



MOVING FORWARD

A Guide for Health Professionals to Build Momentum on Climate Action

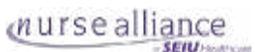


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Cover: Nurses outside of the US Capitol during the September 20th youth-led climate strikes. Photo courtesy: The Alliance of Nurses for Healthy Environments

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DEAR HEALTH LEADERS

Climate change is the greatest public health threat of our time, disrupting large global systems and altering the physical and social landscape in communities. We need meaningful and immediate solutions. Health professionals like you are trusted messengers who can build visible leadership on climate, clean energy, and energy efficiency solutions. You can leverage the growing awareness of climate change impacts to engage your patients, peers, community, and policymakers, and can motivate them to act on equitable climate solutions.

This guide is for health professionals at clinics, small healthcare practices, professional associations, and local health departments who want to lead on climate and sustainability. It complements other resources available for hospitals and hospital systems.

This guide will provide you with resources to act. It contains recommendations and specific actions to mitigate your carbon pollution, lower energy bills, and build resilience. Embedding climate solutions in your clinics and institutions can improve health outcomes and contribute to equitable and prosperous communities. This guide also includes recommendations for effective advocacy for climate solutions.

This is just the start. **Sign up for the monthly newsletter at ClimateforHealth.org to get fresh ideas and resources regularly, including polling research and topical talking points.** We need bold action and health leadership. Together, we can do this.

Signed,



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WHAT YOU NEED TO KNOW



Ashley McClure, MD, Kaiser Permanente

Photo Courtesy: Health Care Without Harm

Climate change is a major health threat and therefore a responsibility for health professionals. The World Health Organization defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Beyond caring for your patients and your community when they get sick, your role is to help prevent disease and build and sustain healthy environments for people, including advocating for policy solutions and systemic change. You can take steps now towards a healthier, more equitable society.

Children, the elderly, and other vulnerable communities, including lower-income families and communities of color, are harmed more by climate change. They are often the most directly impacted by climate change even though they are the least responsible for its causes.

Health professionals are trusted messengers for information on climate change. 73% of Americans are concerned about climate change, but only 57%¹ of Americans think others around them are concerned. People need to understand they are not alone in their concern about climate change, and health impacts motivate the public to care about climate change.

Climate solutions must address the challenges for people and communities that currently rely on jobs and tax revenue from fossil fuel production. Community investment and worker retraining are critical. Clean energy investments can provide part of the path to a just transition.

Our changing climate is a universal moral issue. Politics sometimes divide us. We may not share the same values on all issues, but research shows that when the public learns about the health impacts of climate change, they want and prioritize action to address it. All across America, cities, corporations, health professionals, faith communities and caring people in all parts of society are moving forward on climate action. We can all make a greater impact by working together. Your visible leadership is a critical part of this momentum.

Humans create excessive amounts of greenhouse gas emissions by burning fossil fuels for energy. These emissions increase air pollution, which harms lung and heart health, especially for vulnerable populations like pregnant women, children, and some communities of color. These emissions also contribute to the warming of the planet, which further impacts human health. These underlying causes and driving factors shaped the recommendations laid out in this guide.

Fossil fuels are still a large part of our energy economy but it is now clear that the harms from extracting and burning fossil fuels far outweigh the benefits of using them. When health professionals lead, people more clearly understand that what is good for our health is also good for the economy. In the same way that climate change is understood as the greatest health threat of our time, it is important to understand that clean energy can serve as a health solution. Through a just transition to clean energy, everyone will benefit from new investments and jobs.

Reducing the pollution that causes climate change also reduces other dangerous air pollutants as well, because they come from many of the same sources. Our reliance on burning fossil fuels contributes to climate change and exacerbates air pollution, including ground-level ozone and particle pollution. Cleaning up carbon pollution combats climate change and immediately benefits public health, especially in communities surrounding polluting sources.

SELECTED RESOURCES: ABOUT US

ecoAmerica:

ecoAmerica builds institutional leadership, public support, and political will for climate solutions in the United States. We help national mainstream organizations elevate their climate leadership, providing them strategy, tools, and resources to demonstrate visible climate leadership, empower climate literacy, engage all residents, and build collective action and advocacy.

Climate for Health:

is a national initiative led by a diverse network of health leaders from across the health sector representing key health care, public health, clinical, and medical institutions and associations.

Blessed Tomorrow:

is a coalition of diverse religious partners united as faithful stewards of creation. Together, we inspire our communities to take action

today on one of the greatest moral challenges of our era — protecting our shared home.

Path to Positive Communities:

empowers local and regional leaders to maximize the opportunities climate solutions bring to the American people and their communities, and inspire their residents and other leaders to support solutions at local, regional, and national levels.

WHAT YOU NEED TO DO

The nature and scale of the response to climate change will be the determining factor in shaping the health of nations for centuries to come. — 2018 Lancet Countdown Report

Use this guide to plan. It walks you through climate and health work in three areas: mitigation to reduce emissions that cause climate change; resiliency, adaptation, and preparedness; and advocacy and engagement. Your efforts in each of these areas strengthen one another. This guide also provides steps to reduce your personal climate impact and become an example for others.

Get started on visible, inexpensive, and easy changes, and publicly highlight your successes and savings. You can be effective at any scale, from a sole practitioner to a health department to a large hospital system. Encourage behavior changes that reduce energy use and waste. Ask your power company about clean and renewable energy options. Work with peer advisors who might be implementing similar initiatives. Document what you are already doing, identify your options for action, and increase your momentum with achievable and affordable steps that can be quickly put in place.

Roll the savings forward. Once you take your first steps toward reducing energy use, you should start to see cost savings. Establish a Green Revolving Fund² and invest your savings into the fund so you can plan for larger projects like replacing windows and older, less efficient vehicles. Such improvements will add to the value of your property and save money in the long term. You may also have access to local financial incentives and technical assistance programs available to help you save energy and access renewables.

Advocate for policy solutions. Communicate directly with policymakers who rely on you to let them know what is important.

Make a visible commitment. Inspire change by making a public commitment. This encourages community members to get involved. Featuring your commitment to solutions on your website, social media, and in public comments will inspire others to support your efforts. The [Climate for Health 100% Clean Energy by 2030 Declaration](#), signed by several Climate for Health partners (see photo below), is one example. The tools and information provided in this Guide will help you with the steps to implement commitments to mitigation, and turn your own personal actions into advocacy strategies for systemic change.

Another example is the U.S. Call to Action on Climate, Health and Equity is accompanied by a 10-point Policy Action Agenda. Over 100 organizations and associations have endorsed the Policy Action Agenda. A diversity of health professional associations and organizations are calling on government, business, and civil society leaders, elected officials, and candidates for office to recognize climate change as a health emergency and to work across government agencies and with communities and businesses to prioritize action. Sign on and promote at climatehealthaction.org.

Limiting the global average temperature to well below 2°C would transform the health of a child born today for the better, throughout their lives. Placing health at the center of the coming transition will yield enormous dividends for the public and the economy, with cleaner air, safer cities, and healthier diets. — 2019 Lancet Countdown Report



Leaders from Physicians for Social Responsibility, Alliance of Nurses for Healthy Environments, National Environmental Health Association, and American Public Health Association receive ecoAmerica's 2019 American Climate Leadership Award for signing the Climate for Health 100% Clean Energy Declaration.

CLIMATE CHANGE AND HEALTH

Increasing frequency and severity of extreme events — hurricanes, heat waves, and wildfires — puts people in direct harm and inhibits necessary healthcare delivery. Some people experience mental health impacts akin to post traumatic stress disorder from impacts of extreme weather, such as property loss, disruption and displacement of communities, and the loss of loved ones. Longer term impacts can include flooding in houses that leads to mold and disrupted food delivery that exacerbates food deserts. Actions taken now to mitigate climate change and transition to clean energy will have a multitude of health benefits.

Temperature-Related Deaths and Illness: Extreme heat kills 600-1,300 people per year in the United States. Hot days are also associated with cardiovascular and respiratory illnesses, kidney failure, and preterm birth. Outdoor workers, older adults, pregnant women, and children are at increased risk of health impacts from extreme heat.

Air Quality: Higher temperatures increase conditions for ground-level ozone formation, and wildfires increase particulate matter concentrations. Both pollutants can cause and exacerbate respiratory illnesses. Further, allergenic pollen seasons last longer and the average daily count and peak pollen values have increased by almost 50% in the U.S. in the last decade.⁴ Burning fossil fuels contributes to global warming and further denigrates air quality, causing increased risk for cancer, lung disease, asthma attacks, and neurological disorders.

Extreme Events: Increasing frequency and severity of extreme weather events puts people in direct harm and threatens regular healthcare delivery. Acute injuries are exacerbated by longer term trauma and insecurity after property damage or loss.

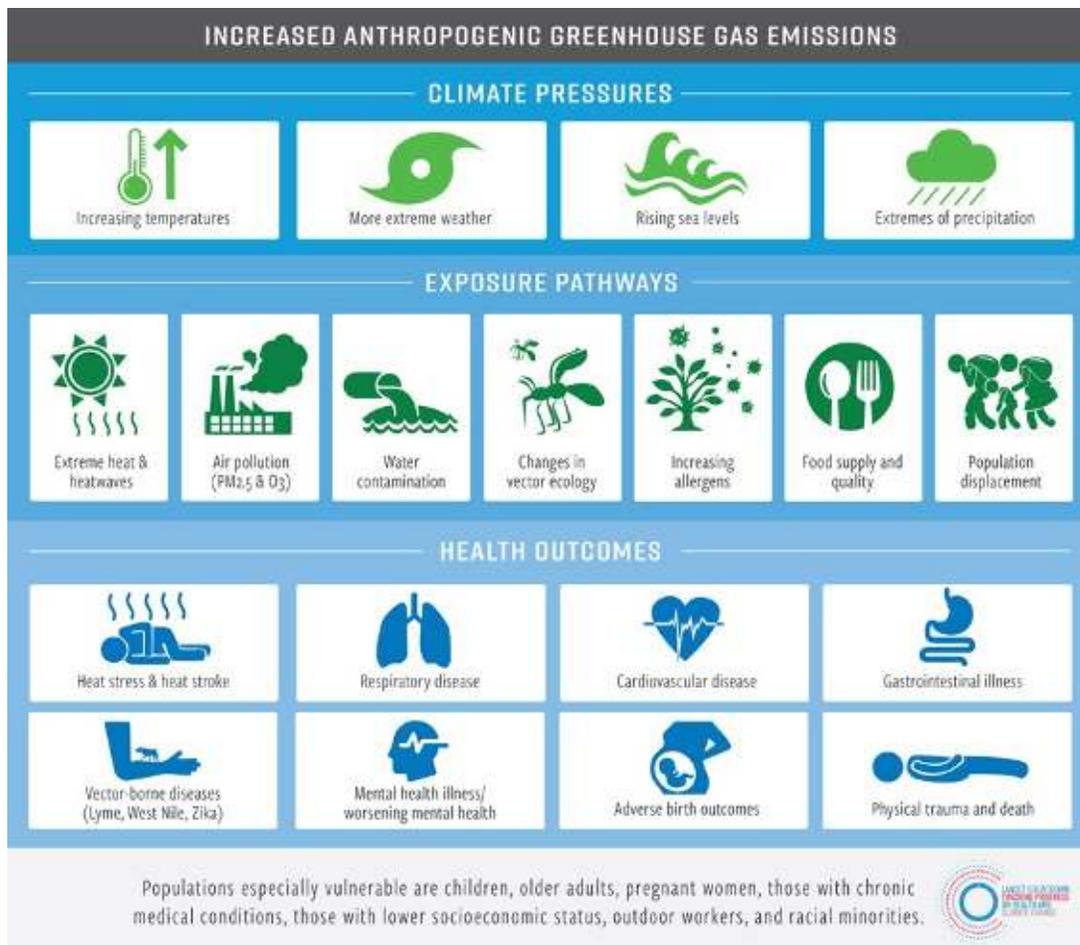
Vector-Borne Diseases: Climate change has expanded habitat ranges of disease-carrying vectors such as mosquitos and ticks and has contributed to the increase in reproductive rates of these vectors. Mosquitoes carry diseases like Zika, which are now appearing in new places, and cases of Lyme disease that is carried by ticks doubled between 2004-2016.

Water-Borne Diseases: Runoff from more frequent and severe rain events will increase the number of toxins and pathogens in recreational waters and drinking water sources. Extreme rainfall events also cause flooding that can overhaul sewer systems, potentially contaminating drinking water with untreated sewage.

Droughts: Dry soil increases particulate matter in the air and impacts farming and farming practices. Droughts can also increase concentrations of toxic chemicals in bodies of water and, when followed by extreme storms, can contribute to the outbreak of toxic algal blooms.

Food Safety and Nutrition: Rising temperatures decrease crop yields while increases in atmospheric carbon dioxide decrease nutritional values (e.g. levels of essential minerals) in crops.

Mental Health: Immediate and long term impacts of climate change on the environment, society, and infrastructure can lead to trauma, shock, stress, anxiety, and depression.



This graphic from the 2018 Lancet Countdown U.S. Brief⁵ illustrates ways climate impacts health. Importantly, this graphic includes the main driver of these impacts: our increased greenhouse gas emissions.

Figure created by M. Lee (Climate Nexus)

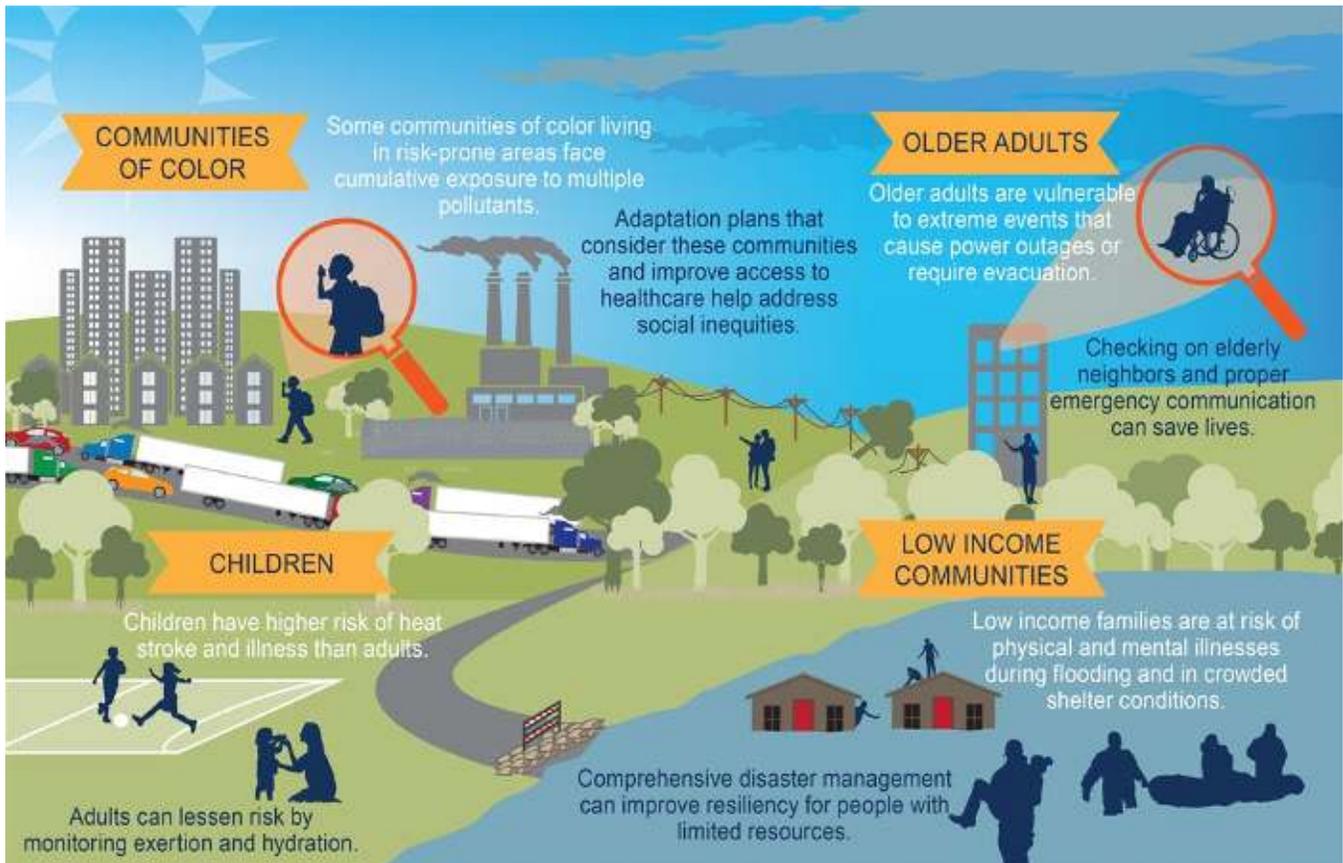
VULNERABLE POPULATIONS

While climate change affects all of us, low-income communities, communities of color, people with chronic disease or disability, children, and the elderly are some of the most at-risk.

While climate change affects all of us, low-income communities, communities of color, people with chronic disease or disability, children, and the elderly are some of the most at-risk. Several scientific and government reports, including from the World Health Organization,⁶ The Lancet,⁷ the U.S. Global Change Research Program,⁸ and the Intergovernmental Panel on Climate Change,⁹ add to the urgency for climate solutions and highlight impacts to vulnerable communities. This is not a new concept. Since the 1980s, data coupled with stories of people's lived experiences have demonstrated disproportionate impacts of environmental hazards to low income populations and communities of color. Climate change has this same impact, exacerbating existing disparities and creating new threats.

As we seek climate solutions through mitigation and advocacy, we must incorporate health equity into our principles and planning. Through the social determinants of health framework, medical and public and environmental health practitioners know that race and ethnicity, socioeconomic status, age, and education are among the factors that affect health outcomes. These factors also impact a person or community's ability to respond to additional environmental exposures — including climate change.

Therefore, climate solutions present an opportunity to build health equity into our policies and practices at all levels. Promoting equitable climate and clean energy solutions will create a more healthy and prosperous future for everyone.



Populations Vulnerable to Climate Change

Source: U.S. Global Change Research Program 2018 Fourth National Climate Assessment⁸, Figure 14.2

SELECTED RESOURCES: VULNERABLE POPULATIONS

The American Public Health Association Center for Climate, Health, and Equity:

<http://bit.ly/APHAC2HE>

Public Health Institute's Climate Change, Health, and Equity: Opportunities for Action:

<http://bit.ly/PHIC2HE>

U.S. Global Change Research Program Climate and Health Assessment Chapter on Populations of Concern:

<http://bit.ly/USGCRPCHA9>

Climate for Health and the American Academy of Pediatrics video, "Our Children, Our Future":

<http://bit.ly/CfHAAPVideo>

REDUCING YOUR IMPACT

The healthcare sector contributes approximately 10% of the nation's greenhouse gas emissions¹⁰ which is why many health organizations are stepping up to reduce their climate impacts as part of the Hippocratic mission to “do no harm.” Reducing fossil fuel use cuts pollution, promotes healthier communities, and will save money in the long term. Whether you work in rented or owned office space, this guide offers steps you can take to reduce your carbon footprint.

Key steps towards climate mitigation include reducing energy use, increasing energy efficiency, clean renewable power, and promoting cleaner and more frequent use of public transportation, reducing waste, sustainable purchasing policies, and restoring the local environment. Use the Clean Energy Roadmap on page 15 to help frame your journey to a cleaner and healthier energy future.

Every person in your office can help reduce your collective impact by turning off lights, adjusting the thermostat, buying earth-friendly office supplies, and carpooling to work. These initial steps lead to larger actions and impacts. As you take these steps, think about ways to share and promote successes. For example, give Grand Rounds and/or public talks at your local hospital or medical school, and tell your story to the local paper. Later in this Guide, we will also provide resources to help you with the critical step of advocating with policymakers.

IF YOU OWN OR RENT YOUR OFFICE SPACE:

Step 1: Get a baseline for your energy use. Review your energy bills to document monthly and yearly usage and expenditures. Your bills will serve as a benchmark for progress. Once you know your baseline, you can identify where to start making changes.

Step 2: Conserve energy and lower emissions. Energy efficiency reduces greenhouse gas emissions, which can also lower your energy bills. It is also a critical healthcare step. A 15% reduction in electricity consumption nationwide would result in more than six lives saved each day¹⁷, up to \$20 billion in avoided health harms, and nearly 30,000 fewer asthma episodes, due mostly to a direct decrease in outdoor air pollution associated with reduced consumption.

IF YOU OWN YOUR BUILDING, YOU CAN DO ALL THAT RENTERS DO, PLUS:

Step 3: Make improvements to your property, with the potential to lower your emissions. When it is time to get new appliances, replace them with ones that are EPA Energy Star certified. Install better insulation and higher efficiency windows. If your office owns vehicles, purchase hybrid or electric when the time comes to replace them.

Step 4: Invest in renewable energy and get as close to zero carbon emissions as possible. Consider generating renewable energy on site (e.g. solar panels) and determine costs and savings. See if your power company offers a clean electricity option and change your purchases accordingly. If you rent, you can also work with your landlord to do step 3 and 4.



Mike Waller, Sustainability Director at Rochester Regional Health, in front of his health system's rooftop solar.

Photo Courtesy: Health Care Without Harm

SELECTED RESOURCES: REDUCING YOUR IMPACT

Database of State Incentives for Renewables & Efficiency lists financial incentives for energy efficiency by state:

<http://bit.ly/CfHDSIRE>

Alliance of Nurses for Healthy Environments' "Getting Started with Climate Solutions: A Guide for Nurses":

<http://bit.ly/ANHEGettingStarted>

Health Care Without Harm (HCWH):

<http://bit.ly/CfHCWH>

Resources for large hospitals and hospital systems are available on HCWH's Health Care Climate Council page:

<http://bit.ly/NoHarmHCCC>



Dr. Geoffrey Gaggero, clean air and climate champion for the American Lung Association, drives an electric car to demonstrate his deep personal commitment to climate action.

Photo Courtesy: American Lung Association

TRANSPORTATION IS PART OF YOUR FOOTPRINT, TOO:

Steps 1-4 for Transportation: The transportation sector produces nearly 30% of human-generated greenhouse gas emissions in the U.S. Promoting active* and public transportation, as well as ride sharing opportunities, among your employees and patients achieves the co-benefits of climate mitigation and improved air quality, with related health benefits. Use tools like the Vehicle Cost Calculator¹⁸ to get a baseline for your use, and then check out the Environmental Protection Agency’s Green Vehicle Guide¹⁹ for tips to “green” your transportation options. Use the EPA/Department of Energy’s Fuel Economy Label²⁰ to better understand vehicle guidelines and impacts.

CARBON OFFSETS:

Step 5: Remaining emissions can be covered using carbon offsets. After you do as much as you can to reduce energy use and move to clean energy sources, you may have remaining carbon emissions. For step 5, or at any time along this path, you can ‘offset’ remaining emissions. A carbon offset is paying someone else to reduce their carbon emissions, or to capture carbon, in order to cancel out your emissions so that you have zero, or even negative, net emissions.

Live your values at home. Consider implementing the roadmap where you live, and talk to your neighbors about ways to collectively reduce your impact.

*The American College of Sports Medicine includes walking, bicycling, and wheelchair rolling in their definition of active transportation. Safety and availability may vary and should be considered in any recommendations.

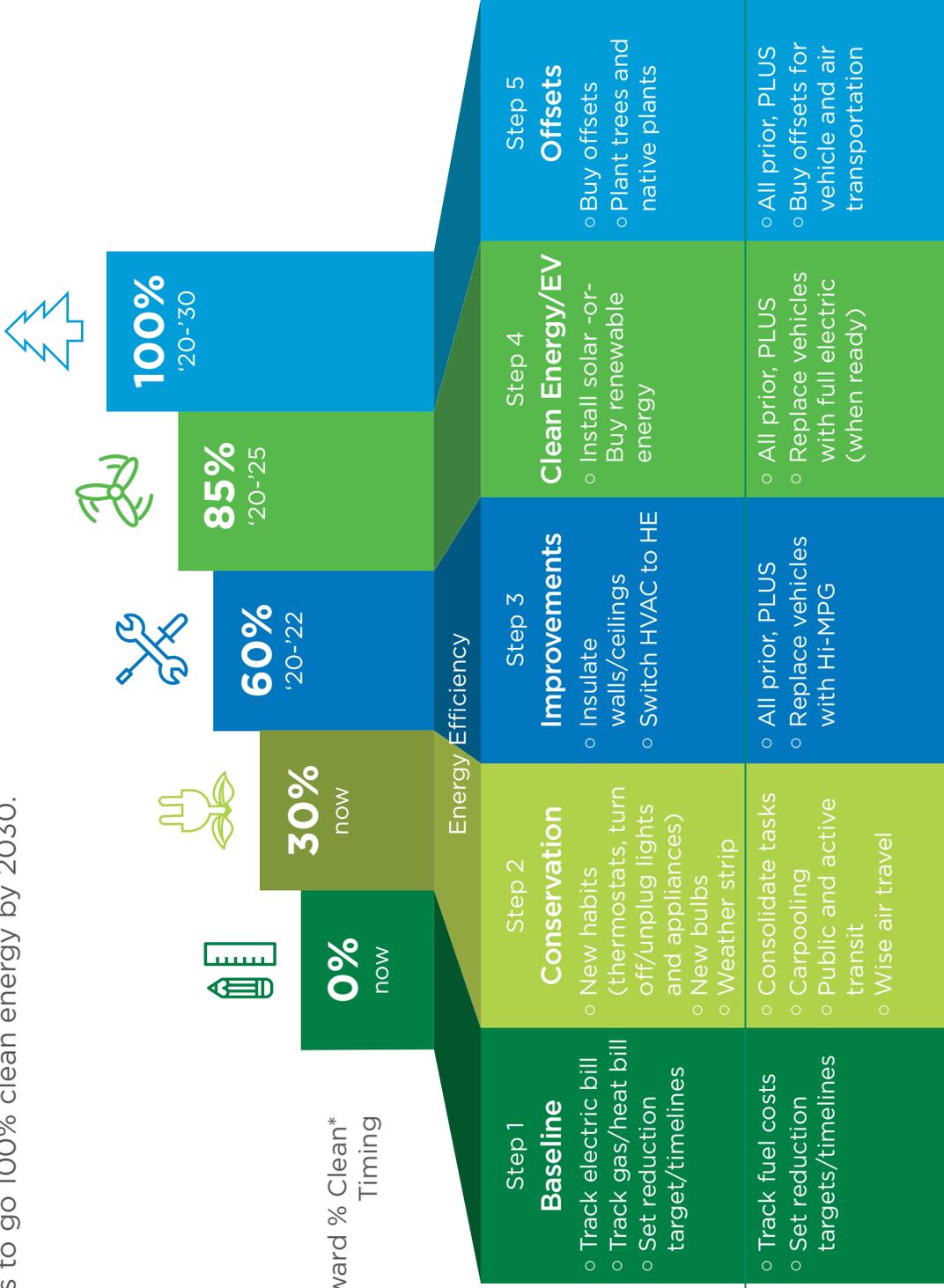


Case Study: Building Improvements

The American Geophysical Union (AGU), the professional membership organization for earth and space scientists with a growing GeoHealth program, renovated its headquarters in Washington, DC to be the first net-zero energy building in the city, one of the most ambitious retrofitting projects in the world. AGU is using four strategies: reduction (lower energy & water use), reclamation, absorption (recycled water collection), and generation (solar panels). New technologies include a sewer heat transfer system and direct current grids in the building that harness the energy generated by their solar panels. All plans will be made public so others can replicate them. Building renovations have also created a healthier indoor environment, with a hydroponic plant wall that filters the air.

ROADMAP TO 100% CLEAN BY 2030

Follow these simple steps to go 100% clean energy by 2030.



Buildings

Owned | Rented

Transportation

Vehicles | Airline | Public

* This roadmap is meant to help you frame your pathway to clean energy, to do what you can when you can. Actual percentages may vary by location, scale of improvements, and order of implementation. Guidance given are national averages estimates by EnergyStar.gov

BEING PREPARED

Around the country, communities are experiencing the many ways climate impacts human health. The Fourth National Climate Assessment (NCA4) further describes specific climate impacts in 10 different regions, shown in the maps on p.17 in this section. Health professionals should be part of the discussions about resilience and adaptation on the national, state, and local levels to improve health and safety and protect land and property. You also need to prepare your practice and your community for these impacts.

Resilience is the ability to predict, prepare for, and recover from climate impacts. Climate risks and resilience are different for each community, so health leaders must assess and plan around their unique risk profile and infrastructure needs. The maps on the next page, adapted from NCA4, will help with that. Mitigation plans detailed in the last section cut pollution while resiliency plans also include preparing for the anticipated risks and impacts.

Adaptation is the adjustment in natural or human systems to a new or changing environment that exploits beneficial opportunities or moderates negative effects. We must change our lifestyles, everything from things like the building materials we use and the way we design cities to the types of food we grow, to meet the demands of a changing climate. Public and environmental health professionals are on the front lines of adaptation. For example, local health departments often employ those who test water for contamination (especially following an extreme rainfall event), increase vector control and address conditions that attract vectors like standing water, and establish and ensure access to cooling centers.

Restoration is the concept of reversing environmental and climate damage to our natural systems by removing carbon dioxide from the atmosphere and oceans. Achieving pre-industrial levels of carbon dioxide in our environment will restore our degraded land and water systems, including lakes and oceans, to thriving pre-industrial status and ensure enough polar sea ice to avoid melting of the permafrost. We need to actively reduce atmospheric carbon dioxide, currently over 415 parts per million and growing, back down to below 350 parts per million; reforest millions of acres of land; and adjust agricultural practices to raise crops and livestock in ways that restore natural balance. Restoration needs to be done at local, national and global levels — all of us can contribute.

REGIONAL CLIMATE IMPACTS



Northeast

Extreme weather, warmer temperatures, lower air and water quality, and sea level rise will impact tourism, farming, forestry, rural industry, and coasts. Major impacts on urban infrastructure and economies.



Southeast

Heat, flooding, and diseases increase risks to infrastructure and health in urban areas. Heavy rains and sea level rise endanger coastal tourism and industry. Extreme heat impacts agriculture, hurting rural communities.



Midwest

Increases in summer humidity and precipitation impact agriculture. Poor air quality days, extreme temperature events, heavy rainfalls, flooding, longer pollen seasons, and pests affect human health and critical infrastructure.



Northern Great Plains

Rainfall changes impact the region. Rising temperatures and extreme weather events risk fossil fuel and renewable energy infrastructure, and likely have negative impacts on agriculture. Indigenous peoples at high risk.



Southern Great Plains

Climate change affects food, energy, and water. Sea level rise, increasing temperature, and extreme precipitation put built environment, coasts, and health at risk. Increased likelihood of population displacement.



Northwest

Wildlife, fish, and plants tied to tribal culture and popular recreation at risk. Flooding, landslides, drought, wildfire, and heat waves risk water supplies, power, and transportation. Hazards to healthcare and social systems.



Southwest

Drought, wildfire, rising temperatures, heat waves, poor air quality, and disease affect energy, agriculture, water, food security, and health, especially for indigenous peoples. Sea level and temperature rise and ocean acidification affect coasts.



Alaska

Less Arctic summer sea ice, increasing temperatures, ocean acidification, permafrost thaw, erosion, wildfire, and glacier melt affect Alaskans and their infrastructure. Greatest threats are to rural areas and indigenous peoples.



Hawaii & U.S. Islands

Temperature and sea level rise, changing rainfall, risk of extreme drought and flooding all threaten water and food security, culture, jobs, housing, infrastructure, tourism, and raise risk of human conflict and migration.

SPOTLIGHT ON MENTAL HEALTH

Tending to physical infrastructure is not the only way we must promote resilience in the face of climate change. As health professionals, we must prepare individuals and communities for emotional resilience and provide critical mental health care when a disaster happens. In a report²¹ jointly produced by the American Psychological Association and ecoAmerica's Climate for Health program, experts explain and show how to apply the following principles for supporting individuals and communities:

Personal Attributes

- Build belief in one's own resilience.
- Foster optimism.
- Cultivate active coping and self-regulation.
- Find a source of personal meaning.
- Boost personal preparedness.

Social Connection

- Support social networks.
- Encourage connection with parents, family, and other role models.
- When possible, uphold connection to place.
- Maintain connections to one's culture.

Community Support and Planning

- Assess and expand the community mental health infrastructure.
- Facilitate social cohesion through community design.
- Train the people who will serve the community during a disaster.
- Provide clear and frequent information.
- Reduce disparities.
- Pay special attention to vulnerable populations.

Disaster Planning

- Develop trusted and action-focused warning systems.
- Provide a fast response.
- Have a post-disaster plan.
- Ensure equitable and transparent distribution of resources.

Community Action

- Engage community members.
- Increase cooperation and social cohesion.
- Provide opportunities for meaningful action.



PREPARE PATIENTS & COMMUNITY

The Centers for Disease Control and Prevention (CDC) developed a tool for health officials to help their departments and communities anticipate and prepare for the impacts of climate change. This tool is called **Building Resilience Against Climate Effects, or BRACE**.²²

While the primary audience for BRACE is state and local health departments, the BRACE steps can work for clinics as well. The list below follows the BRACE Framework but incorporates ideas for local clinics and health providers. This list is not comprehensive but it is meant to help spark ideas which you can then implement at the scale that works for you.

Throughout these steps, think about the ways to connect and coordinate with your local health department, which may also be working on many of these initiatives in the community.

1. Forecasting Climate Impacts and Assessing

Vulnerabilities: Know the specific climate risks projected for your region (page 17) and assess the associated impacts among your patients and community. Understand the different vulnerabilities among your patients, including living alone and having pre-existing medical conditions (asthma, COPD, mobility limitations, diabetes, etc.) and recognize the social determinants of health, such as poverty, education, language barriers, etc. that may impact your patient population. Ask your patients about environmental exposures during check-ups and talk about ways climate change and its consequences are impacting their health. Keep track of your patients who have medical devices at home that require electricity and make adjustments to treatments (e.g. dialysis) when a storm is coming.

2. Projecting the Disease Burden: Climate damage and the disruption it brings can have a broad range of human impacts: loss of property and security; reduced mobility; loss of energy, water, and communications services; loss of jobs and resources; illness, injury, social disruption; and psychological stress and anxiety. Build awareness of the risks and likely impacts and prepare your patients to address them.



70th Annual Kiwanis Club Pancake Festival held at Louisiana State University (LSU) in Baton Rouge, Louisiana. Southern University and A&M College nursing students (Jen'Brica Harris, Melissa Derouen, Holly Farrow, Jalexia Diamond, Kennedy Denham) and Woodlawn High schooler (Lauren Earl) along with Professor Shelley Upshaw educated community participants on climate and health impacts and flood preparedness.

Photo Courtesy: ANHE Environmental Health Nurse Fellow Shelley Upshaw

- 3. Assess Public Health Interventions:** Develop emergency plans and preparation activities for severe weather, including hurricanes and heat waves. Inform your patients and community where the nearest cooling centers are and remind them to check on elderly neighbors. Design or implement existing public education campaigns for health threats specific to your region (e.g. information about ticks and Lyme disease where it is emerging in the northeast). Encourage your employees and patients to enroll in emergency preparedness and response training.
- 4. Develop and Implement a Climate and Health Adaptation Plan:** Move emergency generators from the basement to higher ground to prevent them from malfunctioning during a flood. Make a plan to preserve emergency stocks of medication in the event of a long-term power outage.
- 5. Evaluate Impact and Improve Quality of Activities:** Document successes and obstacles implementing your plans and navigate the next event by building on what worked well.

Local health departments around the country have used the BRACE framework from the Centers for Disease Control and Prevention to adapt to climate impacts. Together, local clinics and health departments can build relationships to reach and assist your communities.



MOVING FORWARD CASE STUDIES



Case Study: My Green Doctor is a practice management tool for healthcare offices, suitable for any outpatient office. This program is designed to be implemented with little cost and little technical background on the part of users. My Green Doctor provides resources for creating a Green Team responsible for developing and implementing a sustainability policy to influence everything from purchasing to conversations with patients. Elements behind this program are moving the mindset among physicians: real savings, team engagement, and patient health benefits of climate mitigation.



Case Study: Kaiser Permanente's Environmental Stewardship program is anchored in community health work and embedded throughout the organization. Accordingly, Kaiser Permanente has aligned climate goals with the mission and vision for total health — emphasizing the social, environmental, behavioral and clinical aspects that shape one's well-being. Kaiser Permanente is working towards a carbon neutral goal in 2020. They have invested in offsite solar and wind, reduced the use of anesthetic gases that have a huge warming potential, and are sourcing food locally. To help finance these efforts, they worked closely with their finance team to build a green bonds program.



Case Study: Weatherization Plus Health is an initiative from the U.S. Department of Energy (DOE), administered by the National Association of State Community Services Programs (NASCSPP). The goal of weatherizing a building is energy efficiency, but the weatherization plus health concept recognizes the many health co-benefits of weatherization. For example, improving insulation results in using less energy to heat and cool your home, and can also lead to better indoor air quality, preventing mold infestations that can trigger asthma attacks. In states like Vermont²³ and Washington²⁴, local agencies weatherizing low-income households through DOE's Weatherization Assistance Program (WAP) are coordinating with health departments and non-profits to incorporate critical health and safety considerations and upgrades. There is also guidance from California available to help health professionals connect their patients to energy efficiency services²⁵ to improve the health of communities. Find out if your state offers these kinds of programs and recommend them to your patients.

HEALTH IN CLIMATE ADVOCACY

[ecoAmerica’s research²⁶](#) consistently shows that health leaders are the most trusted messengers in America, and that health is a major motivator for climate action. Working on your own and with others, you can be an authentic champion for the critical climate solutions we need. These solutions will allow us to properly care for our communities, including the most vulnerable among us, and to leave a better future for the next generation.

GET INFORMED

Become climate and health literate. The first step to becoming a good advocate is to get to know your material, especially in the context of local impacts and your own lived experience. Earlier in this Guide, we provided an overview of climate and health impacts and regional variations. Review this information, and additional tools or guidance provided by your professional association.

Connect on climate with successful messages. Whether you are writing an email, a letter to the editor, or sharing your story with a colleague or policymaker, it is best to connect with people personally, to inspire them to enact solutions. To make the greatest impact, we encourage you to use Climate for Health’s Let’s Talk Health and Climate²⁷ guide, webinars, and Talking Points.²⁸

Climate advocacy involves a spectrum of activities, appropriate for everyone - whether you are a seasoned advocate or just getting started. Everything starts with becoming climate literate. Then, you can move into action through sharing local impacts, engaging your profession, engaging your community, and advocating with policymakers. Engage at whatever level you feel comfortable, building on your experience to take it to the next level.



ENGAGE YOUR PROFESSION

Partner with other health leaders. Over 80% of Americans are concerned about climate change, but many are not aware that others in their community are, too. Reach out to your professional organization(s) and colleagues. You may find increased strength, knowledge, and inspiration from working formally or informally with other health leaders on climate solutions.

ENGAGE YOUR COMMUNITY

Write an opinion editorial or letter to the editor. Letters to the editor and Op-Eds are widely read, particularly by decision-makers. Find out your publication's requirements for submission, and follow the same general approach to crafting a message as recommended in Let's Talk Health and Climate.²⁷ Succinctly share your professional experience, as well as personal stories and examples, and end with a strong, clear call to action.

Support collective action. You are not alone in this work. As appropriate, collaborate and coordinate with other advocacy efforts in your community, especially with groups who regularly track local and state policy issues where your participation can make a difference. Reach out to other sectors like faith or environmental groups to collaborate. By coordinating your work and voices with others, you leverage and amplify your advocacy for greater impact.

Making health integral to climate policymaking at all levels and across all sectors offers a major opportunity to engender greater support for climate action, advance climate solutions, and achieve ambitious health targets through win-win strategies that promote climate justice, health and health equity, resilience, and a sustainable economy — U.S. Call to Action on Climate, Health, and Equity



Health Leaders gather at the American Psychological Association Headquarters in Washington, DC for the 2018 National Health and Climate Leadership Forum.

ADVOCATE WITH POLICYMAKERS



Physicians and health professionals organized by the American Lung Association in California with Senator Ricardo Lara to urge support for his climate bill to reduce super pollutants (SB1383)

Photo Courtesy: American Lung Association

Make an Advocacy Plan. As you get ready to talk to your community and elected officials, ask yourself the following key questions. Use your answers to identify strategies, tactics, timing, and resource allocation.

- What is your primary motivation to act on climate change as a health professional?
- What goal(s) are you trying to achieve? (e.g. greenhouse gas reductions, zero waste, climate adaptation plans, etc.)
- Is your advocacy at the local, state, or federal level?
- Who is your audience?
- Who are your allies in this effort, and how can you collaborate?
- What strategies and messages will work best to achieve your goals?
- What timing opportunities exist, such as relevant policy events (e.g. debates, elections, and bill introductions) and holidays and seasons?
- Who will be responsible for executing each activity, and what resources do they have?
- What is your timeline?

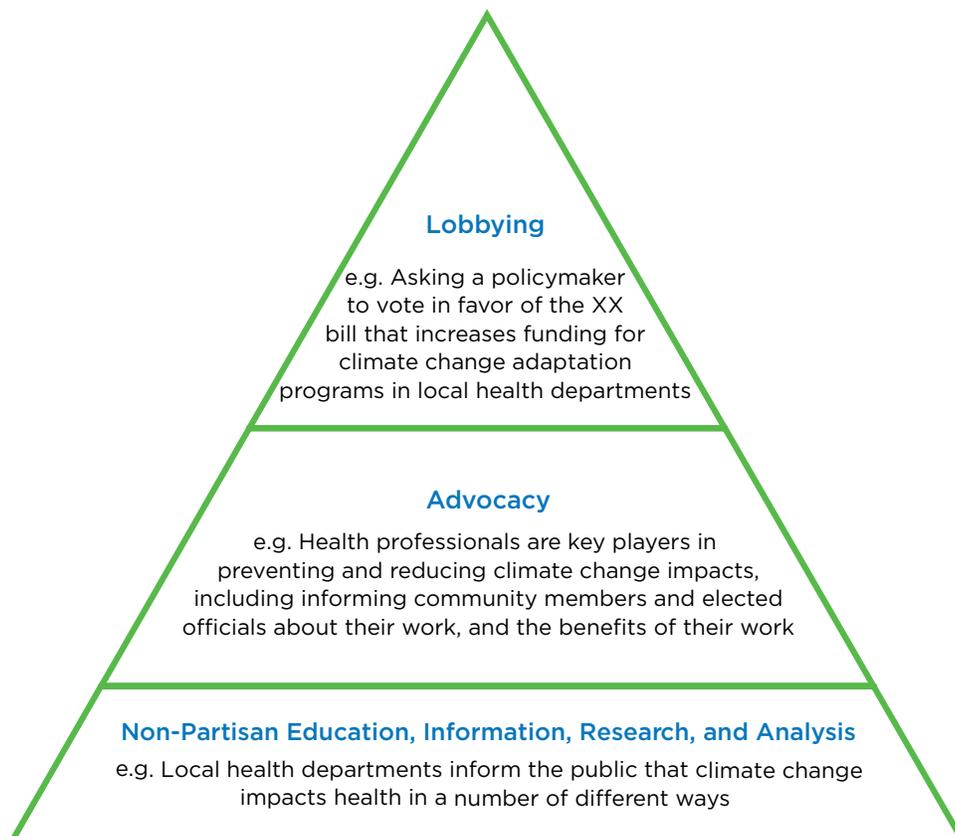
Write to, email, or call your policymakers. Encourage your elected leaders to support policies and programs that address climate change. Host letter writing or phone banking opportunities at your office or at home with your neighbors. Encourage them to join you in efforts to advocate for policies and programs that support energy efficiency and the use of clean energy.

Use social media. Communicate directly with policymakers while simultaneously sharing information with friends and family who follow you. Politicians use platforms like Facebook and Twitter to quickly gauge public opinion and to efficiently and accessibly communicate with their constituents. Social media is also a great way to celebrate successes and promote upcoming events.

Have in-person meetings. Building a personal relationship with policymakers can be an effective means of advocacy and will emphasize the support from the health community for addressing climate change. Scheduling a meeting with your mayor, local councilperson, state legislator, member of Congress, or other elected officials is easy.

- Identify yourself as a constituent and health professional
- Be brief, polite, and compassionate
- Draw on your personal and community experience
- Make a specific ask (e.g. holding a hearing on climate and health or supporting a piece of legislation)
- Request follow-up
- Say thank you

As a health professional, you can get involved without portraying bias or partisanship. Members of Congress actually rely on you to provide information about what is happening in communities all across the country. There are actions you can take that lie squarely within the education and advocacy space, without crossing the line into lobbying.



Are you Educating, Advocating, or Lobbying?

There is so much you can do in the advocacy and education space, before you get into lobbying. Climate for Health partners like NACCHO can help you differentiate, and take action.

Adapted from the NACCHO Advocacy Toolkit, available from <https://www.naccho.org/uploads/downloadable-resources/gov-advocacy-toolkit.pdf>

HOW TO CONTACT YOUR ELECTED OFFICIALS

	Writing	Calling	Email
White House	The White House 1600 Pennsylvania Ave. NW Washington, DC 20500	Call Comment Line, 202-456-1111	whitehouse.gov/ contact
Congress	Find your US Senator or Representative house.gov senate.gov	Call Capitol Switchboard to be transferred to your US Senator or Representative 202-224-3121	Find your US Senator or Representative house.gov senate.gov
Governor	Look-up contact information at usa.gov/state-governor		
State Legislature	Look-up contact information for your state legislators at congress.gov/state-legislature-websites		
Local Government	Look-up your local government officials at usa.gov/local-governments		

SELECTED RESOURCES: ADVOCATE WITH POLICYMAKERS

American Academy of Pediatrics:
<http://bit.ly/AAPAdvocacyToolkit>

American Lung Association:
<http://bit.ly/ALAdvocacy>

American Public Health Association:
<http://bit.ly/APHAdvocacy>

National Association of County and City Health Officials:
<http://bit.ly/NACCHOAdvocacyToolkit>

National Environmental Health Association:
<http://bit.ly/NEHAdvocacy>

Physicians for Social Responsibility's Tips for Writing a Successful Letter to the Editor:
<http://bit.ly/PSRLTETips>

REFERENCES

Background, Introduction, and Using this Guide

1. Speiser, M., N. Kobayashi, M. Gutierrez., C. Lake, and J. Voss, 2018: American Climate Metrics Survey 2018. ecoAmerica and Lake Research Partners. Washington, D.C. Available from <https://ecoamerica.org/research/>.
2. Better Buildings, U.S. Department of Energy. "Green Revolving Funds." Available from <https://betterbuildingsinitiative.energy.gov/solution-roundup/green-revolving-funds>

Health and Climate Connection

3. Crimmins, A., J. Balbus, J. L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M. Hawkins, S.C. Herring, L. Jantarasami, D. M. Mills, S. Saha, M. C. Sarofim, J. Trtanj, and L. Ziska, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program. Washington, D.C. Available from <http://dx.doi.org/doi:10.7930/J00POWXS>
4. Zhang, Y., L. Bielory, Z. Mi, T. Cai, A. Robock, P. Georgopoulos. "Allergenic pollen season variations in the past two decades under changing climate in the United States" *Global Change Biology*, 2014, 21:4, pp1581-1589
5. Salas R.N., P. Knappenberger, and J.J. Hess. *Lancet Countdown*, 2018: 2018 Lancet Countdown on Health and Climate Change Brief for the United State of America. *Lancet Countdown U.S. Brief*, London, United Kingdom. Available from: <http://www.lancetcountdown.org/media/1426/2018-lancet-countdown-policy-brief-usa.pdf>
6. World Health Organization, 2018: COP24 special report: health and climate change. Geneva. Available from: <https://www.who.int/globalchange/publications/COP24-report-health-climate-change/en/>
7. Watts, M., et al., 2016: The 2018 report of the Lancet Countdown on health and climate change: shaping the health of nations for centuries to come. London. [http://dx.doi.org/10.1016/S0140-6736\(18\)32594-7](http://dx.doi.org/10.1016/S0140-6736(18)32594-7)
8. U.S. Global Change Research Program, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. Washington, D.C. Available from <https://nca2018.globalchange.gov/>
9. IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Available from <https://www.ipcc.ch/sr15/>

Mitigation: Reducing Your Impact

10. Eckleman, M. and J. Sherman. "Estimated Global Disease Burden From US Health Care Sector Greenhouse Gas Emissions" *American Journal of Public Health*, 2018 108(S2), pp. S120–S122. Retrieved from <https://ajph.aphapublications.org/doi/10.2105/AJPH.2017.303846>
11. The DOE tips for renters and owners available from <https://www.energy.gov/energysaver/design/types-homes/tips-renters-and-property-owners>
12. EPA's Energy Star Program for Tenants available from <https://www.energystar.gov/buildings/tenants>
13. EPA's Energy Star program's action workbook for small businesses available from https://www.energystar.gov/buildings/tools-and-resources/energy_star_action_workbook_small_business
14. DC Sustainable Energy Utility and Institute for Market Transformation's Sustainable Solutions for the Modern Office available from https://www.imt.org/wp-content/uploads/2018/02/TenantLeasingGuide_r06.pdf
15. American College of Physicians Climate Change tool kit available from <https://www.acponline.org/advocacy/advocacy-in-action/climate-change-toolkit>
16. American Academy of Pediatrics Climate Change webpage available from <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/climate-change/Pages/Climate-For-Health.aspx>
17. Hayes, S. and Kubes, C., 2018: Saving Energy, Saving Lives: The Health Impacts of Avoiding Power Plant Pollution with Energy Efficiency. American Council for an Energy-Efficient Economy and Physicians for Social Responsibility, Washington, D.C. Available from <https://aceee.org/sites/default/files/publications/researchreports/h1801.pdf>
18. U.S. Department of Energy's (DOE) Vehicle Cost Calculator available from <https://afdc.energy.gov/calc/>
19. U.S. Environmental Protection Agency's (EPA) Green Vehicle Guide available from <https://www.epa.gov/greenvehicles>
20. EPA/DOE's Fuel Economy Label available from <https://www.fueleconomy.gov/feg/label/learn-more-gasoline-label.shtml>

Resiliency and Adaptation: Being Prepared

21. Clayton, S., C. M. Manning, K. Krygsman, and M. Speiser., 2017: Mental Health and Our Changing Climate: Impacts, Implications, and Guidance. American Psychological Association and ecoAmerica, Washington, D.C.
22. CDC BRACE framework available from <https://www.cdc.gov/climateandhealth/BRACE.htm>
23. Vermont Department of Health, 2018: "Weatherization + Health: Health and Climate Change Co-Benefits of Home Weatherization in Vermont." Burlington, VT. Available from http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_CH_WxHealthReport.pdf
24. Weatherization Plus Health in Washington available from <https://www.commerce.wa.gov/growing-the-economy/energy/weatherization-and-energy-efficiency/matchmaker/weatherization-plus-health-wxh/>
25. California guidance for health professionals connect their patients to energy efficiency services available from <http://www.rampasthma.org/D:Web%20Siteswww.rampasthma.orgwp-content/uploads/2018/12/Energy-Efficiency-and-Health-Guide-for-Public-Health-and-Health-Care-Professionals.pdf>

Advocacy and Engagement

26. Speiser, M., N. Kobayashi, C. Lake, and J. Voss, 2019: American Climate Perspectives Survey 2019, Vol III: Health Is A Major Motivator for American Climate Action. ecoAmerica and Lake Research Partners. Washington,DC. Available from <https://ecoamerica.org/american-climate-perspectives-survey-2019-vol-iii/>
27. ecoAmerica, 2016: Let's Talk Health and Climate: Communication Guidance for Health Professionals, Climate for Health, Washington, D.C. Available from https://ecoamerica.org/wp-content/uploads/2017/03/3_letstalk_health_and_climate.pdf
28. Climate for Health Talking Points available from <https://climateforhealth.org/resources/climate-talking-points/>

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American College of Sports Medicine
American Geophysical Union
American Lung Association
American Psychological Association
American Public Health Association
APHA - Public Health Nursing Section
Association of Public Health Nurses
Children's Environmental Health Network

Health and Environmental Funders Network
Health Care Without Harm
Healthy Babies Bright Futures
Kaiser Permanente
Medical Society Consortium on Climate and Health
MGH Institute of Health Professions Center for Climate Change, Climate Justice, and Health
National Association of County and City Health Officials
National Association of Hispanic Nurses
National Environmental Health Association
National Hispanic Medical Association

National Student Nurses Association
The Nature Conservancy
Nurse Practitioners in Women's Health
Physicians for Social Responsibility
Planetary Health Alliance
Preventive Cardiovascular Nurses Association
Service Employees International Union Nurse Alliance
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Trust for America's Health
U.S. Climate and Health Alliance

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