

# **Impact of Extended Daylight Saving Time on National Energy Consumption**

**TECHNICAL DOCUMENTATION FOR REPORT TO CONGRESS**

**Energy Policy Act of 2005, Section 110**

Prepared for

U.S. Department of Energy Office of Energy Efficiency and Renewable Energy

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October 2008

**U.S. Department of Energy**  
**Energy Efficiency and Renewable Energy**

## Executive Summary

The Energy Policy Act of 2005 (Pub. L. No. 109-58; EAct 2005) amended the Uniform Time Act of 1966 (Pub. L. No. 89-387) to increase the portion of the year that is subject to Daylight Saving Time. (15 U.S.C. 260a note) EAct 2005 extended the duration of Daylight Saving Time in the spring by changing its start date from the first Sunday in April to the second Sunday in March, and in the fall by changing its end date from the last Sunday in October to the first Sunday in November. (15 U.S.C. 260a note) EAct 2005 also called for the Department of Energy to evaluate the impact of Extended Daylight Saving Time on energy consumption in the United States and to submit a report to Congress. (15 U.S.C. 260a note)

This report presents the detailed results, data, and analytical methods used in the DOE Report to Congress on the impacts of Extended Daylight Saving Time on the national energy consumption in the United States. It describes in detail, the different statistical and other analysis methods conducted in support of the study.

The key findings are:

- The total *electricity* savings of Extended Daylight Saving Time were about 1.3 Tera Watt-hour (TWh). This corresponds to 0.5 percent per each day of Extended Daylight Saving Time, or 0.03 percent of electricity consumption over the year. In reference, the total 2007 electricity consumption in the United States was 3,900 TWh.
- In terms of national *primary energy* consumption, the electricity savings translate to a reduction of 17 Trillion Btu (TBtu) over the spring and fall Extended Daylight Saving Time periods, or roughly 0.02 percent of total U.S. energy consumption during 2007 of 101,000 TBtu.
- During Extended Daylight Saving Time, electricity savings generally occurred over a three- to five-hour period in the evening with small increases in usage during the early-morning hours. On a daily percentage basis, electricity savings were slightly greater during the March (spring) extension of Extended Daylight Saving Time than the November (fall) extension. On a regional basis, some southern portions of the United States exhibited slightly smaller impacts of Extended Daylight Saving Time on energy savings compared to the northern regions, a result possibly due to a small, offsetting increase in household air conditioning usage.
- Changes in national *traffic volume* and *motor gasoline consumption* for passenger vehicles in 2007 were determined to be statistically insignificant and therefore, could not be attributed to Extended Daylight Saving Time.