What Works for Health

ABOUT THE CLIMATE CHANGE CURATED STRATEGY LIST

This list of evidence-informed strategies can help communities and individuals reduce greenhouse gas emissions and mitigate and adapt to the effects of climate change. These solutions address issues such as transportation, energy efficiency, sustainable food, stewardship, and waste reduction.

What is climate change?

Climate change is a complex, global problem. Climate change involves increasing global temperatures, melting polar ice, changing weather patterns, increasing storm severity, rising sea levels, and decreasing biodiversity.[1,2,3,4,5] Human actions caused the climate crisis, especially by burning fossil fuels and releasing heat-trapping gases such as carbon dioxide, methane, nitrous oxide, and fluorinated gases into the atmosphere.[1,3,4,6] Science-based solutions provide opportunities to mitigate the growing crisis and adapt to climate change.[7,8,9] Comprehensive, coordinated efforts can reduce greenhouse gas emissions and remove, secure, and store carbon from the atmosphere, while improving equity in society, building thriving economies, and ensuring a more sustainable future.[7,8]

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Efforts to reduce climate change can save lives, improve health, and save billions of dollars in health-related expenses and disaster relief.[1,2,8] Investing in climate change solutions can prevent climate change intensifying and communities suffering increased natural disasters, flooding, droughts, heat waves, famine and food insecurity, conflicts over finite fossil fuel and water resources, and increased pests, diseases, and infections among humans, animals, and plants.[1,4,5,6,7,8,10,11,12]

What is the relationship between health, equity, and climate change?

People have the same basic needs for healthy food, clean water, safe housing, affordable health care, and adequate income. Sectors that meet these basic needs are the most vulnerable to the consequences of climate change.[5,6,10,11,13,14] Climate change effects differ across and within countries.[15] The negative effects disproportionately impact marginalized and at-risk populations, including people with low incomes, people of color, migrants and refugees, women, children, and older adults, as well as people with pre-existing health conditions.[1,13,14] People experiencing poverty and living in disadvantaged neighborhoods have greater exposure to climate change's negative effects, are more susceptible to damages, and have fewer resources to address those damages, leading to larger losses and more inequity.[13,15] Global, national, and local efforts are needed to reduce poverty, provide health care and education for everyone, improve social and environmental justice, and improve health.[7,9,13] Resources invested to reduce social inequity can help communities thrive and be in a position to adapt to and mitigate future climate change.[7,15]

Strategies that address agriculture, transportation, fuel, housing, infrastructure development, industry, and waste systems have the potential to support health and equity as well as climate change mitigation and adaptation.[7,12,13] For example, communities can support sustainable agriculture and food systems that improve nutrition, healthy food access, and food security; such systems also contribute less to and are more resilient to climate change.[5,7,13] Efforts to reduce energy scarcity improve energy access and welfare; such efforts can implement renewable energy sources that reduce greenhouse gas emissions. Strategies to address energy scarcity also have the potential to create jobs that can provide paths out of poverty for people who have been marginalized, as well as the potential to address energy distribution issues and make distribution systems more resilient, efficient, and adaptable.[5,7,13,15]

How can the climate crisis be mitigated?

All sectors need to reduce greenhouse gas emissions. This is especially true for energy production, food, agriculture, and land use, industry, transportation, buildings, and water and waste systems.[14,16,17] Emissions can be reduced by changing production methods, using alternative fuel sources, reducing waste, improving systems, and enhancing efficiency.[7] Many technologies are already well-established[6,17] and can provide significant emissions reductions.[1,16] For example, using alternative refrigerants and improving refrigerant management to replace hydrofluorocarbons (HFCs) in air conditioning systems and refrigeration appliances can reduce greenhouse gas emissions and prevent refrigerant leaks and improper chemical disposal.[18,19] Alternative, renewable energy sources including wind turbines and solar photovoltaics can replace fossil fuels for electricity production.[20,21,22] Reducing

food waste, eating more plant-based diets, and using sustainable, regenerative agriculture methods can reduce methane and carbon dioxide emissions.[23,24,25,26] Supporting electric vehicles, public transportation, bicycle and pedestrian infrastructure, and walkable cities all reduce greenhouse gas emissions.[27,28,29,30] Individuals can help with small and large changes, such as reducing heating and air conditioning use at home, reducing food waste, recycling, composting, planting gardens, using LED light bulbs, avoiding excess plastic packaging, using reusable bags, reducing water consumption and by walking, biking, and using public transportation.[16]

How does carbon sequestration help address climate change?

Carbon sequestration is the removal and long-term storage of carbon from the atmosphere. The Earth has a natural carbon cycle that can draw carbon out of the atmosphere and store it in the soil, in living organisms, and in the ocean.[31] Carbon can be stored through these natural systems if people help protect and restore forests, wetlands, grasslands, farmlands, oceans, and coastal habitats.[6,16] Restoring degraded lands, replanting and converting more land to forests, and protecting ecosystems, wildlife migration patterns, and pollinators, all increase the healthy function of living systems, which moves and stores more carbon out of the atmosphere. Sustainable, conservation agricultural practices reduce emissions and draw carbon out of the atmosphere and store it.[6,26] Returning land to Indigenous people and protecting their land rights also provides environmental benefits, including ecosystem protection, deforestation prevention, and land restoration for carbon storage.[32] Opportunities for absorbing and storing carbon vary and the most effective solutions depend on local geography and current land uses.[7,16]

How can individuals and communities address a global problem?

Civic participation can influence and support structural changes to reduce climate change. People can elect representatives who support policies to address climate change and laws and regulations that make systems and infrastructure more sustainable and equitable. Evidence shows climate change mitigation policies help reduce greenhouse gas emissions and stronger policies lead to greater emissions reductions.[7,17,33]

Individuals can reduce their carbon footprint in their daily lives at work, at play, and at home. Individual actions can influence, encourage, and inspire others as well.[34] Many organizations and non-profit groups are working to adopt climate-friendly changes in their communities. The more human and financial support offered, the more change these groups will be able to achieve.[7]

How do you identify solutions that address climate change?

The WWFH climate change curated list focuses on strategies that can be implemented or supported by communities and individuals at the state and local levels, although additional global, national, and industry standard-changing strategies are also needed. Experts suggest that implementing location-specific solutions quickly and strategically can halt climate change.[1,7,12] Communities and individuals can choose from science-based solutions that are cost-effective, ready to implement, use established or

innovative technologies, and would be appropriate in their locations.[1,7] Communities can also adopt multiple solutions to improve mitigation and adaptation efforts,[14,17] and build their community resilience to potential climate hazards.[12]

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