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U.S. Homes Using Less Energy for

Average annual use in million Btu, per household

2001 2005

Note: A Btu, or British thermal unit, is the amount of energy

needed to raise the temperature of one pound of water by

Source: US Energy Information Administration, Residential

Heat, More for Gadgets

using each end use

one degree Fahrenheit.

60

50

30

How Americans are – and aren't – making eco-friendly lifestyle changes

BY DREW DESILVER

NOVEMBER 17, 2015

Nearly three-quarters of Americans see global climate change as a "very serious" (45%) or "somewhat serious" (29%) threat, and two-thirds (66%) say people will have to make major changes in the way they live to reduce the effects of climate change, according to a Pew Research Center report

released earlier this month. People have received all sorts of advice over the past few decades about how to reduce their climate impact – from driving less to recycling more to insulating their homes. Actual changes in behavior, though, have

been very much a mixed bag. Using the Environmental Protection

Energy Consumption Survey (1993-2009) Agency's climate change website for PEW RESEARCH CENTER suggestions on ways people can reduce greenhouse gas emissions, we analyzed

available data to gauge the extent to which Americans are heeding advice on living more climate-friendly lives. Among the indicators we looked at, actual changes ranged from significant to minimal to nonexistent. Here's what we learned:

Cars and driving:

One of the EPA's top recommendations is to "purchase a fuel-efficient, low-greenhouse gas vehicle." Overall fuel economy has, in fact, improved: The sales-weighted average for new vehicles was 25 miles per gallon last month, up from 20.1 mpg in October 2007, according to research by the University of Michigan's Transportation Research Institute. But average fuel economy has been mostly flat for the past three years, in contrast to steady growth in the late 2000s and early 2010s.

And American drivers are showing few signs of shifting away from fossil fuels. Fewer than 3% of the cars, SUVs, pickups and other "light-duty" vehicles sold through October of this year ran on anything other than gasoline or diesel – an even smaller market share for alternative-fueled vehicles than in 2013 or 2014, according to data from the National Automobile Dealers Association.

Share of total vehicle sales, by power source

Still Run on Gas

2014 2015 93.3% 93.5% 94.6% Gasoline Diesel 2.5 Hybrid 2.2 0.3 0.4 0.4 Electric Plug-in hybrid 0.3 0.3 0.2

95% of New U.S. Cars

Vehicles powered by natural gas, fuel cells and other alternative technologies account for less than one-tenth of 1% Source: National Automobile Dealers Association, "Market Beat" reports PEW RESEARCH CENTER

1.2

2.7

4.5

5.2

9.2

76.5

'10 '14

'05

A Shift Away From

America

60 🔒

50

40

30

2013

U.S. Residential Water Use Lower

Gallons per day per person, from public and

Standard Light Bulbs

Share of annual residential

light-bulb shipments, North

2014 2015

Note: LED =light-emitting diode;

CFL=compact flourescent Source: IHS Technology

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Note: Data represent method used to cover greatest distance of daily commute.

Source: Census Bureau, decennial censuses 1980, 1990 and 2000; American

Note: 2015 figures as of Oct. 2015.

The EPA also suggests that **How Americans Get to Work** people consider carpooling,

mass transit, working from home or other alternatives to Taxi, motorcycle, other 1.3 Walk 5.6 driving to and from work Work from home 2.3 solo. But driving alone Public transportation 6.2 remains by far the most Carpool 19.7 common commuting method: About threequarters of Americans reported last year that that Drive alone 64.4 was their main commuting mode, a figure that's changed little since 2000. (The share of solo-driving commuters actually has increased since 1980.)

commuters who carpool has fallen by more than half, from 19.7% in 1980 to 9.2% last year. Also, a modest

The percentage of

increase in telecommuting hasn't been enough to make solo driving any less dominant.

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Community Survey (Table S0801) 2005-2014

Americans are, however, driving less than they used to. Based on our analysis of Federal Highway Administration data on licensed drivers and total vehicle miles traveled, the average driver drove just over 14,000 miles in 2013 – more than he or she did in 1989 (12,700) but slightly less than in the peak years of 2004-05 (14,900). In recent years, the licensed-driver share of the population has edged lower: to 84.6% of Americans aged 16 and over in 2013, after peaking at 88.9% in 1999.

In the home:

One of the most dramatic shifts in recent years has been the rapid decline of the once-ubiquitous incandescent light bulb. Since the phase-out of standard incandescent bulbs began in 2012, their share of the residential light-bulb market has fallen dramatically: just 25% of total shipments so far this year, down from nearly two-thirds just two years ago, according to market-research firm IHS. Instead, people are buying more energy-efficient and longer-lasting alternatives, such as halogen and LED bulbs.

The light-bulb switch is mandated by law, but the government also is encouraging Americans to voluntarily use energy more efficiently at home. Although the most recent Residential Energy Consumption Survey was

conducted back in 2009 (the Energy Information Administration has begun collecting 2015 data and expects to begin posting results sometime next year), some trends were apparent even then. The average household used

nearly a third less energy for heating their home in 2009 than in 1993, and 16% less for water heating, while use levels for air conditioning and refrigerators stayed roughly the same. But energy used for other appliances, electronics and lighting climbed steadily, rising by about a third between 1993 and 2009.

homes, which indirectly addresses climate change. (As the EPA notes, "It takes lots of energy to pump, treat, and heat water, so saving water reduces greenhouse gas emissions.") According to our analysis of data from the U.S. Geological Survey, average residential water use was 87.5 gallons per person per day in 2010 (the latest year for which data are available). That's nearly 21% below the average use figure for 1980, the peak year.

Americans also are using less water in their

Taking out the trash:

The EPA encourages people to "reduce, reuse and recycle," noting that doing so "helps conserve energy and reduces pollution and greenhouse gas emissions from resource extraction, manufacturing,

and disposal." But the agency's own data

private supplies 120 60 40 20 Note: Estimates for domestic water use from public supplies

were not made in 2000. Source: US Geological Survey, "Estimated Use of Water in the United States in 2010" (and prior reports in series); Pew Research Center analysis PEW RESEARCH CENTER

indicates that the overall recovery rate (from recycling, composting and other processes) has nearly plateaued, following strong growth in the 1980s and 1990s and slower but steady growth through the 2000s. In 2012, about 34.5% of all municipal solid waste generated was recycled, composted or otherwise recovered.

and paperboard, the single biggest category of municipal solid waste, was recovered in 2012, as was nearly 58% of yard trimmings, the third-biggest category. But less than 5% of food waste – the secondbiggest category, with more than 36 million tons generated annually – was composted or otherwise recovered. And only 8.8% of plastic waste, nearly 32 million tons of which was generated in 2012, was

Nearly two-thirds of paper



recycled or otherwise Pew Research Center analysis PEW RESEARCH CENTER recovered. To be fair, Americans are

generating less waste than they did just a few years ago, and less of it is ending up in landfills or elsewhere. In 2012, the average American generated 4.38 pounds of waste per day, 2.36 pounds of which was ultimately disposed of, according to our analysis of EPA data. Those figures were down from 4.69 pounds and 2.63 pounds, respectively, in 2005.

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