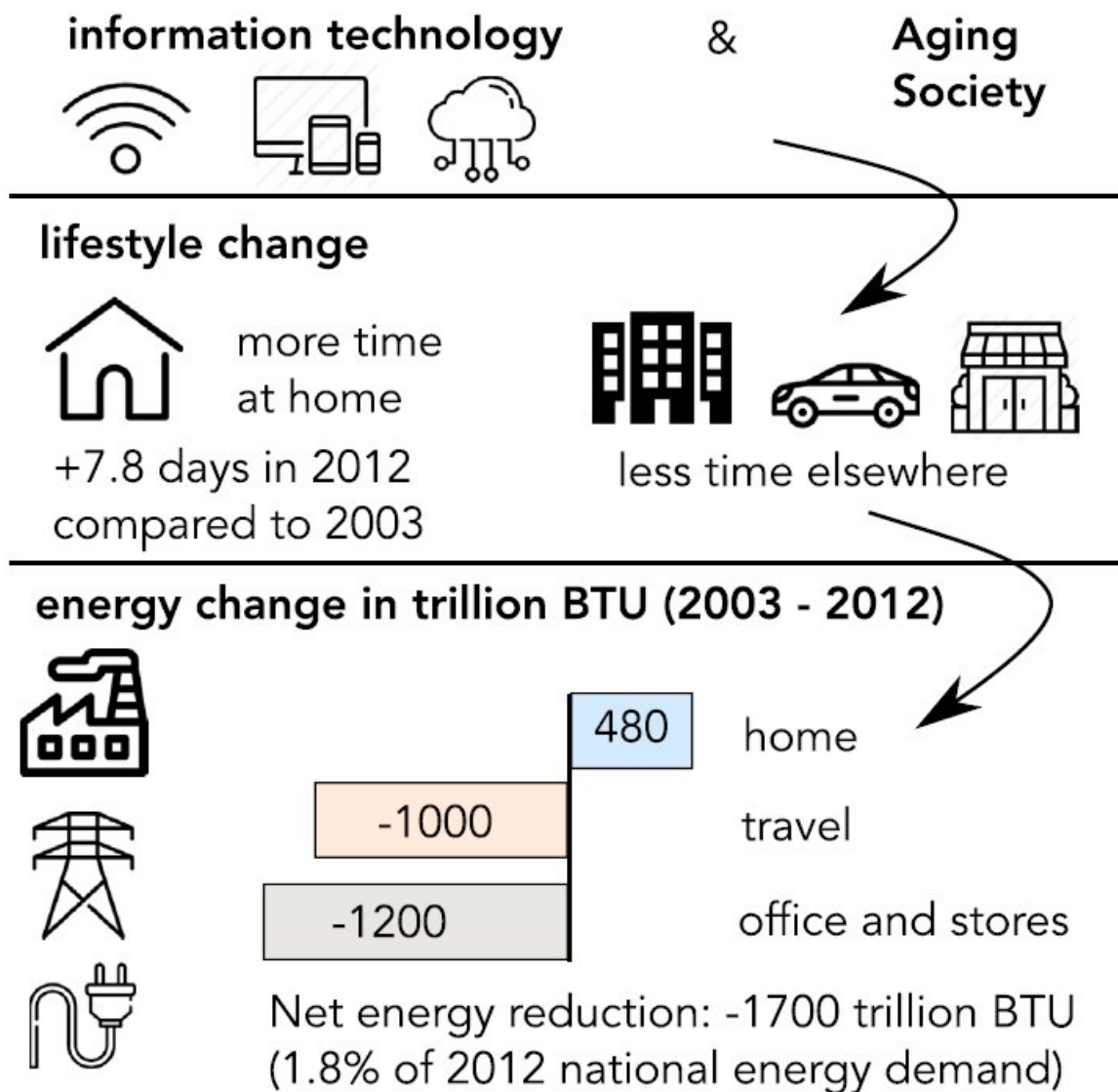


# Americans are spending more time at home, and it's saving a lot of energy

January 29 2018



This visual abstract depicts how lifestyle changes and the associated energy effects in the United States between 2003 and 2012. Credit: Sekar et al./*Joule* 2018

Researchers have identified a positive trade-off for the rise in online shopping, our consumption of streaming video, and employees working from home. Despite increasing the amount of residential energy demand, the decrease in travel and use of non-residential spaces was responsible for a net 1,700 trillion bTU in energy savings for the United States in 2012, 1.8% of the national total. The analysis, published January 29 in the journal *Joule*, reflects how advances in information technology are changing the American lifestyle, particularly for those under the age of 65.

A decade of American Time Use Surveys revealed that Americans spent on average an extra 8 days at home in 2012 compared to 2003, 1 day less traveling, and 1 week less in non-residential buildings. The greatest change was seen in people ages 18-24, who spent 70% more time at home compared to the general population. People over 65 were the only group to spend more time outside the home in 2012 compared to 2003. When these behavioral changes were mapped to energy use, overall it accounted for a 480 trillion bTU increase in energy used at home and a 1,000 trillion bTU and 1,200 trillion bTU decrease in energy used for non-residential and transportation spaces, respectively.

"We did expect to see net energy decrease, but we had no idea of the magnitude," says first author Ashok Sekar (@\_ashok7), a postdoctoral fellow who studies consumer energy use and policy at the University of Texas at Austin. "This work raises awareness of the connection between lifestyle and energy. Now that we know people are spending more time

at home, more focus could be put on improving residential energy efficiency." Sekar conducted the study with Eric Williams and Roger Chen, sustainability researchers at the Rochester Institute of Technology.

It's difficult to pinpoint the exact reasons for these lifestyle changes, but the authors suggest that the trends reflect advances in information and communication technology that have led to increased video watching and computer use, and better work-from-[home](#) options

The US Bureau of Labor Statistics conducts the American Time Use Survey each year. About 11,000 people are asked to record how they allocate their time. Sekar says that the data are reliable and comparable to other datasets, such as Nielsen surveys, but come with some caveats. For example, the survey only captures one activity at a time, so if someone is cooking and on their computer, a respondent only reports cooking. The data also do not reflect energy used when participants are abroad during the survey.

Sekar is planning further work to examine [lifestyle changes](#) in other countries and specific activities. "Right now, the analysis is a comparison only at the sector level; I would like to disaggregate even further and think about [energy](#) trade-offs at activity level for, e.g., going to restaurants versus ordering food online," he says. "I'd like to include details we have not been able to capture."

**More information:** *Joule*, Sekar et al.: "Changes in time use and their effect on energy consumption in the US"

[www.cell.com/joule/fulltext/S2542-4351\(18\)30003-5](http://www.cell.com/joule/fulltext/S2542-4351(18)30003-5) , DOI: [10.1016/j.joule.2018.01.003](https://doi.org/10.1016/j.joule.2018.01.003)

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