scheduled air traffic. "When Europe and the U.S. are on different times, connections become less convenient. Right now there is one week of discord between the U.S. and Europe so it's sort of at a manageable level," Concil said.

So what do our readers think? Does DST do much for reducing energy demand in the modern era of air conditioners and all the convenience appliances that use up electricity?

I think there are even more practical ideas for individuals to save on their electrical bills:

1. Turn off lights, computers and other appliances when they are not home
2. Replace old incandescent bulbs with Compact Fluorescent Bulbs (CFLs) that are 75% more

efficient.

3. Clean the filter on their air conditioner, set it to a timer/thermostat - or better yet cool their homes with fans instead.
4. Buying new Energy Star appliances
5. Spend more time outside the house in a park instead of inside.

More here

I have been able to reduce my electrical demand from ~8 kwh/day to ~3 kwh/day through these simple techniques. It also helps living in a small (less than 500 sqft) Manhattan apartment.