

# What You Can Do

to help reduce global warming

GOESE



PLEASE SHARE ELECTRONICALLY  DO NOT PRINT<sup>1</sup>

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## Personal Action Plan / To-Do List

<https://goese.com>

### About This List

Very few people like being told what to do. So, to be clear, I'm *not* telling you. These are ideas that I hope you'll review, appreciate and share. Many people are suffering from environmental anxiety, which is worsened when our current federal government is marching in the wrong direction (toward coal and drilling for oil in parks and natural preserves). When dealing with anxiety, ***the impulse to do something proactive is a very healthy thing***. This list is provided to help anyone who wants to do something about climate change, deforestation, pollution, and the loss of biodiversity.

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 (thousands of species going extinct)
- deforestation

...dramatic change is needed **ASAP** at all levels of government (legislation, conservation, funding) and the corporate/industrial world (environmental options like renewable energy/materials, more effective carbon sequestration methods). However, **your individual actions can help, and certainly won't hurt!** *It's insane to not try* to reduce your carbon footprint. According to the EPA, transportation and electricity generation are roughly tied for "first place" in the generation of harmful greenhouse gasses. You can personally have an impact on both of these sources of CO<sub>2</sub> emissions.

This suggested action plan—suitable for every adult in every developed country on the planet—is listed in order of impact and practicality.<sup>2</sup>

1. **Learn more and spread the word**. Read, watch, and learn more about climate change and our environment. The more you learn about humanity's environmental impact, the more you'll want to *do* about it. Share this list! Become an effective environmental evangelist, but in a gentle way that won't make people avoid you. (Remember that it's not everyone's #1 concern...yet.) 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. We can do more with a larger army.
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

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<sup>1</sup> If you must print this, please find recycled paper or paper that is made from rapidly-renewable fibers (RRF) from brands like ZeroTree.

<sup>2</sup> A subjective, proprietary method of sorting the items was used and the exact order is not crucial. Do all.

*Continued...*

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>3</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.
3. **Minimize waste.** This is an overriding theme to keep in mind if you don’t read any further down this list. If you’re mindful of the energy, material and water you consume, you’ll be doing future generations a favor. Examples include:
- a. Food — Don’t buy or cook more than you consume. It takes a great deal of energy and water to deliver that food to your kitchen. Compost food byproducts (e.g. eggshells, banana peels, apple cores) to use in your garden if you’re fortunate enough to have one.
  - b. Water — Don’t leave the water running when you’re not using it, even if you live where there is no water shortage. It takes energy to filter, process and deliver your cold water, not to mention the energy that goes into your hot water.
  - c. Electricity — Turn the lights/AC/heat off when you’re not directly using them.
  - d. Gasoline — If you can turn your car off when you’re waiting for someone or reading messages on your phone in a parking lot, please do.
4. **Donate to environmental organizations** that are doing something about global warming.<sup>4</sup> They help raise awareness of environmental abuse issues, and many of them 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. I recommend donating to one of the organizations below rather than buying carbon offsets. Unfortunately, some of them send you lots of paper through

<sup>3</sup> See <https://www.snopes.com/fact-check/donald-trump-global-warming-hoax/>

<sup>4</sup> Are you currently making donations to feed the poor and heal the sick? In the long run, these environmental organizations will have a greater effect on wellness and safe food production for humanity through their work to keep our environment healthy and stable. Also, some of them (like RAN) work for the people affected, too.



the mail—which isn't congruous with the environmental cause—but you can ask them to stop.<sup>5</sup>

- a. Union of Concerned Scientists (UCS), <https://www.ucsusa.org/>
  - b. Rainforest Action Network (RAN), <https://www.ran.org/>
  - c. Natural Resources Defense Council (NRDC), <https://www.nrdc.org/>
  - d. Environmental Defense Fund (EDF), <https://www.edf.org/>
  - e. 350.org, <https://350.org/>
  - f. Conservation International, <https://www.conservation.org>
  - g. Greenpeace Fund, <https://greenpeacefund.org/>
  - h. American Council for an Energy-Efficient Economy, <https://aceee.org/>
5. **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. Adopt. (Don't shoot the messenger of truth!) But then again, if your child is going to grow up to create amazing environment-saving solutions for the planet...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/>
6. **Volunteer** at any of the many environmental and family planning organizations.
7. **Go Paperless with almost everything.** Your printed newspapers, magazines & bills often kill<sup>6</sup> trees—including those in virgin, old-growth<sup>7</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 more efficient, synthetic means of carbon capture. Deforestation accelerates the destruction of our ecosystem. Pulp/paper manufacturing is one of the greatest sources of pollution and

<sup>5</sup> The Nature Conservancy—while a respectable organization with an attractive charter—is an especially egregious user of paper mailings to solicit more money after you donate to them. The more paper they mail to me, the less likely I am to continue to donate, especially if they continue to do so after I ask them to stop.

<sup>6</sup> Paper advocates claim that if we stop using paper then there will be no motivation to plant new trees to make more paper. Here's a catch: We can plant new trees then just let them grow and collect CO<sub>2</sub> without us cutting them down. We need all the forests and healthy oceans we can get to maximize CO<sub>2</sub> reduction.

<sup>7</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.



greenhouse gas emissions. Get your news, entertainment, bills and catalogs *online*. Read the news on your computer, phone, or tablet. **Remember the “reduce” and “reuse” parts of the environmental mantra are more important than the “recycle” part.** Use real plates, cloth napkins and a handkerchief to stop killing trees to make disposable products.

8. **Buy recycled paper or paper from non-tree sources**. OK, so we can't always go paperless with *everything*. If you're not using recycled toilet paper, paper towels and printer paper, chances are you are contributing to the unbridled deforestation conducted by the lumber and paper industries due to the demand for cheap, virgin pulp paper. 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 and tree-free “rapidly-renewable fiber” paper options available...just look for them.** I'm finding that they are not necessarily more expensive anymore. *Unfortunately*, when this paper is shipped from Asia, the delivery of this "green" product on cargo ships is burning heavy bunker fuel (aka “black yogurt” for its consistency), which emits soot that captures heat when it settles on ice, accelerating the melting of the polar ice caps. The USA needs to get its hemp, sugarcane and bamboo production up to help make paper from more readily-renewable resources and byproducts. Finally, minimize your use of colored paper, as that adds a greater bleaching challenge to the recycling process as the most in-demand recycled paper color is white.
9. **Stop printing so much**. Make your “default printer” a PDF file generator and share your output electronically via email rather than in “hard copy,” which is more of a pain to archive than electronic files are anyway.
10. **Replace** your incandescent lightbulbs. LED bulbs use a small fraction of the energy.
11. **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.
12. **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. **I can't tell you how much more comfortable I feel having a car that isn't spewing fumes when it's stuck in traffic.** When you have enough solar panels on your home to charge your EV and power everything in your home, you'll feel even better. The available selection of EV/PHEV cars 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.
13. **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.



14. **Use mass transit when you can.** Have you explored the bus and train options available for your commute and travel plans? Flying consumes a great deal of energy by comparison. What is the most environmentally sound way to travel on vacation? Assuming that your travel is fully booked, the diesel bus comes out on top, followed by the high-speed train, then a car with three people in it, then the medium-sized aircraft, followed in last place by the cruise ship. But trains and buses have an average occupancy of only 40%, *which would go up if we all used them*. Ideally, we'd all have electric cars that are charged entirely by environmentally-produced energy, like solar panels on our roofs and charging stations powered by the wind and the sun.
15. **Carpool.** It's not always an option, but look into it! Try the eRideShare phone app. You could save a ton of money, make new friends who live and work near where you do, and greatly reduce your contribution to the problems we're facing.
16. **Consolidate your travel.** So you live in America and have always wanted to see Dublin and Paris? Combine your trips to reduce the fossil fuels burned to fly you over the ocean. If you're not already donating to one of the organizations I listed on page 2, you can help offset your travel carbon footprint by buying carbon offsets at websites like <https://www.carbonfootprint.com/calculator.aspx>.
17. **Minimize your travel by cruise ship.** Do you need to burn fuel to literally move your resort or amusement park with you as you travel? The International Council on Clean Transportation estimates that even the most efficient cruise ships emit 3 to 4 times more CO<sub>2</sub> per passenger-mile than a jet. Also, most cruise ships run on dirty, heavy fuel oil. Some have begun using "scrubbers" to remove toxic sulfur oxides from their exhaust, but the scrubbers discharge the pollutants into the ocean.
18. **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.
19. **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.
20. **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. Despite your water heater's insulation, it takes more energy to raise the temperature higher and store [about 60 gallons of] the hotter water.
21. **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! Vodka from Russia? NFW, for two obvious reasons. Tito's vodka is better than all the others and it's made in the USA.

22. **Eat less meat.** Meat of all kinds requires a lot of energy and water to produce, and beef is the heftiest offender. Due to the huge cow population required to satisfy the world's demand for beef, cows are a huge source of methane.<sup>8</sup> Methane is 21 times more potent at trapping heat from the sun than CO<sub>2</sub> is. While methane is less prevalent in the atmosphere than CO<sub>2</sub>, it is—per unit—the most destructive of the greenhouse gases. To add to the water/energy/emission faults, global demand for beef has caused large parcels of the Amazon and other forests/jungles to be sold to ranchers to raise beef cattle, taking away our second-largest (after the oceans) source of oxygen generation and CO<sub>2</sub> collection. Without accounting for this horrible deforestation, USDA and other data show a vegetarian diet leaves about half the carbon footprint of a “meat lover” diet. Many people think we need animal protein to function properly. That doesn't appear to be the case. There are even professional bike racers who are vegan, and those guys and gals are subjected to insane levels of stress and exertion. If you want some animal protein in your diet you can get that from eggs and cheese. I confess, I'll still have a steak or In-N-Out burger once in a while, but the point is to bring the consumption down as much as we can. There are countless vegetarian recipes and ready-to-heat meals that can make you and the planet healthier.
23. **Reduce, Reuse, Recycle.** ♻️ Our material recycling processes—whether that of metal, paper, plastic, electronics, or whatever—are very inefficient. This is why the “reduce” and “reuse” mantras should be heavily emphasized so there is less for us to recycle. Just the same, recycling (when done properly) can save energy and reduce the amount of new material production required. Not only that, but most paper is still being produced from “virgin” pulp that does not include any recycled material, which means CO<sub>2</sub>-reducing trees are being cut down to make your paper. 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. Don't toss dirty items or items they don't recycle into the bin. ***If the recycling batch is too spoiled with non-recyclable items, the screeners may put the whole batch into a landfill***, negating all those recycling efforts. All those little receipts printed on thermal paper are NOT recyclable.
24. **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

<sup>8</sup> Cow burps and manure contribute more methane gas than their farts do. Cows, sheep, goats, giraffes, and deer belong to a class of mammals called ruminants, which have more than one stomach chamber. The first chamber/division is called the rumen. Microbes in the rumen create methane gas as a byproduct, which ruminants burp out.



oceans, forests are our biggest source of clean air best available means of CO<sub>2</sub> greenhouse gas reduction.

25. **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.
26. **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.
27. **Boycott** corporations and organizations that cause the greatest damage our ecosystem. If you're brave and have the time, feel free to shame them on social media (e.g. Twitter) for their horrible practices. 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.) Remember that population growth is the #1 "engine" behind our unprecedented CO<sub>2</sub> emissions.
  - 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.



28. **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.
29. **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.
30. **Adopt.** This recommendation is bound to meet with criticism (my wife suggested this one is out of line and over-the-top), but the root cause of our problems has been the population explosion over the past two centuries. Remember, this is a list of *ideas*. (We didn't adopt.) The potential environmental benefits of adoption over creating more humans is undeniable, and there are societal benefits as well.
31. **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>9</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>10</sup>
  - ▶ **STUDY 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

<sup>9</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>10</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.





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 the effects of climate change, this textbook-like reference work should 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.

**CONTACT ME:** Have feedback? Share your comments and corrections with me (Dan Goese) at my environmental blog at [www.EnvironmentalApocalypse.com](http://www.EnvironmentalApocalypse.com).

# THANK YOU!

Thanks for joining me in my effort to postpone  
the looming environmental apocalypse.

