

ENVIRONMENTAL INTEGRITY RESOURCE LIST



■ Actions

Imagine if you took one action each day to restore your environmental integrity. How long do you think it would take you to be in near complete integrity?

Lifestyle changes including to what you eat, how you commute and asking your utility to give you power from sustainable sources can eliminate 3/4 or more of your carbon footprint.

What Lifestyle Changes Will Shrink Your Carbon Footprint The Most.

For example: Eat Less Animal Products (Good) Become Vegetarian (Better) Become Vegan (Best)

Why?

- **1.** Switching to a plant-based diet cuts your carbon footprint by 50%
- **2.** Animal agriculture is responsible for 91% of deforestation in the Amazon Rainforest
- **3.** Production of 1 quarter-pound hamburger requires over 625 gallons of water
- **4.** Production of 1 Gallon of milk requires over 1000 gallons of water while water becomes more precious as over 1/3 of the earth's land area is either desert already or undergoing desertification
- **5.** A single Dairy cow produces as much excrement as 164 people and is almost completely untreated releasing greenhouse gasses and polluting waterways and oceans
- **6.** There is blood and pus in virtually all dairy. In the US the FDA allows 750 million pus cells in every liter of milk.
- 7. Animal agriculture accounts for 51% of all greenhouse gas emissions as compared with 13% by the entire transportation sector including all cars, trucks, trains, boats and planes.

Afternatives

- Plant based meats such as Beyond Meat and Impossible Foods
- · Non-dairy milks including Oat milk, Coconut Milk, Soy Milk, Almond Milk, etc
- Vegan Cheeses
- · The healthiest choice is a whole food plant based diet



Every day that you forgo meat and dairy, you can reduce your carbon footprint by 8 pounds.



■ Other ideas:

- · Choose organic and local foods that are in season, saving on transportation.
- Buy food in bulk when possible using your own reusable container.
- · Meal planning, less food waste; compost your food waste if possible.
- Avoid fossil fuel based transportation
- Alternatives
- Cut down on travel by working from home as much as possible
- Walk
- Bike
- Carpool or rideshare when possible
- Public transportation
- Flectric Scooters
- · Sailboat vs motor boat
- Electric Vehicle



Resources

Cars Direct, Ten Ways to Lower Engine Fuel Consumption

■ Power and Energy []

Installing your own solar panels or a solar roof are great, but still relatively expensive options which take several years to pay for themselves. They're also impractical if you live in a condo or apartment building. Most states now give their consumers the option to get their power from renewable sources such as solar or wind generation. If available, choose that option. If not, let your power company know you want them to provide it!

Idea

Do a home energy audit to determine how your home can become more energy efficient. The U.S Dept of Energy has a tutorial <u>here</u>.

- Switch to LED light bulbs that use a quarter of the energy of incandescent bulbs. Turn of lights and unplug electronic devices when not in use.
- Pay attention to the amount of electricity and water your household uses. Small changes, like installing a low-flow showerhead, or using less air conditioning in the summer make a difference.
- Shop for Energy Star Appliances



Reduce Paper Use

Every time you use a regular paper product from toilet paper and paper towels to a notepad, you are causing trees that take carbon out of the air to be cut down.

Afternatives

- 100% Recycled Paper
- · Bamboo Products
- Take notes on laptop, tablet or phone rather than writing on tree-based paper
- · Switch to electronic billing and payment to avoid paper mail along with the fossil fuels for mail delivery
- · Bring your own reusable bags when shopping, and avoid products with excess packaging.
- · Contact your market's manager to ask that the company reduce wasteful packaging.
- · Avoid impulse buys, and buy only what you need, or will make significant use of.
- Don't fall for "fast fashion" by buying clothing that will have limited wear or use, the average American discards about 80 lbs of clothing each year, and 85% of that winds up in landfills.

Reuse and recycle items you already own.

For ideas on how to reuse and repurpose, join a discussion group like <u>The Non-Consumer Advocate</u>, or join a group like <u>Freecycle.org</u>, where community groups offer used items free to members, keeping the goods out of the landfill.

■ Investments

If you are fortunate enough to have the money to put in the bank or the stock market do your research to choose responsible investments. For example, many traditional banks invest the money they hold for you in the fossil fuel industry, while some alternative banks look for socially responsible investments striving to avoid those companies that contribute to carbon pollution and habitat destruction. You can do the same if you invest in the markets. Support companies that are environmentally responsible. Do some research.

Alternatives

- "Green Banks"
- · Electric Vehicle Manufacturers
- · Carbon Capture Technologies
- Recycling technologies,

recyclable packaging companies

Vertical Farming

Avoid

- Petrochemical Companies
 - Airlines
- Car manufacturers that are not producing fully electric cars
- Cryptocurrencies that use mining (e.g. bitcoin mining uses more energy than is produced by all solar energy)





Resources

Newsweek ranking of 300 companies based on environmental, social, and corporate governance scores.

Recycle/Kense

Garbage put into landfills releases greenhouse gasses and other polluting chemicals. Recycling reduces the amount of garbage. It also reduces the amount of natural resources (e.g. trees) consumed.

- · Choose products in recyclable or compostable packaging wherever possible
- Bring your own re-usable shopping bag to the supermarket or other stores
- Rather than buy water in plastic bottles, filter your own water and get a glass or metal water bottle to carry with you.
- Store leftovers in glass jars you re-use rather than plastic wrap or bags If you have a garden, consider composting your food scraps

Alternatives

■ Carbon Offsets

Let's face it. Unless you move to the woods, live off the land on only raw nuts and berries, you will be releasing carbon into the atmosphere. In fact, you would do that anyway simply by breathing. Even if you wanted to do the things that would reduce your carbon generating activities to the barest minimum, you would still have a positive carbon footprint – way better, but it would still exist. So, what if I want to actually get to a negative carbon footprint? What if I want to be part of the solution by personally removing more carbon from the atmosphere than I put out? Over time, there will be more options, but today your best bet is Carbon Offsets.

How they work is that for every carbon emitting activity you undertake – for example you book a flight to visit your mom on the other side of the country – you buy sufficient carbon offsets to cover your share of the carbon pollution produced by that flight. In effect, you're donating a few dollars to an organization that plants trees, bamboo, kelp or performs some other carbon capture activity, thus sucking the carbon out of the air that you just put there. It's actually a super inexpensive way to improve your level of environmental integrity.



■ Take Responsibility for Your Impact

Calculate your carbon footprint:

The EPA has an online guiz where you input personal info concerning home energy, transportation and household waste. The calculator will generate and estimate of your household's carbon emissions, and by tweaking your answers, you can see what effect little changes can make.

The organization behind the website carbonfootprint.com is based in the UK, but offers carbon footprint calculators for individuals, as well as small and large businesses in many countries worldwide. The website also links to international carbon offsetting projects that you can support.

■ Sustainability Informational Links (5)



UN Climate Reports

Flagship UN study shows accelerating climate change on land, sea and in the atmosphere Environmental Protection Agency. "Global Greenhouse Gas Emissions Data". Act Now - The UN Campaign for Individual Action

- Uninhabitable Earth Life After Warming by David Wallace-Wells
- The Omnivore's Dilemma A Natural History of Four Meals by Michael Pollan
- Books
- There Is No Planet B: A Handbook for the Make or Break Years by Mike Berners-Lee
- Food Inc.: A Participant Guide: How Industrial Food is Making Us Sicker, Fatter, and Poorer-And What You Can Do About It by Karl Weber
- Under The Influence Putting Peer Pressure To Work by Robert H. Frank

Movies

Ice On Fire Call of the Forest Cowspiracy Forks Over Knives Earthlinas The Gamechangers Vegucated

The End of Meat

Forks Over Knives Game Changers Food The Stingy Vegan Happy Cow (restaurant locator) Vegetarian Resource Group Veg Source





■ Sustainability Coaching Resources (2)

A commitment to raising our environmental integrity is the critical first step for humanity to change the course of history and create a future that includes an inhabitable planet for our kids. The next step is to get the support to turn that commitment into effective action. As great as our intentions are, when working on ourselves it's nearly impossible to discover and move past our own blind-spots. That takes a great coach.

Resources



Ed Bohlke Deserve Level Coachina



Carolina Aramburo Soulful Radical Results Coaching

Carbon Offsets

AmericanForests.Org | OneTreePledge.org

There are many services that provide carbon offsets. Be a responsible consumer and dig in to find the one that feels right for you.



Reducing Your Carbon Footprint

Urgency

The United States, leads the world in greenhouse gas emissions when measured on a per capita basis, at 15.5 metric tons in 2016.

Source

World Bank Data, CO2 emissions (metric tons per capita) - United States (2016);

To prevent temperatures rising above 1.5° Celsius, the target set by the Paris Agreement, global emissions will need to be reduced by 7.6% annually for the next decade.

Source

CNBC, US leads greenhouse gas emissions on a per capita basis, report finds, by Pippa Stevens, Nov. 26, 2019

According to the Deep Decarbonization Pathways Project, by 2050, everyone on earth will need to average an annual carbon footprint of 1.87 tons in order to hold the global temperature rise to 2°C or less.





■ Acres of land used for animal vs human food in the U.S.:



Between pastures and cropland used to produce feed, 41 percent of U.S. land in the contiguous states revolves around livestock. In the United States, more than one-third of U.S. land is used for pasture, predominantly for cows. Over 654 million acres are used for pasture and rangeland, and over 127 million acres of land are used to grow livestock feed. Compare that to 77 million acres used to produce food for direct human consumption. At the same time, in 2016, the U.S. imported about 15 percent of its food and beverage products from other countries.

Source

2018 Bloomberg report: Here's How America Uses Its Land, By Dave Merrill and Lauren Leatherby, July 31, 2018

■ How much water to produce: Meat vs Veggies and grains:

Beef has a particularly high water footprint, using about 1,800 gallons per pound to produce, pork takes 578 gallons, and chicken, 468 gallons. On average, the water footprint of a vegan or vegetarian is around half that of a meat eater.

Source

Water Footprint Calculator, Water Friendly Food Choices. 2018

It takes about 256 gallons of water to produce a pound of brown rice, 32 gallons of water for a pound of tomatoes, and 1,280 gallons for a pound of almonds.

Source

Water Education Foundation, Food Facts: How Much Water Does it Take to Produce...?

It takes about 200 gallons of water to produce a 1 lb loaf of bread, and 110 gallons to produce 1 lb of corn, and up to 250 gallons to produce a pound of wheat.

Source

US Geological Survey, How much water does it take to grow a hamburger?



■ Calories, Beef vs Corn, one pound

It's estimated that 0.75 kWh of energy go into producing one pound of milk (291 calories) vs. 0.43 kWh of energy to produce one pound of corn (390 calories). (see table below).

Energy used to produce various foods, calorie listings per pound (5)

List of Foods By Energy Required to Produce One Pound

Food	Energy (kWh) to Produce 1 Lb
Corn [1]	0.43
Milk [2]	0.75
Apples[3]	1.67
Eggs [4]	4
Chicken [5]	4.4
Cheese [2]	6.75
Pork [6]	12.6
Beef [7]	31.5

Energy Efficiency of Various Foods (Measured as Food Calories / Energy Used in Production) [8]

Food	Calories / Lb	Energy Efficiency
Corn	390	102%
Milk	291	45%
Cheese	1824	31%
Eggs	650	19%
Apples	216	15%
Chicken	573	15%
Pork	480	8.5%
Beef	1176	4.3%

Source: Institute for the Study of Energy and Our Future







Sources

- 1) Livestock and their byproducts account for at least 51% of all worldwide greenhouse gas emissions.

 Goodland, R Anhang, J. "Livestock and Climate Change: What if the key actors in climate change were pigs, chickens and cows?"
- 2) Transportation exhaust is responsible for 13% of all greenhouse gas emissions.

 "Livestock's Long Shadow: environmental issues and options". Food and Agriculture Organization of the

 United Nations. Rome 2006
- 3) Problems with consuming dairy
 17 Reasons To Wean Yourself from Milk Today
- 4) Cryptocurrency mining uses a tremendous amount of energy Thompson, Patrick "Bitcoin Mining's Electricity Bill: Is It Worth It?"
- 5) Recycling reduces greenhouse gas emissions and the need for resources

 Greening Forward Recycling Facts



