11 ways to build a Paris climate change accord — in your own community

Source: MarketWatch
By: Staff

Painting your roof a certain hue will win points with Mother Earth – and also save you money.

President Trump says the Paris Agreement on climate change is bad for America.

The president told a crowd in the White House Rose Garden, "It is time to put Youngstown, Ohio, Detroit, Michigan, and Pittsburgh, Pennsylvania — along with many, many other locations within our great country — before Paris, France." Not everyone agrees. German Chancellor Angela Merkel called the decision "deeply regrettable" and said the deal to limit greenhouse emissions is critical to protect the planet and prevent further global warming. "We need
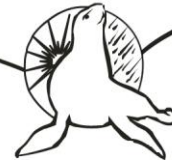
this Paris accord to preserve our creation," she said. "Nothing can and will stop us."

Several other cities across the U.S. also vowed to uphold the agreement, despite Trump's decision, including New York, Boston, Houston, Los Angeles, Philadelphia and Atlanta. (Here's a full list of the so-called "Climate Mayors." One of these mayors was accused of hypocrisy by some, though. When asked about his 12-mile trip from Gracie Mansion in Manhattan to his Park Slope, Brooklyn gym in his SUV, New York City Mayor Bill de Blasio said, "It doesn't really have anything to do with how we change the world," he said. "We change the world with policies that affect people."

But Jonathan Harrington, author of "The Climate Diet: How You Can Cut Carbon, Cut Costs, and Save the Planet," says every little bit counts. In his book, he gives out various "awards" to people who try to make a difference in their own lives. A "participant" award goes to anyone who does anything (like separate plastics and paper in the trash), followed by bronze, silver and gold medals. "The Climate Diet is about making small incremental changes in the way you, your family or your community inhabits this planet," he writes. So how do you recreate the Paris climate change accord at home? It's far from simple. With that in mind, MarketWatch provides some suggestions:

1. Solar-power your home with and without panels
This is one way to reduce your reliance on fossil fuels, but there's a problem. Solar power "must get significantly less expensive" to expand to a level that would contribute meaningfully to global carbon-reduction goals, according to a report, "The New Solar System," released in March by economists at Stanford University. "China and the United States find themselves at an unprecedented moment in the growth of solar power," the report found. "How they proceed will do much to determine whether solar energy emerges as a mainstream energy source and, in the process, as an engine of significant economic growth and carbon reductions."

It's not cheap to install solar panels. It costs between $10,045 and $13,475 after tax credits to install a solar panel on a roof, which works out at between $2.87 and $3.85 per watt, according to estimates by green energy website EnergySage. However, that's still 9% lower than a year ago, it added. Another low-cost option: Harness solar power without the actual roof panels. Several U.S. states recently passed legislation to support community solar, which gives homeowners the chance to use solar power by leasing or subscribe to a solar panel power source.
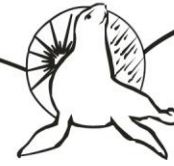
The National Renewable Energy Laboratory, a Colorado-based government institution that conducts research and development in renewable energy and energy efficiency, estimates that almost half (49%) of U.S. households would like to go solar, but don't have the kind of roof that would support solar power. And there are approximately 15.8 million homes in the U.S. that have the potential to go solar, according to GTM Research, the research arm of energy media company Greentech Media.

**2. Watch your thermostat and shut off your lights**
If you can't get solar panels installed on your roof, never fear — there are other options. Shutting off the lights, using energy-efficient appliances and keeping the thermostat not too high or low could also help reduce your carbon footprint at home, according to Carbon Offsets to Alleviate Poverty, a 501(c)(3) charity dedicated to reducing carbon emissions.

Lighting uses about 25% of all electricity in the country, the Office of Sustainability at Tufts University in Medford, Mass., said. Turning off a light or turning off the television when you leave the room reduces greenhouse gas emissions by 0.15 pounds per hour, according to Boston University, which calculated that if everyone at the school turned off the light for one hour a day for an entire year, they'd save enough energy to match the equivalent of taking 97 cars off the road for a year.

Additionally, using a compact fluorescent bulb as opposed to a regular bulb will prevent thousands of pounds of carbon dioxide, and they last 10 times longer (so you save money, too), according to Tufts. The same method applies to thermostats — keeping your thermostat two degrees higher in the winter and two degrees lower in the summer could save 2,000 pounds of carbon dioxide per year, estimates by Oregon's Clackamas County found.

As for appliances, products with the Environmental Protection Agency's Energy Star label support energy efficiency. These appliances, which range across numerous categories including washing machines and air purifiers, have reduced greenhouse gas emissions by more than 2.4 billion metric tons and saved Americans more than $362 billion on utility bills over the last 22 years, according to the EPA's Energy Star site.

3. Don't paint your roof green, paint it white
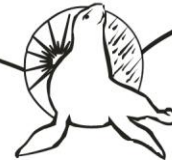
Wait, what? While a blue bathroom [might score you money when you sell your house](#), painting your roof a certain hue will win points with Mother Earth — and also save you money. It's not as crazy as it sounds. The simple step of painting your roof white helps reflect sunlight, which keeps the entire building cooler and can slash your power bill by 30%, say advocates with The White Roof Project.

That may also help cut down on pricey air-conditioning bills in the summer months, [which some estimates put at $120 per month (or more) for the average home](#). On top of that, the pale roofs help cut smog, because they lower the air temperature, which traps less pollution in our skies, according to The White Roof Project. The organization says painting 5% of rooftops worldwide would cut 24 billion metric tons of carbon dioxide by 2034.

And although it seems counter-intuitive, the white roof fix is three times more effective in fighting climate change than planting a green roof — the practice of covering a roof with grass and plants — [researchers at the Lawrence Berkeley National Laboratory found](#). But before you climb a ladder and slap a coat of white paint on your roof, check to [make sure you're using one with the proper reflective properties](#).

4. Car-share or just take public transportation

Around 2.2 million U.S. workers have a daily commute of at least an hour to and from work, according to the "American Community Survey" by the U.S. Census, and 600,000 full-time workers are so-called super-commuters, spending 90 minutes and traveling 50 miles to get to work every day. The summertime is even worse for traffic: More than 80% of people who traveled 50 or more miles away from home over the Memorial Day Weekend — 34.6 million people — [were on the roads](#).

While coal-fired power plants are the biggest sources of greenhouse gases in the U.S., [personal transportation comes in second and accounts for 20% of all greenhouse gas emissions](#), according to Rob Perks, transportation campaign director at the Natural Resources Defense Council, a non-profit environmental advocacy group based in Washington, D.C. If 25% of the population adopted new driving behaviors like carpooling, greenhouse gas emissions could be cut by 3% to 12%, saving billions of gallons of fuel, and resulting in potential savings of billions of dollars each year in gas, the Natural Resources Defense Council study found.

When one person commutes in a car, it doesn't just add to carbon emissions, it's also costly. The Natural Resources Defense Council found that commuters spend $2,180 a year on maintaining a car and paying for gas to get to and
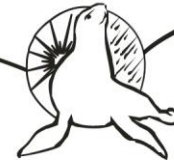
from work in urban areas and $3,347 in the suburbs, while rural commuters spend $4,272 a year. Those who don't commute to work only spend $1,857 a year.

5. Stick to one bag for your groceries (forever)

There's no easy answer for some domestic environmental decisions. California banned stores from giving out free plastic, single-use bags last November, [making it the first such state-wide ban at grocery checkout lines](). Dozens of other cities around the country have also banned what environmentalists say [have been the scourge of oceans for decades](). In California, consumers have to pay at least 10 cents for a plastic bag provided by the supermarket or bring their own reusable bag to the store and, in several cities consumers must pay 10 cents to buy a paper bag (Los Angeles did so in 2014).

The widespread use of single-use carry-out plastic bags raises significant environmental concerns, according to a 2010 report by professional technical-services company Aecom Technology Corp. [ACM, -0.25%]() It cited the short and long term adverse effects to marine ecosystems, solid waste management, global resource consumption and litter. Many major retailers sell reusable bags in biodegradable canvas, plastic or "bioplastics" manufactured from natural materials, but some big-box retailers sell alternative bags that are made from plastic and shipped from as far afield as China, 7,000 miles away. Experts say their most common replacements — paper and reusable bags — come with environmental and financial costs of their own. Paper bags are biodegradable, but some experts say cutting down trees is no answer either. And some reusable bags need to be used over 100 times before they're better for the environment than single-use plastic bags. Polyethylene bags need to be used four times, a polypropylene bag must be used at least 11 times, and a cotton bag must be used at least 131 times, according to a study by the U.K. Environment Agency.

6. Recycle, and be mindful of what you throw out
[Next time you get take-out or delivery](), consider throwing some of that garbage in recyclables — you'd at least be helping to save the planet. In this case, every little bit does help: One ton of papers recycled saves 17 trees from being cut down, according to Do It Green, a Minnesotan sustainable living all-volunteer group — [it also takes up 65% less energy than producing paper from scratch]().
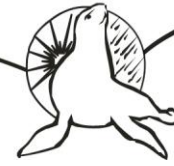
Recycling and waste reduction benefit the environment and reduce humans' carbon footprint in a number of ways: it slows down deforestation (trees also breathe in carbon dioxide), lessens the energy required to manufacture various products (manufacturing recyclables still requires energy, but far less than what's necessary to create items out of raw materials) and avoids emissions that come from landfills, according to the University of Michigan. The U.S. in particular recycles 32% of its waste, which is similar to removing almost 40,000 cars from the road.

Building up landfills is partially preventable, and avoiding it would save the earth from products, like plastic, from remaining in those landfills for centuries. More than 250 million tons of solid waste were accumulated in the U.S. in 2014 — composed of food (21%), plastics (18%), paper (14%) and rubber, leather and other textiles (10%), the Environmental Protection Agency concluded.

## 7. Lobby your school to stop using foam cafeteria trays

School cafeteria lunches are often a nutritional nightmare for kids' diets, and experts say the foam trays they're served on aren't much better for the planet's health. They're made of petroleum, they can't be recycled and therefore clog landfills, and disposing of them with garbage trucks creates greenhouse gas emissions, according to Cafeteria Culture, a group that advocates for removing the foam trays from schools.

Despite their toll on the environment, the trays are popular with school districts because they're cheap — only 3.5 cents compared with a 15-cent eco-friendly alternative.

Bad news for "Climate Mayors" like Bill de Blasio, New York City Mayor. His SUV ride to the gym pales in comparison to what schools in New York and elsewhere did in 2015. The school systems in five major cities including New York and Los Angeles banded together to replace the foam trays with ones made of compostable and biodegradable material. By buying in bulk — the school districts ordered 271 million at once — the districts lowered the cost to just 4 cents a tray.

Parents who want to take similar steps in their local schools can get in touch with Cafeteria Culture for ideas on how to convince officials to make the switch., or some schools are even wealthy enough to buy their own replacement trays.

8. Bike to work and advocate for greener transportation
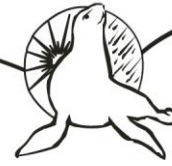
Biking is a direct route to lowering carbon emissions. In fact, if more people biked instead of drove to work, it would save $25 trillion globally by 2050 and cut carbon emissions by 10%, a 2015 study from the University of California-Davis and the Institute for Transportation and Development Policy in New York found.

Currently about 6% of miles traveled in world cities is by bike, most of which comes from bike-friendly countries including Japan, China, the Netherlands and Denmark. In the U.S., only 1% of urban trips are made by bike. Experts say this number could be a lot higher: 35% of trips American commuters make are less than 5 kilometers (3 miles), or easily covered in a 20-minute bike ride.

However, not all cities in the U.S. are bike-friendly, and biking advocates say that won't change unless more citizens get involved. Nonprofit People for Bikes suggests attending community input meetings and building partnerships with businesses to lobby for bike lanes and other safety measures in their communities. As of 2014, there were bike lanes in 24 states and 53 cities and cities like Los Angeles have created recent policy shifts toward cutting car lanes and adding bike and bus lanes instead.

9. Embrace dietary changes and skip avocado toast

Bad news: Saving the environment may mean skipping that avocado toast. Skyrocketing demand (and prices) for avocados has driven farmers toward illegally cutting down trees in rain forests across Mexico, according to The Guardian newspaper in the U.K. In total, roughly 1,700 acres of forests were lost as a result of increased avocado production in the Mexican state of Michoacan alone, researchers predict. From cutting avocados out to avoiding products with palm oil (another product that has caused deforestation around the globe), choosing to eat a sustainable diet is another way to protect against climate change.

Meat products are far and away the worst food products when it comes to the greenhouse gases stemming from their production, transportation and consumption, data from the Environmental Working Group found. Lamb is the worst culprit, causing 39.2 kilograms of carbon dioxide emissions for every kilogram eaten. Comparatively, lentils produce less than 1 kilogram of carbon dioxide for every kilogram eaten. See Meat Eater's Guide to Climate Change + Health for more.

10. Stay green at the office and unplug your computer
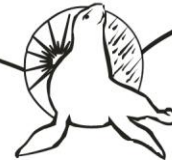
We know office design can improve concentration, but did you know it can also help the environment? Interior decorators are increasingly incorporating living walls into corporate office spaces to naturally cool offices during summer months and improve air quality. Even if you don't have a hand in office planning, there are many measures you can take at your own desk to help the environment. Use power strips rather than individual plugs and invest in power-saving electronic devices for your desk. Also, don't forget the basics: Turn off the lights, unplug electronics, and shut down your computer when you leave for the day.

11. Avoid the SUV and, if you must, take nonstop flights

Where travelers go and how they get there can be a significant source of pollution. And when it comes to vacationing, air travel is one of the worst culprits. Aircraft produce up to 2.5% of total global carbon dioxide emissions, according to data from the Centre for Aviation, Transport and the Environment at Manchester Metropolitan University http://www.cate.mmu.ac.uk/projects/bridging-the-aviation-co2-emissions-gap-why-emissions-trading-is-needed/ . That rate would make the aviation industry one of the world's 10 largest carbon dioxide emitters, if it were a country, according to the Environmental Defense Fund.

While flying is bad for the environment, driving can be even worse. Taking a solo road trip in an SUV produces roughly 60% more greenhouse gases than your portion of a plane's greenhouse gas emissions on a flight the same distance, per data from the Sightline Institute, a policy research non-profit based in Seattle.
The best ways to travel include taking motor coaches or trains. If flying is a necessity, there are ways to make a smaller impact on the environment. Because first-class seats take up roughly twice the amount of space, someone flying in coach accommodations is responsible for about half the carbon emissions, a report from the Union of Concerned Scientists concluded. Similarly, choosing a non-stop flight is better for the environment (even if it's worse for your wallet) because takeoff, landing and taxiing to and from the terminal uses so much energy. The Union of Concerned Scientists estimated that a 1,000-mile nonstop flight from New York City to Orlando saves nearly 35% the carbon emissions versus a two-connection flight itinerary.