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Taking Action on Climate Change

Climate Change factsheet

What Is Climate Change, and Why Does It Matter?

We depend on a stable climate for clean air, good health, nutritious food, and safe places to live and play. But our climate—which determines our weather, rainfall, heat waves, wildfires, and so much more—is changing rapidly. Thankfully, we have many tools to slow climate change and adapt to what we're already facing.

Climate change refers to the global changes in temperature, wind patterns, and precipitation brought about by a gradual warming of the Earth's atmosphere. This warming is caused by an increase in the amount of heat-trapping 'greenhouse' gases in our atmosphere, like carbon dioxide and methane. A thin layer of these gases keeps the Earth warm enough for us to survive, but adding too much of these gases traps heat, which seriously affects the climate. Since 1760, humans have steadily added increasing amounts of greenhouse gasses to our atmosphere by burning fossil fuels like coal, petroleum, and natural gas.

What Climate Change Looks Like

Below is a partial list of changes that our warming atmosphere brings. Visit climatesignals.org for region-specific impacts.

- Stronger and more numerous hurricanes
- Higher temperatures and longer, more severe heat waves and heat-related illness
- Rising sea levels and acidifying oceans
- Drought leading to increased wildfires and crop loss
- Poor air and water quality
- Mass extinctions of species
- Crop loss due to increased drought
- Increased spread of disease.

Where Do Greenhouse Gases Come From?

The heat-trapping gases that cause climate change are mostly carbon dioxide (CO^2) and methane (CH_4). Together they make up over 90% of the emissions in California, and come from burning gas (petroleum), coal, and natural gas. We use fossil fuels to generate electricity and heat, and to fuel transportation. Methane emissions come from landfills, livestock, large agricultural operations, and leaking oil and gas wells.

Our planet has ways to capture carbon dioxide from the air: oceans, soils, and plants absorb it or use it. However, as we wipe out forests and overburden our oceans and soils, their natural abilities to store carbon dioxide are destroyed.

Climate Change Is a Justice Issue

The people who contribute most to climate change are not the people who suffer its harmful impacts the most. Climate change disproportionately impacts communities of color and low-income communities in the US and around the world.

Wealthy people consume more products and energy, and so contribute more greenhouse gas to the earth's atmosphere. Poorer communities have smaller impacts on climate by consuming fewer products and using less intensive transportation. Adapting to climate change can be costly; it often requires increased spending on heating, cooling, and food; hurricane and flood evacuations and rebuilding; migration due to crop failure. For people with limited resources, these challenges are profound.

Around the world, formerly colonized countries that have been subjected to decades of natural resource extraction and economic manipulation by industrialized nations are facing droughts, expanding deserts, rising sea levels, crop failure, and increases in insect and rodent-borne diseases, deteriorating their health and survival. Entire communities, most of whom contribute little to no greenhouse gases, are forced to leave their homes and livelihoods as the systems they've depended on for generations can no longer support life.

What Can I Do?

Acting locally really does have a global effect.

It can be overwhelming, but the key is to start where you are. We can each take steps appropriate for our own circumstances; no step is too small.

INDIVIDUAL AND HOUSEHOLD ACTIONS

Reduce the amount of fossil fuels you use by making mindful transportation and food choices.

- Use public transport, carpool, or walk or bike. Over more than 20% of all US emissions are produced by personal vehicles.
- Drive an electric vehicle. It's more affordable than you think—call our helpdesk for information on rebates and resources.
- Shop at farmers' markets or even grow your own food, which reduces the mileage food travels and the amount of refrigeration needed to keep it fresh.
- Eat less meat—livestock is a major source of methane and is very resource intensive (water, petroleum-supported feed, etc.) to produce. In 2010, agricultural production caused 13% of the US's greenhouse gas emissions.
- Limit air travel. Air travel contributes to 12% of all transportation emissions globally.

Be a critical consumer. Of all the greenhouse gas emissions in the US at least 36% are emitted from product manufacturing.

- Buy as local as you can.
- Avoid products with excess packaging, especially plastic.
- Purchase items that are designed well, and not designed for immediate disposal. (Visit the Ecology Center store for products that support this.)
- Purchase items made of recycled materials, which take much less energy to create.
- Reduce waste in your home and workplace. Start with the Zero Waste factsheet and contact helpdesk@ecologycenter.org for more help.

Make your home more energy and water efficient, which will also save you money. Households and businesses contribute over 11% of the US's total emissions. There's a lot we can do to reduce that number!

- Check out the Save Energy Checklist factsheet for a complete list.
- Use LED lightbulbs.
- Switch from natural gas use to electric heat pumps and induction stoves.
- Insulate and weatherproof—save money and be more comfortable.
- Opt-up to 100% renewable energy on your energy bill, if you're part of a community choice energy program. It usually only costs a few dollars more per month. Learn more at EBCE.org.

COMMUNITY ACTIONS

- **Get involved** in your community and your local advocacy group. Facing climate change is a lot more fun together: **join the Berkeley Climate Action Coalition!** Work on important projects like advocating for well-designed cities that place public transit hubs next to workplaces and residential areas.
- **Advocate** for clean energy through community choice energy campaigns. Check out the Local Clean Energy Alliance, the Berkeley Climate Action Coalition, and Sunflower Alliance for places to start.
- **Stay educated!** Stay up to date with local happenings to see how you can lend your voice. Sign up for newsletters like those created by the Sunflower Alliance or 350 Bay Area.
- **Local business owners:** become a Certified Green Business. Find out how by contacting us at helpdesk@ecologycenter.org.
- **Play a role** in implementing your city/region's climate action plan by joining a climate action coalition, like BCAC, or a local advocacy group. If your city doesn't have a plan yet, find out how to push for one! Contact helpdesk@ecologycenter.org for help. Cities and neighborhoods can take the initiative on the local level and create change, even if the federal government won't.
- **Don't forget:** The Ecology Center is here to help you get involved in whatever way works for you. Contact us at helpdesk@ecologycenter.org.

More Sun Fun on the Beach

The ocean absorbs vast quantities of heat as a result of increased concentrations of greenhouse gases in the atmosphere, mainly from fossil fuel consumption. The Fifth Assessment Report published by the Intergovernmental Panel on Climate Change (IPCC) in 2013 revealed that the ocean had absorbed more than 93% of the excess heat from greenhouse gas emissions since the 1970s. This is causing ocean temperatures to rise. Data from the US National Oceanic and Atmospheric Administration (NOAA) shows that the average global sea surface temperature—the temperature of the upper few metres of the ocean—has increased by approximately 0.13°C per decade over the past 100 years.

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