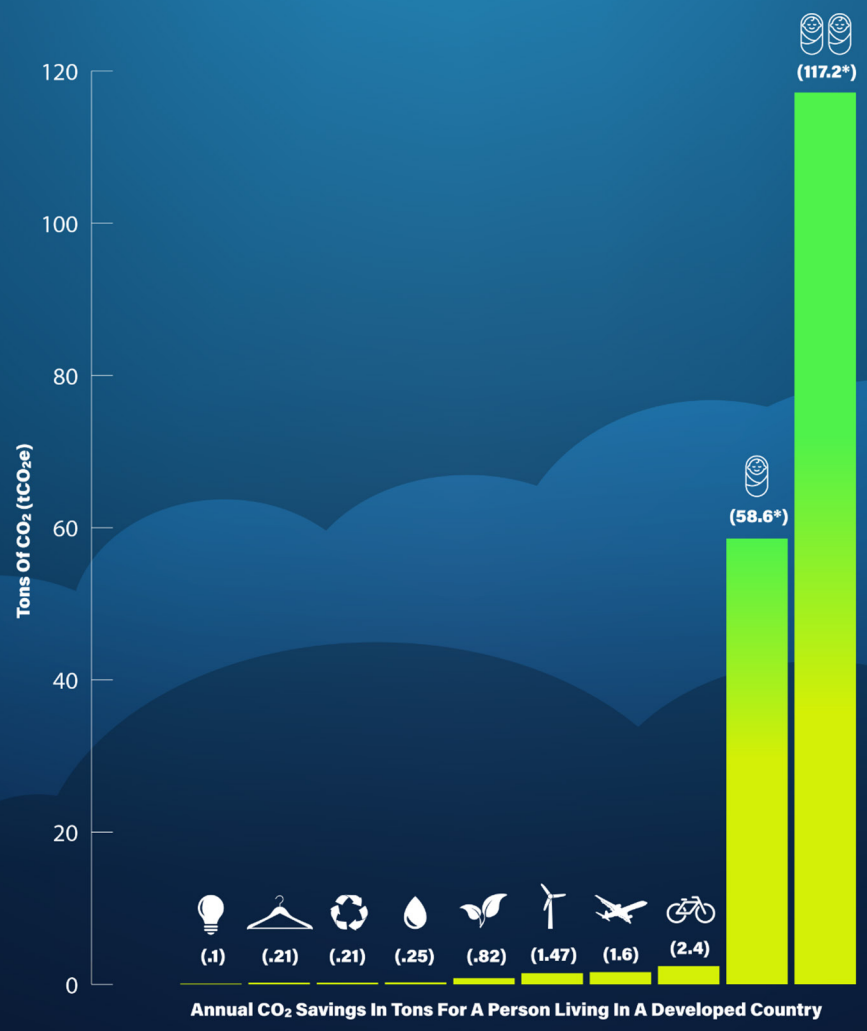
Top Personal Actions You Can Take To Address Climate Change



- Upgrade Light Bulbs
- Hang-Dry Clothes
- Recycle
- Wash Clothes in Cold Water
- Eat a Plant-Based Diet
- Choose Green Energy
- Avoid One Roundtrip Transatlantic Flight
- Live Car-Free
- Choosing to have One Less Child
- Choosing to have Two Fewer Children

*Cumulative CO_2 emissions from descendants decreases substantially if national emissions decrease.

Global Total Fertility Rate 2019: 2.5 births per woman - UN Population Division

Source: Seth Wynes and Kimberly Nicholas, Lund University, 2017

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Top Personal Actions You Can Take to Address Climate Change

Poster Educational Guide

We hope that you can use this poster and accompanying information to inspire meaningful discussion regarding the power of individual action in reducing climate change and humanity's overall footprint on the environment.

About the "Top Personal Actions" Poster

Scientists agree that climate change is a result of anthropogenic causes (human activities), especially carbon dioxide emissions from fossil fuel combustion. This poster, Top Personal Actions You Can Take to Address Climate Change, is based on a comprehensive emissions study performed in 2017 at The Lund University in Sweden. The authors, Kimberly Nicholas and Seth Wynes analyzed 39 peer-reviewed studies, government data going back over a decade, and carbon calculators to measure the highest impact personal actions one can take to reduce Carbon Dioxide (CO_2) emissions.

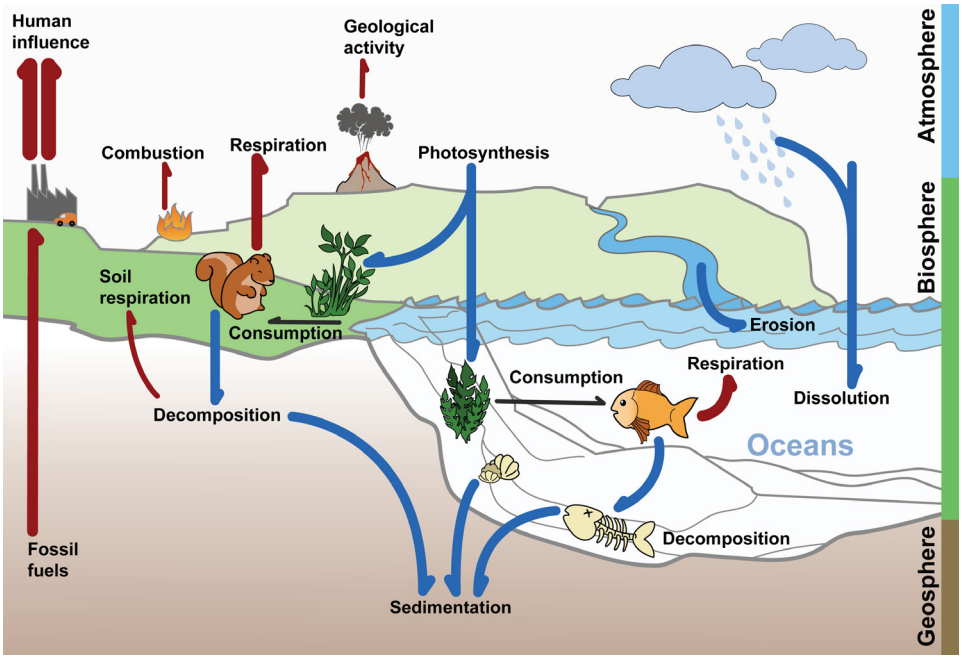
Climate Change: Key Facts

Carbon Dioxide (CO_2) is a gas molecule that occurs in nature from the decomposition of plants and animals, volcanic eruptions, forest fires and our everyday breathing. CO_2 is removed from the atmosphere through natural processes such as photosynthesis, dissolution in fresh and salt water and burial of organic carbon on land.

Scientists have been able to measure 800,000 years of CO_2 levels in our atmosphere by drilling into and studying ice cores. Their research shows that CO_2 concentrations in our atmosphere have registered within an average range of 180 and 280 parts per million (PPM) for this vast amount of time. In just the past two centuries, this natural balance has been dramatically altered by humanity's discovery, commercialization and burning of massive amounts of fossil energy (coal, natural gas and oil).

As of 2019, atmospheric CO_2 concentrations reached 411 PPM and continue to climb. High concentrations of CO_2 and other greenhouse gases can cause serious changes to the planet's biospheres:

- In the atmosphere, they act like a blanket in the sky trapping more heat from the sun that would otherwise dissipate into space. The rising temperatures cause climate disruption.



- In our oceans, high concentrations of CO_2 increases the acidity of the water and alters the ability for much marine life to thrive or even survive.

Reducing CO_2 emissions is just one critical priority to restoring a balance between humanity and nature.

Each day, we make personal choices to use certain goods and services, including food, clothing, phones and automobiles that require massive amounts of energy to create and deliver them to stores, or directly to our doorstep for our consumption. Coal, natural gas and oil represent eighty percent of the global energy that powers our world economy. When these fuels are used, they emit vast amounts of CO_2 into the atmosphere. (National Geographic 2019)

"There are so many factors that affect the climate impact of personal choices, but bringing all these studies side-by-side gives us confidence we've identified actions that make a big difference. Those of us who want to step forward on climate need to know how our actions can have the greatest possible impact. This research is about helping people make more informed choices."

-Seth Wynes, lead author, Lund University study.

The Lund Study

In 2017, the journal *Environmental Research Letters* published a study that can help individuals, communities and governments prioritize their actions in ways to achieve the greatest possible impact when addressing climate change and a host of other environmental emergencies. The study is based on the fact that an average citizen living in a developed country emits (because of the products he or she uses or consumes) as much as 12 to 20 tons of CO_2 annually. The Lund Study showed personal actions can potentially reduce an individual's CO_2 emissions, ranging from a moderate decrease as a result of upgrading light bulbs (1/10th ton of CO_2 annually) to dramatic reductions that can be realized from choosing to have fewer children (1 less child = 58.6 tons of CO_2 annually).

The study found that the top four most impactful personal actions identified, buying green energy, avoiding flying, living car free and having one fewer child, are usually absent from government recommendations and high school textbooks, which tend to promote very small, incremental changes, such as recycling or switching to reusable shopping bags.

Choosing to have fewer children, according to the study, is far and away the most profound action that an individual or couple can undertake toward addressing climate change and healing the environment. More significantly, a US family who chooses to have one fewer child would provide the same level of emissions reductions as 684 teenagers who recycle everything for the rest of their lives.

This remarkable finding is supported in the book **Drawdown: The Most Comprehensive Plan Ever Proposed To Reverse Global Warming** by Paul Hawken. In that book, Hawken lists the combination of educating girls and providing family planning as the #1 solution to addressing climate change. Why? When girls are educated and have access to family planning services, they tend to choose to have children later in life, space them apart more and have fewer of them. Interestingly, not only does this result in a dramatic reduction in consumption of resources and emissions of CO_2, but the quality of the mothers' and children's lives increases dramatically from the standpoint of health, wealth and social satisfaction.

"We recognize that these are deeply personal choices. But we can't ignore the climate effect our lifestyle actually has. Personally, I've found it really positive to make many of these changes. It's especially important for young people establishing lifelong patterns to be aware which choices have the biggest impact. We hope this information sparks discussion and empowers individuals."

- Kimberly Nicholas, co-author Lund University study

"The Climate Mitigation Gap: Education and Government Recommendations vs. Effective Individual Actions" Wynes S and Nicholas K 2017 Environ. Res. Lett. 12 074024

FACT BOX

All actions were compared on a life cycle basis for one individual making the decision under current average conditions in developed countries such as in Europe and the United States. This means:

Plant-based diet: Emissions saved from switching from omnivorous to plant based diet (e.g. difference between emissions of foods consumed by self-selected meat eaters versus self-selected vegetarians). Includes emissions from fertilizers, methane production by livestock and transport of food to retail centers.

One transatlantic flight: Emissions for one person flying on a roundtrip flight (e.g., New York to London) under average conditions. Note that long-haul flights are more (e.g., flying London to Hong Kong round trip is 2.97 tonnes).

Live car-free: Emissions saved per person based on average vehicle miles traveled and vehicle occupancy. Includes emissions from car production and maintenance in addition to combustion of fuel.

One fewer child: Estimates the cumulative impact of current and future descendants based on "percent of blood" for the offspring, and current emissions levels, for all emissions produced over the lifespan of descendants, divided by the life expectancy of each parent.

Tons of Carbon Dioxide Equivalent (tCO_2e) is used to compare the emissions from various greenhouse gases by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

Supplement this poster with a step-by-step Classroom Activities Guide here:
https://www.earthovershoot.org/what-we-do

Questions? Email info@earthovershoot.org

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