

## Personal Action Plan

For an effective change to the alarming trends in...

- 🌱 concentrations of atmospheric CO<sub>2</sub> and an endless list of pollutants
- 🌱 global warming
- 🌱 ocean acidification & the loss of coral reefs
- 🌱 loss of biodiversity
- 🌱 deforestation

...dramatic change is needed **ASAP** at all levels of government (legislation, conservation, funding) and the corporate/industrial world (environmentally-sound options, more effective carbon sequestration methods).

**But, your individual actions can help, and certainly won't hurt!** *It's insane to **not** try* to reduce your carbon footprint. This suggested action list—suitable for every adult in every developed country on the planet—is listed in order of impact and practicality.<sup>1</sup>

1. **Spread the word.** Share this list! Become an effective environmental evangelist, but remember that it's not everyone's #1 concern. Allow other conversations to flow without broadsiding them with your global warming concerns. With friends and family who will listen, share what you're learning about our ecosystem and biodiversity. Share your ideas on how we can all have an impact.
2. **Vote** for political candidates that make the mitigation of global warming a top political agenda. Governments and corporations must actively move to carbon-negative policies but this is not always the "popular" path and many industries lobby politicians to. **Individual efforts alone will not be enough to avoid a "highly probable" environmental apocalypse before the year 2150.**
  - a. **Good example**, making his concerns about global warming THE centerpiece of his campaign, alerting everyone to the growing damage from climate change and our need to do something about it now: ✓ Governor Jay Inslee  
<https://www.jayinslee.com/>
  - b. **Bad example**, clueless about global warming to the point where he claims it's a hoax:<sup>2</sup> ✗ Donald Trump
  - c. Do some research on the candidates you can vote for, and make your local, state and federal choices accordingly. I'm very happy to have a Congressional representative (Scott Peters) who worked as an environmental attorney for 15 years and now works in Congress to fight against the terribly anti-environmental policies that tRump and his cabinet members are pursuing to keep the fossil fuel industry happy. I wrote about him in my blog at [www.EnvironmentalApocalypse.com](http://www.EnvironmentalApocalypse.com) after attending a town hall meeting where he addressed environmental concerns. He also agreed to have a separate meeting with attendees from [www.350.org](http://www.350.org) to focus on solutions.

<sup>1</sup> A subjective, proprietary method of sorting the items was used and the exact order is not crucial. Do all.

<sup>2</sup> <https://www.snopes.com/fact-check/donald-trump-global-warming-hoax/>

3. **Donate to environmental organizations** that are doing something about the problem. Are you currently making donations to feed the poor and heal the sick? In the long run, these organizations will have a greater effect on wellness and safe food production for humanity through their work to keep our environment healthy and stable. Most of them also work through the legal system and other means to get governments and large corporations to shift in a direction that will make bigger improvements than we can as individuals.
  - a. Natural Resources Defense Council (NRDC), <https://www.nrdc.org/>
  - b. Environmental Defense Fund, <https://www.edf.org/>
  - c. Union of Concerned Scientists, <https://www.ucsusa.org/>
  - d. 350.org, <https://350.org/>
  - e. Conservation International, <https://www.conservation.org>
  - f. Greenpeace Fund, <https://greenpeacefund.org/>
  - g. American Council for an Energy-Efficient Economy, <https://aceee.org/>
4. **Donate to family planning organizations** that help men and women around the world who do not want to conceive obtain family planning (birth control) assistance and products. A 2017 World Health Organization (WHO) study found that about 214 million women of reproductive age in developing countries who want to avoid pregnancy are not using a modern contraceptive method. In some countries, this topic brings us back to the “vote” action item above. Some religious fundamentalist politicians would like to outlaw birth control of any kind, which makes no sense to any thinking person who is interested in ever having sex.
  - a. **Population growth is the #1 contributor to our destruction of the environment.**
  - b. The not-so-subtle hint here is that you can also personally contribute by not having any [more] children. Don't shoot the messenger of truth. But then again, if your child grows up to create amazing environmental solutions...go for it!
  - c. Countries, states and cities that make it easy for people of all ages to purchase low-cost condoms obviously have a much lower level of unwanted pregnancies.
  - d. Read more here: <http://populationgrowth.org/>
5. **Volunteer** at any of the many environmental and family planning organizations.
6. **Go Paperless with almost everything.** Your printed newspapers, magazines & bills kill trees—including those in old-growth<sup>3</sup> forests that have been developing for thousands of years—for virgin wood pulp. Oceans and forests are our best bets for reducing greenhouse gasses until we discover efficient, synthetic means of carbon capture. Clearing forests helps kill our ecosystem. Get your news, entertainment, bills and catalogs *online*. Read the news on your computer, phone, or tablet.
7. **Buy recycled paper.** OK, so we can't go paperless with everything. If you're not using recycled toilet paper, paper towels and printer paper, chances are you are

<sup>3</sup> An old-growth, primary or late seral forest is one that has reached advanced age without significant disturbance (e.g. cultivation or harvesting by humans). Demand for virgin paper pushes the logging industry into old-growth forests for a new supply of wood and virgin wood pulp, while environmentalists desperately try to communicate the importance of leaving these forests untouched for the maintenance of biodiversity, water regulation and nutrient cycling, which includes CO<sub>2</sub> capture.



contributing to the unbridled deforestation conducted by the lumber and paper industries due to the demand for cheap, virgin pulp paper. So those fancy paper napkins that don't use any recycled paper are literally causing the death of trees that should remain standing to help sequester CO<sub>2</sub>. There are so many recycled paper options available...just look for them. I'm finding that they are not necessarily more expensive anymore.

8. **Install solar panels** on your home and business. Install much more than you anticipate needing to assure that your home's contributions to the reduction of CO<sub>2</sub> emissions go beyond your energy usage. Most areas of the country allow you to actually contribute energy to the power grid when your solar panels generate more than you're using, even if you don't include a battery system.
9. **Buy an electric car** or plug-in hybrid vehicle. If you drive often in stop-and-go traffic and you have a conscience, you know how terrible it feels to be spewing toxic gases into the atmosphere while getting nowhere. The selection of available vehicles is growing every year. If you can afford to put up enough solar panels and you drive an electric car, your commute and errands can all become carbon neutral or possibly even carbon negative. Donate your old car to an eco-centric charity (for the tax deduction) and to replace it (assuming you must have a car). If you can't afford an electric vehicle, at least make fuel efficiency a major decision factor in your next purchase.
10. **Commute by bike**. This is even better than an electric car, and in some cities it might get you there faster. Either way, you'll be healthier and happier.
11. **Use mass transit**. Have you explored the bus and train options available for your commute and travel plans? Flying consumes a great deal of energy by comparison.
12. **Carpool**. It's not always an option, but look into it! Try the eRideShare phone app. You could save a ton of money and make new friends who live and work near where you do.
13. **Replace** your incandescent lightbulbs. LED bulbs use a small fraction of the energy.
14. **Widen your comfort zone**. If you make an effort to *climatize and dress accordingly*, you can lower your heat in the winter and use less AC in the summer, saving what is probably the largest portion of your energy bill. Just a couple degrees difference can save thousands of pounds of carbon emissions each year.
15. **Try a space heater** at night in your bedroom. If you're heating a large home with a single zone furnace at night, you're probably using a *lot* more energy than you need to.
16. **Turn your water heater temperature down**. You can still enjoy your same hot shower...it will just have less cold water mixed in. Your water heater will last longer and you'll save money.
17. **Buy local**. If your food, drinking water, wine, beer, and other routine items can be sourced locally, less energy is consumed in delivering those goods to you. Your choice of food (e.g. less meat, more veggies...see next point) can have a bigger impact on the carbon footprint from the shipping, but flying food from distant



countries rarely makes sense from an environmental standpoint. I love Germany, the Netherlands, France, Spain, New Zealand, Australia, and Chile...but nowadays I try to buy all of my beer and wine from California and Oregon because I'm aware of how much CO<sub>2</sub> and pollutants are put into our atmosphere to ship those items from other countries to us here in California. Buying local also helps boost our local economy. **California produces some of the best beer and wine on the planet!**

18. **Eat less meat.** Meat of all kinds requires a lot of energy and water to produce, and beef is the heftiest offender. USDA & other data show a vegetarian diet leaves about half the carbon footprint of a "meat lover" diet. There are countless vegetarian recipes and ready-to-heat meals that can make you and the planet healthier.
19. **Recycle.** Recycling saves energy and reduces the amount of new plastic production required. And remember that the recycling mindset priority is "Reduce, Reuse, Recycle" in that order. Do your best to reduce consumption and reuse items that can help displace the production of more stuff that consumes energy and fills methane-generating landfills. Granted, the funding and status of many municipal recycling programs are abhorrent, but that doesn't mean we shouldn't try. Be mindful when you sort your recyclables. If the recycling batch is too spoiled with non-recyclable items, the screeners may put the whole batch into a landfill, rendering all those recycling efforts a waste of time.
20. **Plant trees.** Or donate to an organization that does. Or volunteer with an organization that does...which can be good, mood-lifting outdoor exercise. After the oceans, forests are our biggest source of clean air best available means of CO<sub>2</sub> greenhouse gas reduction.
21. **Turn it off.** Turn off your lights and appliances when you're gone for any length of time. It will save you money and reduce wasted combustion of fossil fuels. Turn off your car when you're sitting in a parking lot or waiting for someone unless the climate dictates a desperate need for AC or heat. Open a window and get some fresh air.
22. **Use less water.** Even if your town isn't experiencing a water shortage, remember that the gathering, treatment, and delivery of your water requires a lot of **energy** (especially when you're using hot water). Minimize the use of sprinkler timers that may be watering your yard even on rainy days. Convert to plantings that require less water.
23. **Boycott** corporations and organizations that cause the greatest damage our ecosystem. Here is a sampling of the worst culprits who waste energy, promote population growth, and cause deforestation on a massive level.
  - a. Bitcoin — Because of the algorithms they use, Bitcoin causes computers around the world to consume about as much energy as the entire country of Ireland. Other cryptocurrencies have the same problem, which can be reduced with a change in their algorithms.
  - b. Fiji Water — Buying water from overseas is just plain silly, and Fiji Water is the worst because they like to pretend they are environmentally oriented while their customers fund the shipping of plastic bottles from China to Fiji, then shipping full bottles from Fiji to nations around the world. For every sip of that water, the



- customer is supporting the combustion of more than that amount of fuel just to deliver it.
- c. The Catholic Church — I was raised Catholic, so I'm pretty familiar with their efforts to boost the population and shun birth control. In case you haven't already boycotted them for the thousands of sexual abuse cases that finally came to light, look again at the church's long history of missionaries that spread the idea that birth control is evil. (Why? To make more evangelists, of course...to win the stupid religion game.)
  - d. Johnson Controls — The building industry is one that has so many opportunities to choose strategies and products that have a big impact on the environment, which makes blatant "anti-environmental" moves especially despicable from a key vendor like Johnson Controls. In February 2019, a federal court ruled the Trump administration acted unlawfully in rolling back an energy efficiency rule in favor of one manufacturer of central air conditioners, Johnson Controls International, to the detriment of consumers, the environment, and other manufacturers. The U.S. District Court for the Southern District of New York declared the rollback "arbitrary and capricious." Builders will be doing us all a favor if they chose alternative vendors for HVAC systems.
24. **Don't buy purebreds.** As with the "adoption" suggestion above, choosing to have your next pet be a "rescue" instead of financially supporting the breeding of more pets while thousands of unwanted ones are being euthanized makes sense on more than an environmental level. Pet population control can help just as human population control does, albeit to a lesser extent since pets aren't driving cars and buying Fiji water.
25. **Move** to a more temperate climate. I know...easier said than done, but the amount of energy you'll save by not having to use heat and/or AC nearly as often can put a big dent in your CO<sub>2</sub> emissions. Plus, you'll probably be outdoors more often and live a healthier lifestyle.
26. **Adopt.** This recommendation is bound to meet with criticism, but the potential social and environmental benefits of adoption over creating more humans is undeniable.
27. **Learn more.** You can decide for yourself where you stand on the causes of global warming if you keep an open mind while exploring films and publications. No matter what contributes the most to the current warming trend, the fallout from ongoing climate change has been observable for decades. Here are my current recommendations:
- ▶ **WATCH: Chasing Coral**, a Netflix documentary. <https://www.chasingcoral.com/>  
As a scuba diver I've noticed the death of coral reefs over the decades, but I didn't realize how widespread the issue is. This film discusses the cause and ultimate effects of this global loss. Coral reefs are like the "canary in the coal mine" of our entire ecosystem.
  - ▶ **READ: The Uninhabitable Earth**, by David Wallace-Wells. Time will tell if the dire predictions in this book are exaggerated, but so many of the "climate change" effects of global warming described by the author are self-evident and already covered in



the news. The “alarmist” claims by some critics<sup>4</sup> of the book may turn out to be valid, but the author acknowledges the multidimensional complexity and controversies surrounding the topic. I hope the predictions about what the world will look like in the year 2100 are way too pessimistic. If not, millions if not billions of lives will be lost, and our great grandchildren will be fighting for their lives, wondering why we didn’t do more to reverse the current warming trend...even if it was entirely caused by nature! No matter the cause of the warming, the warming has been the cause of four out of the five mass extinctions that have taken place on earth.<sup>5</sup>

► **READ IN DEPTH: Biodiversity and Climate Change: Transforming the Biosphere (2019 edition)**, by Thomas E. Lovejoy, Lee Hannah, and Edward O. Wilson adheres to non-alarmist (but still very scary), dry, peer-reviewed scientific review of what has already happened and what is very likely going to happen to all the species in our ecosystem as the climate continues to change. If you’re going to study climate change, this must be in your library.

## NOTES:

According to the National Oceanic & Atmospheric Administration (NOAA), human activities since the beginning of the Industrial Revolution (around 1750) have produced a 40% increase in the atmospheric concentration of carbon dioxide (CO<sub>2</sub>), from 280 ppm in 1750 to 406 ppm in early 2017. We are “snuffing out” our planet as we know it with excess greenhouse gasses, which in turn cause the “greenhouse effect” that gives us global warming. We must turn this around. Most of the responsibility for making big changes rest on your elected government officials and large corporations. But you can help by not exacerbating the problem with careless waste.

This document is linked from <http://www.goese.com/environment/>. Both are “works in progress” and are subject to change with new learning.

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<sup>4</sup> My “follow the money” investigations into people on both sides of the climate-change debate find more fault with climate-change deniers. While many of them are legitimate scientists, some have ties to the energy industry or other economic interests that can be hurt by efforts to reduce CO<sub>2</sub> emissions, and others have not stayed current on the latest scientific findings most pertinent to the topic.

<sup>5</sup> Interestingly, only the mass extinction that the dinosaurs died in appears to have been caused by a massive asteroid. The others appear to have been caused by big swings in global warming and cooling.

