



Taking Local Action on Climate Change

climate change

What is climate change? What is global warming? What are the impacts?

Climate change refers to global changes in temperature, wind patterns, and precipitation brought about by a gradual warming of the Earth's atmosphere (commonly referred to as global warming). The Earth's temperature is regulated by a layer of "greenhouse gases" that keep in just the right amount of the sun's energy to support life. In recent centuries, human practices have led to a buildup of greenhouse gasses, trapping excess heat and throwing the natural system off balance. The result is climate change – melting glaciers, rising sea levels, changes in ocean temperatures, changed weather patterns, changes in habitats, major species extinctions, increases in hurricanes and other extreme weather – all with devastating impacts on ecosystems and people throughout the world.

Affluent nations generate the bulk of greenhouse gasses due to high rates of consumption, which affects environments across the globe. People in poorer nations and communities face new problems as a result of climate change. Unlike in affluent countries, money isn't available to remedy the situation. For example, increasing droughts, expanding deserts, and crop failure results in even greater hunger. Increases in insect-borne diseases put added stress on already strapped medical systems. Rising sea levels have caused some island and coastal communities to relocate. In the US, the increase in extreme weather events – such as the deadly heatwaves in Chicago and stronger hurricanes in the Gulf – causes great suffering in poor communities.

What human activities contribute to climate change?

Carbon Dioxide (CO₂) is the primary contributing factor to climate change and accounts for 84% of greenhouse gas emissions in California.¹ **CO₂ is emitted when fossil fuels such as petroleum, coal, and natural gas are burned.** Fossil fuels are used to generate electricity and heat, and provide the primary source of energy for the largest energy uses – industrial manufacture, heating and cooling of buildings, and transportation.

Plants and forests use photosynthesis to capture CO₂, naturally removing it and sequestering it from the atmosphere. Mass deforestation is the second largest contributing factor to climate change because this natural storage mechanism is being removed, allowing more CO₂ to circulate.

Methane accounts for about 8% of California's greenhouse gas emissions.² Methane's ability to trap heat in the atmosphere is 20 times greater than carbon dioxide, making it a significant contributor to climate change.³ It is emitted from landfills, livestock production, large agricultural operations, and melting permafrost. Oxides of Nitrogen (NOx), which are products of combustion, account for 6%, and Hydrofluorocarbons and other refrigerants account for the remaining 2%.⁴

What can I do?

Of all the greenhouse gas emissions in the United States, 36% are emitted from industrial sources and product manufacture, 28% from commercial and passenger transportation, 18% from commercial business, and 18% from residential sources.⁵ Refer to the list on the other side for a wide variety of action you can take.

factsheet

Taking Local Action on Climate Change (continued)

Significant greenhouse gas reduction requires a reassessment of many of our everyday activities. Following are important actions that all of us can take.

- **Don't be discouraged. Start where you are.** Our systems don't always make it easy for us to do the right thing. We can change our systems, and each of us can start by taking little or big steps as appropriate for our circumstances.

- **Be a critical consumer.** Cut down on CO₂ by selecting locally produced whole foods, thereby reducing energy for processing, transport, and refrigeration. Purchase products that are manufactured without large energy inputs. Buy recycled paper and glass products – it requires much less energy to make a product using recycled materials than using new, raw materials. Choosing used goods keeps materials from going to the landfill and eliminates energy for new manufacture. Avoid products with excess packaging. Buy less stuff. Eat less meat; livestock is a major source of methane and requires lots of energy to produce.

- **Limit your household and workplace heating and electricity costs.** Save money with fluorescent light bulbs, and replace energy-guzzling appliances – particularly your refrigerator – if it is not energy efficient. Insulate and weatherproof. Find lots of simple ways to cut down on energy use by reading our Saving Energy Checklist.

- **Create a Zero Waste Zone at your home and workplace.** Reusing goods, picking items that are designed well and not for disposal, recycling all that you can – these measures reduce energy and also reduce landfill methane emissions. See our *Zero Waste fact sheet* for more ideas.

- **Limit gasoline auto and air travel.** If you can, choose to live close to work. Use public transit, carpool, and bike. Limit car trips by consolidating errands. Consider driving only certain days of the week. Choose a car that gets high miles per gallon (mpg), a hybrid, or a car that can run on biofuel. Go car-free altogether.

- **Keep yourself educated and make your voice heard.** Contact your representatives and let them know your position on the issues - it makes a difference in their votes. Look them up at www.usa.gov/contact/elected.html

- **Advocate for well-designed cities** that place public transit hubs next to workplaces and residential areas. Regional adoption of smarter growth strategies cuts down on suburban sprawl and car culture.

- **Advocate for renewable energy.** According to PG&E, solar energy currently provides 0% of their electricity mix and wind, just 2%. Pressure governments and utilities to offer incentives to develop renewable energy projects and energy-efficiency measures.

- **Local business owners: become a Certified Green Business.** Contact us to find out how.

- **Organize your community.** Spread the good word about solutions. Tell policy makers about your concerns. Advocate for the creation of a **Climate Action Plan** in your city. If one already exists, play a role in getting it implemented effectively and justly. Cities and neighborhoods can take the initiative on the local level and create change, even when the federal government won't.

Further Resources

The Ecology Center's EcoDirectory (ecologycenter.org/directory) provides local listings for ecological living and greenhouse gas reduction strategies. The Ecology Center can assist your ecological lifestyle through our diverse programs and projects. Visit us and check out the many free resources available to you!

Blogs: grist.org/climate-energy, climateprogress.org, pewclimate.org/policy

Union of Concerned Scientists – in-depth information and advocacy on climate change and remedies: <http://ucsusa.org>

Intergovernmental Panel on Climate Change, (ipcc.ch) technical papers and research. The United Nations Framework Convention on Climate Change, provides statistics, in-depth information, and articles on climate change. <http://unfccc.int>

Powerscorecard.org provides a good understanding of energy and electricity generation, analyzing various energy sources -- from conventional to renewable – and measuring their impact.

Global Climate Change Report: Greenhouse Gas Emissions Reduction Strategies For California, http://www.climatechange.ca.gov/publications/97_report.html

Footnotes

^{1, 2, 4}California Energy Commission, http://www.climatechange.ca.gov/publications/97_report.html

³Goddard Space Flight Center/physorg.com, <http://www.physorg.com/news5258.html>

⁵U.S. Energy Information Administration, http://www.eia.doe.gov/oiaf/1605/ggrpt/flowchart_figure.html