Finally, an excuse to cancel all your plans: staying in is good for the environment

Americans are spending more time indoors and saving energy in the process.

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Ellen Crupi lives in Bethesda, Maryland, but works for a startup company in Minnesota. She does everything online from sales pitches to video conferences. Working at home means she doesn't have to dress up, wear makeup, buy new work clothes or go out to lunch. When she's not working, she also shops online, and streams movies and concerts. "Not having to drive or get on an airplane saves me über amounts of time, and that lets me spend it doing more important things," she said.

Crupi, 52, is one of a growing number of Americans embracing the great indoors. While the rise of streaming video services and online shopping is driving downmovie theater attendance and hurting retail stores, there is an upside: America's couch potatoes are putting a serious dent in energy use outside the home.

"We had no idea that the energy savings were going to be so enormous," said Ashok Sekar, a postdoctoral fellow at the University of Texas at Austin and lead author of a new paper that looks at the link between staying home and energy use outside the home. "It shows the profound influence that technology has had on our lifestyles and how environmental good can come out it." The authors, including Eric Williams and Roger Chen, sustainability researchers at the Rochester Institute of Technology, published their findings in the journal *Joule*.

At at time when climate change demands societies use less energy, "the notion of spending more time at home never before really entered the conversation, but I think now it will assume more importance as we recognize the impact it has on energy savings," Sekar said. "However, we also will need to practice more energy efficiency in the home."

Energy efficiency has become an important player in the fight against climate change. For decades, people have burned fossil fuels to generate power, pumping millions of tons of greenhouse gases into the atmosphere, heating the Earth while wreaking havoc on nature and threatening human health. Measures to slow these damaging effects include energy conservation and the increasing use of clean renewable energy, such as wind and solar.

Researchers analyzed a decade of American Time Use Surveys conducted by the U.S. Department of Labor and found that Americans spent about eight extra days at home in 2012, compared to 2003, including one day less in travel and one week less in an outside office or other non-home setting.

Less travel, along with less time in the office, prompted a net 1,700 trillion British thermal unit (BTU) in energy savings for the United States in 2012, a figure that represents 1.8

percent of the national total, according to the study. The breakdown includes 1,000 trillion BTU and 1,200 trillion BTU decreases in non-residential and transportation energy use, respectively.

Home energy use has increased as a result — by 480 trillion bTU — although it was dwarfed by the savings. “It’s important that consumers also reduce energy consumption at home,” Sekar said, for example, “getting a home energy audit [or] upgrading their old appliances, recycle the old freezer in the basement, and better insulate their homes.”

Williams agreed, saying, “Networked thermostats are a standout example. We turn off our heating or A/C when going on a trip and turn it on remotely a few hours before we arrive back. IT also gives us tools to reduce energy use, but we need to buy and use them to get the benefits.”

Online shopping made up only a small portion of the stay-at-home analysis and did not take into account the energy involved in producing and shipping products, only the energy used by brick-and-mortar shops and then energy shoppers used to get to the store. Sekar, however, believes that online shopping is less energy- and carbon-intensive than “people driving to the store to get the same product.”

However, Anne Goodchild, director of the Supply Chain Transportation and Logistics Center at the University of Washington, who was not involved in the study, said that a head-to-head comparison of online versus brick-and-mortar shopping is difficult to do. “It’s complicated,” she said. “If the goods still have to get from where they were made to you, it’s still making the trip. But [it is more environmentally friendly] if there are a lot of shipments in one truck making the trip. The more carpooling, the less impact and the more energy conservation.”

In a way, the carbon footprint really depends on the nature of the service, she said. If you order food delivered from a restaurant, “you’re just paying someone to bring dinner to your house, and trading one trip for another,” she said. But streaming is another thing. “In the old days, you would have to go to the video store,” she said. “Now you still get to watch the movie, but you don’t have to drive to get there.”

The practice of spending more time at home cut across all age groups, except among those older than 65, according to the study. But the most striking change occurred among young people ages 18-24. They spent 70 percent more time at home compared to the general population. “Younger people are more technology savvy, and it’s natural for them because they grew up in the world of technology,” Sekar said.

Williams agreed, adding that young people these days “tend to prefer socializing online more — that is, texting, Snapchat, etc. — at the expense of getting out and meeting face-to-face,” he said. “Also, I think there are a lot of younger people who really, really like video games and spend hours a day at home playing them.”

Those older than 65 were the only group who spent more time outside the home than they did in 2003, according to the study. “We speculate the retirement age is slowly increasing, and better health care is enabling them to travel more,” Sekar said.

To be sure, technology may be good for the environment, but will it ultimately be bad for the waistline? And for local businesses? Will encouraging people to stay home create a nation of couch potatoes? Williams doesn't think so. "Your couch is a major energy saver, and not just for you," he said. "It encourages you not to drive. Tragic empty malls and movie theaters do have an upside — less energy use."

Crupi isn't worried either. She's found a way to stay home and stay fit at the same time. "I stream video workouts," she said.

Marlene Cimons writes for Nexus Media, a syndicated newswire covering climate, energy, policy, art and culture.

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