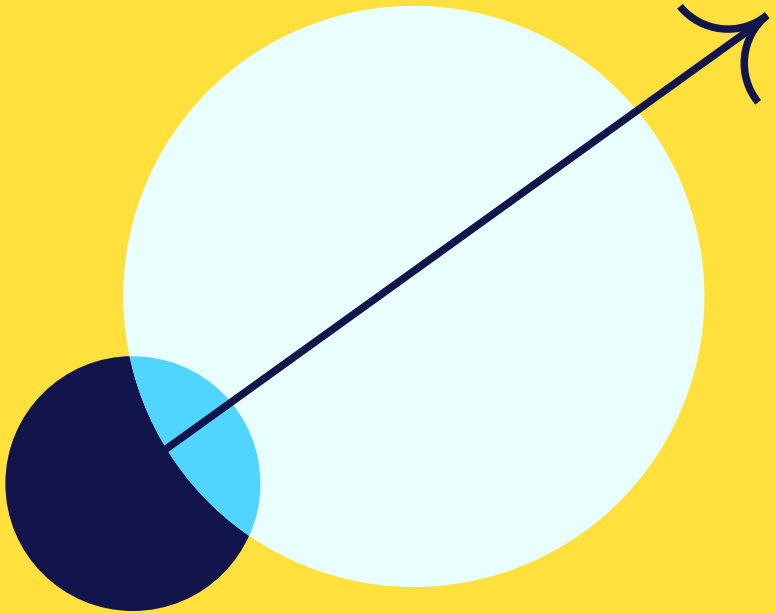
climate lead

March 2024

Climate Philanthropy

A Guide for Action



The World Is at a Crossroads

Climate change is an existential crisis hitting closer and closer to home. We see the consequences in our daily lives: devastating floods, droughts, heat waves, and wildfires that are more frequent and more intense; famine and food insecurity; air pollution that harms our health; biodiversity loss; economic instability; and many other challenges. Scientists and affected communities have sounded the alarm, and we cannot wait any longer to act. Climate change isn't only an environmental issue—it's a human issue that deepens existing problems like poverty and negatively affects our health.

The world needs massive transitions. **We must cut our global carbon pollution in half by 2030 and reach "net-zero" by mid-century** to prevent even worse outcomes.[1] This is the only way to ensure a more sustainable future—and better lives for us all.

Tackling climate change creates a ripple effect, yielding positive benefits for almost every aspect of life on our planet, now and in the years ahead. The choices we make today can lead to two very different tomorrows. In one, continued unfettered emissions and destruction of nature will intensify harm to people and the planet. In the other, our transition away from the carbon-intensive status quo will make the climate crisis more manageable and allow future generations to thrive.

We Need Thoughtful, Equitable Climate Solutions

Applying thoughtful climate solutions, we can improve air quality and reduce toxins, produce healthy food, provide reliable and clean energy, and protect nature so that it can, in turn, sustain us. We can build more resilient economies and create new jobs. Many climate strategies offer significant additional benefits, such as reducing poverty, improving health, ensuring food security, reversing historical inequities, and conserving biodiversity, habitats, and Earth's natural beauty.

However, climate solutions will not automatically help the poor, marginalized, and vulnerable populations who are least responsible for climate change. For this to happen, we need to **make equity a priority**. We can no longer disadvantage communities who bear the brunt of fossil fuel pollution. Not only should solutions be sustainable; they must be just and reverse historical inequities.

Philanthropy Accelerates Change

Achieving these climate goals requires significant transitions in every sector and corner of the globe—how we grow food, travel, produce things, and power our lives. Philanthropy can be nimble and take risks, supporting organizations working to bring about the change we need.

Examples of outcomes philanthropy makes possible:

- Win hearts and minds to push forward the changes we need.
- Generate the political will to effect changes in policy.
- Spark innovation that leads to new solutions.
- Inspire market action.
- Leverage additional funding and capacity from the government and private sector.
- Bring technological solutions to scale at the speed required.
- Hold polluters accountable.
- Protect and restore nature.
- Ensure that transformation happens in a just and equitable way.

The good news is that more donors are engaging; however, **as of 2022, philanthropy for climate mitigation comprised less than 2 percent of all global philanthropic giving**.[2] A dramatic increase in climate philanthropy is necessary to move at the speed and scale this crisis requires.

Philanthropic Giving

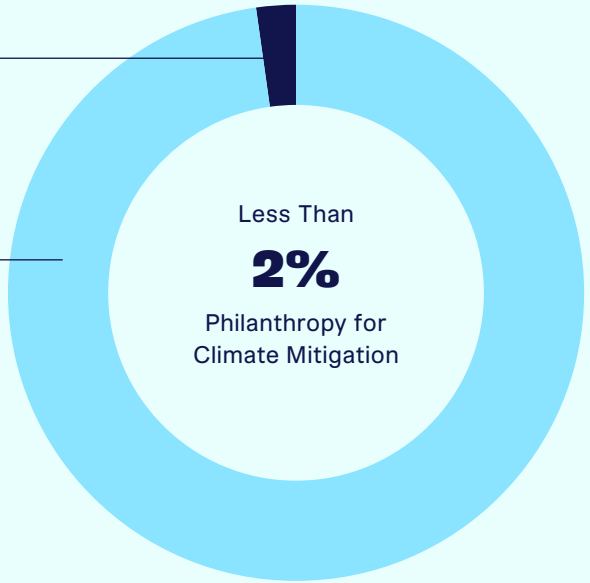
In 2022, total philanthropic giving by foundations and individuals (across all causes) was relatively unchanged from the previous year at $811 billion. Of this amount, giving focused on climate change mitigation also remained flat, between $7.8 to $12.8 billion.

This is largely attributable to challenging global economic conditions in 2022 and the fact that 2021 was particularly strong from a giving standpoint.

Overall, total climate change mitigation philanthropy still represents a miniscule percentage of global philanthropic giving.

Climate Change Mitigation Philanthropy
$7.8–12.8 billion

2022 Total Philanthropic Giving
$811 billion



Source: ClimateWorks Foundation, November 2023

Photo: Ryan Lash/TED

This is the decisive decade for humanity. What we do now will have consequences centuries and millennia from now.

Johan Rockström, Scientist

Get Started Now

This *Guide for Action* provides a framework and some considerations for getting started on your climate philanthropy journey quickly and with confidence. In the sections that follow, we will:

- Give an overview of the science.
- Illustrate how philanthropy can move the needle to effect systemic change.
- Provide sectoral and geographic perspectives.
- Offer best practices for high-impact climate philanthropy.

Inspiring stories from the field illustrate how these elements combine to promote change and create impact.

A better world is possible—but science tells us to move with urgency. Many solutions already exist, and people around the world are working to discover and create new ones. Together, we can slow climate change and ensure a more sustainable, healthy, and equitable future.

Leading with Science

Our Planet Is at a Tipping Point

Historically, our planet's stable climate has enabled humanity to evolve and modern society to flourish. However, the exponential growth in human-caused greenhouse gas emissions and the degradation of nature have threatened this stability and brought us to the brink of destruction. Of the 15 natural systems that regulate climate and contribute to the earth's stability—things like coral reefs, the Greenland ice sheet, and the Amazon Rainforest—nine are approaching tipping points that could trigger unprecedented disaster and accelerate the overheating of our planet. And the interconnectedness of these systems is such that failure in one creates feedback loops that speed warming and put others at risk.[3]

Our North Star: Net-Zero

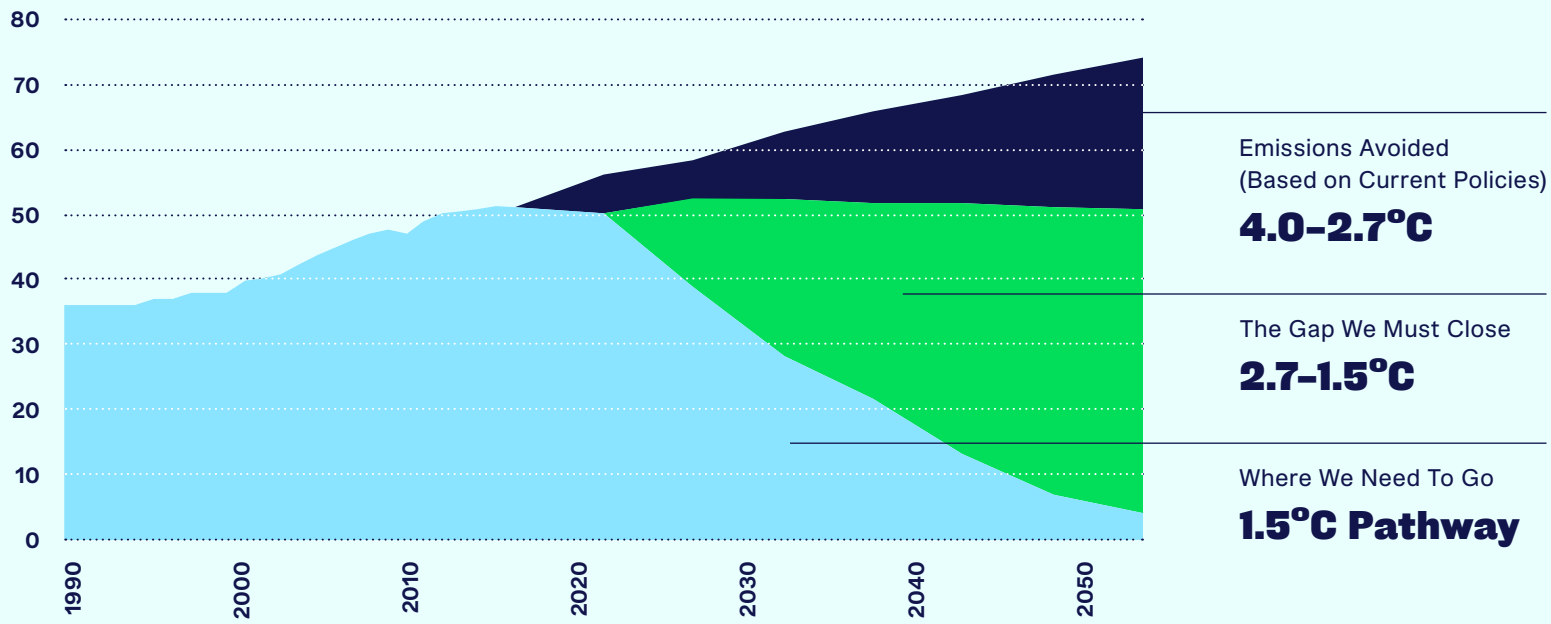
Our actions during this decade are absolutely critical to ensure we can avoid the worst impacts of our overheating climate and protect our future.

The goal of the 2015 Paris Agreement, a legally binding international treaty on climate change, is to limit global warming to well below 2 degrees Celsius, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.[4]

Achieving this ambitious temperature goal will require us to cut carbon emissions in half by 2030 and, by mid-century, to achieve net-zero—the point at which there is an overall balance between greenhouse gases produced and taken out of the atmosphere.

Emissions Trajectories

Global greenhouse gas emissions (Gt CO2e per year)



Source: Climate Action Tracker and ClimateWorks Foundation, based on data available as of April 2023

Greenhouse Gases are Driving the Crisis

From burning the fossil fuels that power our cars, to manufacturing steel for homes and buildings, to growing food that feeds an expanding population—these activities are just some of the **sources** of greenhouse gas emissions that drive the climate crisis.

Greenhouse gases are gases in the earth's atmosphere that trap heat. Carbon dioxide makes up the bulk of greenhouse gases emitted through human activities—mostly through the production and combustion of fossil fuels (coal, gas, and oil) and deforestation. Some carbon can be absorbed by land, forests, and oceans, which act as nature's "**sinks**" to store carbon. However, carbon dioxide that is not absorbed can remain in the atmosphere for up to 1,000 years, blanketing the planet and trapping heat. We need to act immediately to reduce emissions, given how long they will continue to affect the climate.

There are many other greenhouse gases that are even more potent at heating the planet than carbon dioxide—they are referred to as "super pollutants." Fortunately, they stay in the atmosphere for much less time, so if we take action now, we can greatly reduce concentrations of these super pollutants and limit their warming effects in the 2030s.

For example, the most common super pollutant is methane, which is primarily emitted across energy, agriculture, and waste sectors, has more than 80 times the warming potential of carbon dioxide, and remains in the atmosphere for roughly 10 years. Hydrofluorocarbons (HFCs) used in air conditioners and refrigeration can be thousands of times more powerful than carbon dioxide, but are emitted in lesser quantities than methane.[5] Other super pollutants include black carbon from diesel vehicles and biomass burning and ground-level ozone.

Curbing super pollutant emissions is one of the fastest ways to reduce climate impact and a critical, high-impact path for limiting climate change in the near-term, helping to prevent tipping points and creating benefits both for public health and food security.

Achieving net-zero means minimizing all these dangerous gases by addressing the sources of emissions, and protecting and enhancing nature's ability to store carbon. New methods of removing carbon and other greenhouse gases from the atmosphere also are necessary to achieve the goals that will keep us—and future generations—safe.

How Change Happens

Philanthropy Can Accelerate and Amplify Solutions

Tackling the climate challenge requires many actors and major systemic transformations—fundamentally shifting and realigning how the world functions at all levels, from our economies to our institutions to our lifestyles.

Philanthropy can unlock systemic change by influencing governments, businesses, and markets, and activating people who can compel action. It can invest in organizations that:

- Influence financial flows.
- Advocate for policy change.
- Employ legal strategies to protect vulnerable communities.
- Use strategic communications to win hearts and minds and build political will.
- Develop capacity to implement transitions.
- Build coalitions and movements.
- Undertake research to accelerate innovation.

These “levers” are accelerators that drive progress from all angles and catalyze the massive transitions we need to move beyond fossil fuels—politically, economically, and socially.

Levers for systems change may be deployed as cross-cutting approaches across carbon-emitting sectors or geographies. These focused efforts, targeted properly, can translate into powerful outcomes that bolster climate solutions. Because many levers are interconnected and can be mutually reinforcing, using them in combination is a particularly effective strategy. Following are examples of some of the most advantageous levers.

Capacity Building

Building and strengthening the capacity of an entity—whether an organization, group of organizations, movement, city, state, or an entire country—to deliver effectively on its mission is core to long-term sustainability. Activities that can enhance performance include leadership development and skill building, strategic planning, evaluation, and fundraising. Philanthropy—particularly long-term, flexible support—is especially valuable in enabling entities to build, scale, and pivot their work as needed. Technical assistance is a form of capacity building that may target specialized needs.

Example: An effective strategy to stop deforestation is strengthening the rights and capacity of Indigenous Peoples and local communities who live in and naturally steward forests and play a key role in managing the tropical forests that contain significant amounts of carbon. Philanthropy can invest in legal assistance, local governance, frameworks for collective decision making, and tools and technology such as satellite imagery, data, and smartphones, which help these forest and forest-adjacent communities curb deforestation and other practices that threaten intact, high-biodiversity forests.

Finance

A broad set of norms, incentives, tools, policies, and regulations affect how finance flows. Capital allocation to climate solutions and research and development of new approaches and technologies can speed decarbonization, as can directing capital away from climate-misaligned funds, investments, and companies. Philanthropy can help accelerate the transition to climate-aligned finance and investment and reshape economic systems by supporting policy, advocacy, communications, diplomacy, analytics, and research to influence financial system actors, help them take account of climate damages, and hold them accountable. Philanthropy also can take on risk—both real and perceived—of early-stage climate investments, spurring private investment.

Example: Several of Japan's largest banks—with billions of dollars in loans outstanding for mining coal used to produce electricity—no longer provide funding for new thermal coal mining projects. The Japanese government is also withdrawing financing for key coal-fired

power plant projects in Bangladesh and Indonesia. "Exclusion policies" like these—the result of years of strong campaigning funded by philanthropy—have helped drive up the cost of capital for coal power stations and coal mines, thwarting projects and thereby preventing emissions. These tools and approaches also can be used to fight oil and gas.

International Diplomacy

Some of the biggest paradigm shifts on climate change come from international agreements among countries. Since the 1992 Earth Summit, which established the U.N. Framework Convention on Climate Change (UNFCCC), diplomacy has been a valuable lever for action at the transnational level. Forums like the U.N. climate conferences ("Conference of Parties," or COP) are effective venues for negotiating common targets, demonstrating leadership, and mobilizing financial and technical support. Philanthropy can fund research, analysis, and data, enabling countries to engage in diplomatic arenas with needed information and political support to drive more ambitious outcomes.

Example: The Beyond Oil and Gas Alliance is an ambitious diplomatic effort, supported by philanthropy, to end fossil fuel expansion and collaboratively work toward a managed phase-out of oil and gas production. Comprising national and subnational governments and stakeholders, the alliance models leadership and high ambition, provides technical assistance to member countries in oil and gas phase-out planning, and recruits commitments from new countries.

Legal Strategies

Carbon emissions can be reduced through enforcement of climate and environmental laws and litigation that seeks to restrict emissions. Litigation can also be used to establish liability for climate impacts. There are now more than 2,000 climate cases in courts around the world, with parties pursuing a variety of legal claims. Cases that hold companies accountable for deceptive practices related to climate pollution and the harm their emissions have on communities, for example, seek to redress the financial harm from climate-related impacts and establish corporate liability if they fail to stop polluting.

Example: The lawsuit that a group of environmental organizations brought against Royal Dutch Shell in 2019 is an iconic example of the power of the law as a lever; in 2021, the Dutch court ruled against Shell, ordering it to reduce its worldwide carbon emissions by 45 percent by 2030—the first time any court in the world has held a business liable for its contribution to climate change. The original plaintiff organizations are currently raising funding as they defend the ruling in appellate court.

Movements and Coalitions

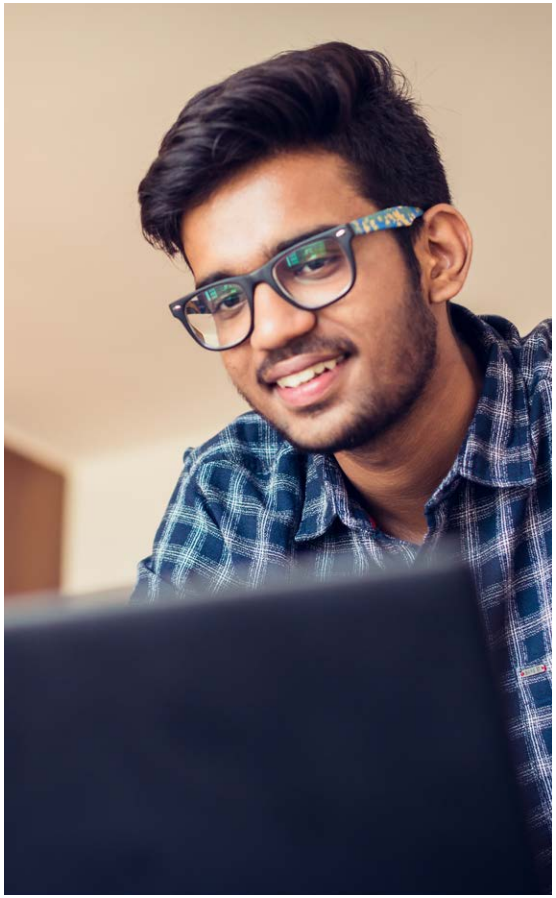
People-powered movements engage citizens, generate political will, and push decision makers to put equitable and just climate solutions at the top of their agendas. A key role for philanthropy is helping diverse groups and even unlikely allies join in support of common goals—like efforts that bring health professionals, labor unions, and corporations together with environmental groups and communities affected by climate change. By building collective power, these groups are better equipped to get the attention of policy makers, business leaders, and the public to inspire action. Philanthropy also helps groups move from one-off campaigns to sustained and transformative action.

Example: The coordinated actions of Indigenous communities supported by advocacy groups focused on transitioning from fossil fuels have helped cancel or stall numerous fossil fuel infrastructure projects across the U.S. and Canada (such as Keystone XL), preventing or delaying greenhouse gas pollution equivalent to at least one-quarter of annual U.S. and Canadian emissions.[6] Movement building, supported by philanthropy, was critical to making this happen.

Policy

Public policy is a core building block with the power to shift resources and investment at scale and bring about systemic change. Philanthropy can fund research that creates an evidence base for strong climate policies and advocacy efforts that marshal political will and inspire the confidence of people and governments. It can help build diverse, representative coalitions that broaden support and ensure that climate solutions are informed and supported by communities affected by pollution and climate impacts. Once adopted and implemented, climate policy can have a significant impact on greenhouse gas emissions at the local, state, provincial, national, and global levels.

Example: The dramatic drop in the price of solar energy is a product of smart, market-shaping public policies bolstered in the early years by philanthropic investments. These policies—like tax credits for purchasers of solar power and grants for research and development—enabled the technology to get to the scale at which costs fell dramatically, so that over the past decade solar has become one of the cheapest forms of energy.



Research and Innovation

Innovation fueled by research and development is a lever that can accelerate progress. Nascent areas—like zero-emissions fuels for planes or removing carbon dioxide in the atmosphere—need more investment to become commercially viable. Coordinated philanthropic support can function as patient, risk-tolerant capital that can fuel discovery, tackle technical and institutional barriers that may slow progress, and mobilize the players who can fuel the change we need. Philanthropy also can support research that generates data and analyses to help strengthen policy, a legal case, or communications.

Example: Philanthropy has supported emerging technologies necessary for tracking methane leaks, leading to breakthroughs like groundbreaking satellite launches that are able to identify methane leaks broadly and precisely, provide global, high-resolution monitoring of emissions, and make critical data available to anyone.

Strategic Communications

Engaging hearts and minds is crucial for climate transitions, which span the globe and touch every sector in the economy. Communications can engage and move influential audiences to build a strong social mandate for climate action as well as to eliminate the social license of fossil fuels. Philanthropy can advance the work of people, organizations, and networks who are creating new narratives to influence decision making; employing media, digital communications, and entertainment to reach new audiences; waging issue-specific campaigns; and challenging misinformation and disinformation perpetuated by entrenched fossil fuel interests.

Example: For years, climate change has been a divisive issue in Australian politics. Philanthropy funded strategic communications aimed at Australian farmers (particularly those in rural areas, who traditionally comprise conservative constituencies), equipping them with tools and resources to help them make their voices heard and demand action to address the harmful impact of climate change on their livelihoods. Amplifying the voice of this key constituency has proven effective in influencing elected officials, broadening interest in climate and making it a more centrist issue.

Unfortunately, there is no silver bullet: Success requires deploying many levers. While the impact of any one of these strategies alone can't always be measured in emissions reductions, leading philanthropists have learned that attacking the issues on multiple fronts is essential to systems change. Used effectively, philanthropic levers can accelerate shifts, amplify solutions, scale innovations, and promote fair and equitable outcomes.

PHILANTHROPY IN ACTION

Paving the Way for Zero-Emission Trucks

Philanthropy is accelerating the global effort to electrify all vehicles for health and climate benefits—bringing together proven strategies for amplified impact, such as policies that require business action and encourage consumer demand.

California's experience shows how philanthropy can make this happen. In 2019, zero-emission technology was ready, and prices had dropped, making it possible for heavier and bigger trucks to go electric. The state was considering a standard for trucks, but the proposal was weak.

Philanthropy mobilized to fund **research and analysis** convincing policymakers that a strong rule was feasible, cost-effective, and necessary to meet clean air and climate goals. It also supported a **diverse coalition** that built the political will necessary to change **policy**, challenge industry, and advocate for a stronger rule—helping to ensure that the government would make this legislation a priority.

The outcome: a final rule that doubled the initial ambition, requiring at least 50 percent of all trucks sold within the state to be zero-emission by 2035. The governor followed with an executive order requiring 100 percent of trucks to be zero-emission by 2045.

Within a month of the rule's adoption, more than 15 states representing 40 percent of the U.S. market joined in committing to a target of 100 percent zero-emission trucks; China and the EU are considering similar policies, illustrating the potential for rapid transfer and scaling of these wins to the global stage.

LEVERS USED:

Research and Innovation

Non-profit organizations and universities helped make the case: Their analysis found that the new rule would generate billions in savings, create a market for up to 300,000 new electric trucks, and reduce carbon emissions by more than 17 million metric tons by 2040, creating significant public health benefits and saving lives.

Movements and Coalitions

Environmental groups, businesses, health and environmental justice advocates, organized labor, the clean-tech industry, and communities living along polluting truck routes joined together to advocate for the rule.

Policy

This first-in-the-world rule is a major policy victory that will help California meet its climate goals and federal air quality standards and yield huge health benefits, especially in neighborhoods affected by high levels of air pollution.

The Path to Net-Zero

While levers can bolster solutions that move us toward a more climate-friendly future, philanthropists also need to determine which parts of the economy they seek to influence. This requires an understanding of the **sectors** that are the **sources** of emissions and the **sinks** (and emerging technologies) that can absorb greenhouse gases. Geography, discussed in the following section, also plays an important role, since regions contribute to and are affected by climate change in different ways and have different priorities for addressing and adapting to it.

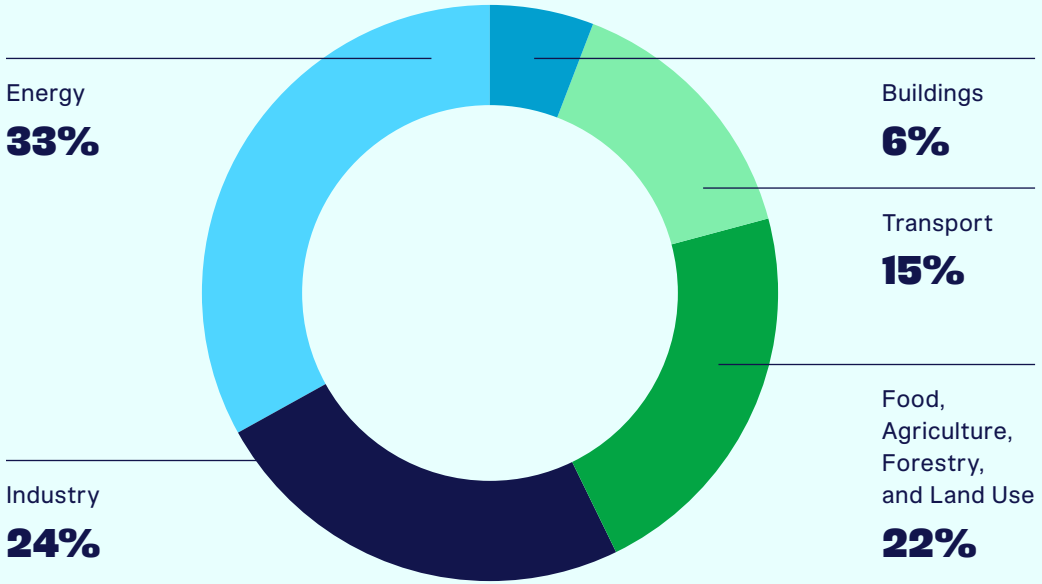
Equitably achieving a climate in balance involves tackling the climate crisis on all fronts—stopping sources of emissions and protecting and enhancing nature's ability to store carbon dioxide. As people stand to suffer from climate impacts, as well as benefit from the low-carbon economy, we must ensure equity and justice considerations are integrated in all solutions.

Eliminate Sources of Emissions

Staying within safer levels of warming requires us to transition away from polluting fossil fuels that are used to generate power and fuel our transportation systems and most-polluting industries (like cement, steel, and plastics). And we must reduce emissions caused by cutting down forests, destroying peatlands and coastlines, and poor agricultural practices.

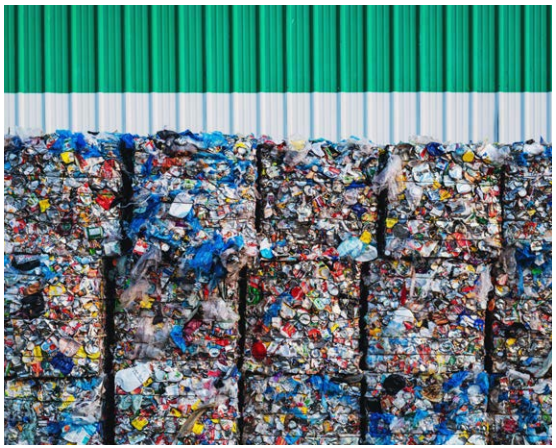
In 2019, total human-caused greenhouse gas emissions amounted to roughly 59 billion tons worldwide.[7] Where do these greenhouse gases come from? Global emissions can be broken down into five major sectors. **Meeting our climate goals requires us to drastically reduce emissions in each of the following sectors, now.**

Greenhouse Gas Sources



Note: While the buildings and industry sectors are presented as standalone to the energy sector, electricity use by the buildings and industry sectors are included in the energy sector.

Source: Intergovernmental Panel on Climate Change Sixth Assessment Report, Climate Change 2022: Mitigation of Climate Change



Greenhouse gases come from many sources, and solutions need to be equally wide-ranging to make a difference. Philanthropy can support many different groups who are working to reduce these emissions. The examples that follow are only a few of the many pathways to impact that may be pursued; innovation and discovery are especially important in the energy, transport, and building sectors.

Energy

Producing fossil fuels and burning coal or gas to generate electricity and heat is responsible for approximately **one-third** of global greenhouse gas emissions. To date, most climate philanthropy has been directed to this sector because renewable energy sources are foundational to other industries' transitions away from fossil fuels (e.g., transportation and buildings). This area will continue to grow in importance, given that 840 million people worldwide still lack access to energy, and more power will be needed as we lift people from poverty.

Solutions Philanthropy Makes Possible:

- Create an enabling environment for renewable energy at national and local levels.
- Build renewable generation capacity and utilization in developing countries.
- Catalyze public and private financing for community-based solar in low-income communities and countries.
- Fight regulatory decisions on new oil and gas permits, pipelines, and infrastructure.
- Mobilize frontline communities and advocates to stop new oil and gas extraction.

Industry

Industrial processes and manufacturing, as well as managing and processing waste, make up about **one-quarter** of global emissions, with certain industries—such as steel, cement, and chemicals—being particularly polluting. Philanthropy in this sector is in its early stages, and there are many opportunities to influence industrial operations at scale.

Solutions Philanthropy Makes Possible:

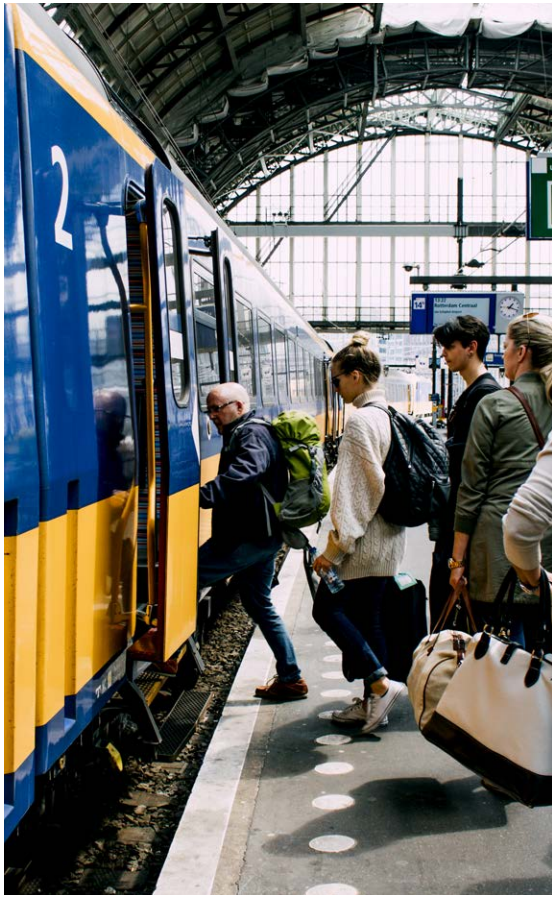
- Transform manufacturing processes that emit carbon and promote policies that drive a clean energy transition for materials such as cement and steel.
- Build markets for low-emitting materials though public pressure and government mandates.
- Promote innovative ways to reuse or use less of these materials.
- Stop new construction of highly polluting chemicals and plastics industrial infrastructure.
- Promote government mandates to drive demand for clean cement.

Food, Agriculture, Forestry, and Land Use

Collectively, these categories contribute roughly **one-fifth** of global emissions. Deforestation—burning and clearing forests to harvest timber, create new agricultural land, or raise cattle—is a major driver, turning ecosystems that could be natural carbon sinks into sources of carbon emissions. Meat- and dairy-intensive diets are significant sources of greenhouse gases, since cattle and other ruminants emit large quantities of methane, in addition to being a major driver of deforestation. Unsustainable agricultural practices, like excessive tilling of soil and fertilizer use, release greenhouse gases. Food waste is also a source of methane and other greenhouse gases, yet nearly one-third of the food we grow is wasted. There is growing public interest in sustainable food, which is a tangible, accessible climate solution that people interact with daily. Because philanthropic attention to food and agriculture is at an early stage, there is plenty of room to shape and scale the infrastructure needed for action.

Solutions Philanthropy Makes Possible:

- Encourage individuals, institutions, and governments to shift from animal-based meat and dairy toward plant-based diets and alternative sources of proteins.
- Incentivize farming methods that benefit nature and climate, like cover crops and crop rotation, better use of fertilizer and manure, and enhanced soil health.
- Lift smallholder farms out of poverty.
- Work with households, businesses, and governments to measure and reduce their food waste and loss by fostering innovation and changing policy.



Transport

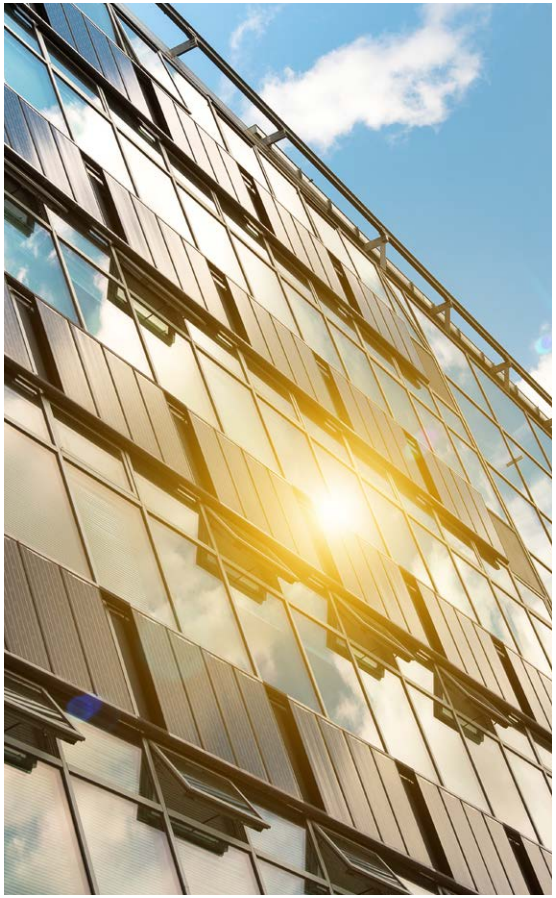
Transport is responsible for producing **15 percent** of global emissions. About two-thirds of these emissions come from road transport that relies on fossil fuels to move people and goods. The balance (slightly under a third of all transport emissions) comes from airplanes, ships, and trains and is growing rapidly. From a philanthropic perspective, some strategies (e.g., transition to electric cars, trucks, and freight vehicles) are ready to scale while other means of long-haul transit—like shipping and long-distance aviation—have some solutions but require more research and development.

Solutions Philanthropy Makes Possible:

- Promote the uptake of electric buses, two- and three-wheelers, freight and delivery trucks, and cars so transport is carbon-free.
- Mobilize diverse people-powered coalitions to demand a cleaner transportation future.
- Advocate for the necessary infrastructure and zoning to make cities more walkable and public transit-friendly.
- Accelerate development of cleaner aviation fuels and transition shipping to zero-emissions fuels.

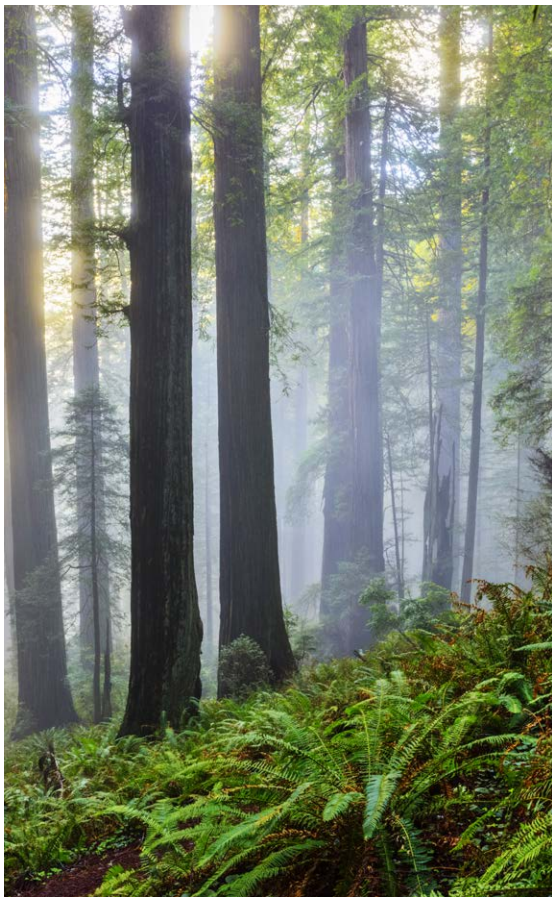
Buildings

Through furnaces, boilers, hot-water heaters, and refrigerants, buildings represent **6 percent** of global emissions. In addition to these direct emissions, buildings today are responsible for roughly one-third of global energy consumption.[8] Current policies and programs aimed at reducing emissions in all types of buildings—residential, commercial, and industrial—are inadequate to achieve the systemic change we need. Retrofitting existing buildings and making new buildings more energy efficient is a priority, as is stopping other on-site sources of emissions, like the use of gas for heating and cooking, and less-harmful chemicals for cooling. Buildings solutions can complement industry solutions by creating demand for less-polluting forms of steel and cement, or replacing them with green alternatives. Climate philanthropy in this sector is not at the scale of other sectors and is ripe for attention and investment.



Solutions Philanthropy Makes Possible:

- Work with local officials to require new buildings to be carbon neutral and retrofit existing ones to become carbon neutral, such as by eliminating gas appliances.
- Provide incentives and increase public awareness to accelerate the move to highly efficient heat pumps for heating and air conditioning.
- Fund organizations calling for manufacturers, builders, and regulators to use clean power.
- Increase access to clean and efficient cooling, particularly for vulnerable populations, thus advancing racial and social justice in an overheating world.



Protect and Enhance Nature's Ability to Store Greenhouse Gases

Approximately **half** of all carbon dioxide emissions caused by human activity have been absorbed by nature—in vegetation, soils, and oceans. Removing these gases from the atmosphere thins the blanket of climate pollution surrounding the planet and slows global warming. Enhancing sinks—for example, by restoring forests—can, over time, enable the absorption ("sequestration") of significant amounts of greenhouse gases.

When nature thrives, it can support a variety of species and the services upon which humanity depends—such as the provision of food, pollination, purification of air and water, and flood control. Increasingly, countries are recognizing that conserving these complex, fragile ecosystems is important to achieving climate goals. Recently, more than 190 nations reached a landmark agreement that aims to reverse the unprecedented destruction of nature. One of the agreement's targets, known as 30x30, aims to protect at least 30 percent of the planet's land and water by 2030, helping to mitigate climate change and prevent widespread loss of species.

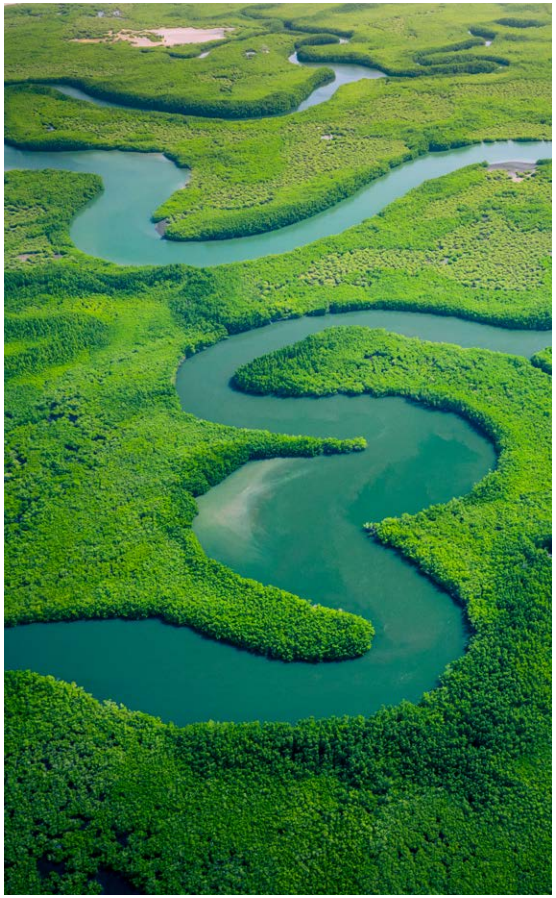
There are two categories of natural sinks:

Land Sinks

Land sinks naturally absorb and store human-caused carbon emissions in the soil, grasses, plants, and trees in ecosystems throughout the biosphere—from forests and peatlands to wetlands and tundra. By protecting and sustaining these vital ecosystems, philanthropy can reduce emissions, protect biodiversity, and promote sustainable livelihoods for Indigenous peoples and local communities. Philanthropy can help to halt the clearing of these vital resources—all of which store carbon—and restore and protect them.

Solutions Philanthropy Makes Possible:

- Pressure companies to prevent deforestation within their supply chains.
- Support land tenure rights for Indigenous peoples and local communities.
- Equip advocates with the evidence base to expose harmful practices and impacts on people and nature.
- Drive learning and business models that accelerate land restoration for climate, nature, and livelihoods.



Oceans and Coastal Sinks

Oceans and coastal sinks absorb and store human-caused carbon emissions through natural processes like photosynthesis and by directly dissolving carbon dioxide in seawater. More dissolved carbon makes the water more acidic and decreases the amount of carbonate—which sea organisms like oysters, sea urchins, and corals use to form calcium carbonate, their major mineral building block. As the planet warms and oceans become more acidic, it is more difficult for these creatures to build their shells and parts of their skeletal structures.

Warmer temperatures and increased sea levels make oceans less hospitable for organisms of all kinds and will reduce the ocean's ability to be part of our carbon solution. Philanthropy can help restore and protect important ecosystems like mangrove coasts, coral reefs, and sea grass—which both naturally store carbon and nurture aquatic life.

Solutions Philanthropy Makes Possible:

- Conserve, restore, and equitably manage mangroves.
- Support policies to promote coastal "green infrastructure" (e.g., protecting coastal ecosystems such as estuaries) to enhance climate impact resilience and local livelihoods.
- Advance research and mapping of ocean and coastal ecosystems that store carbon (known as "blue carbon").
- Limit offshore oil and gas development.

Photo: Climeworks

Photo: ClimateWorks Foundation

Remove Carbon Remaining in the Atmosphere

Eliminating emissions from fossil fuels and natural systems is the essential first step to avoiding dangerous climate change. However, because carbon emissions remain in the atmosphere for so long—up to 1,000 years—we will still experience warming from the emissions that have been accumulating since the start of the Industrial Revolution. A new field of carbon dioxide removal (CDR) is developing to identify natural and technological systems that can draw large amounts of carbon from the atmosphere and store it. According to the Intergovernmental Panel on Climate Change (IPCC), CDR is necessary to achieve global and national targets of net-zero carbon dioxide and greenhouse gas emissions.[9]

Many new approaches are being developed for CDR. In addition to nature-based CDR solutions that seek to restore degraded landscapes and create new forest and blue carbon (i.e., coastal and marine) sinks, there are also more permanent engineered CDR solutions, which capture carbon dioxide directly from the air and either transform the carbon into a product or store it in geological formations. There are different types of technological CDR, in varying stages of maturity, and none has achieved full commercial deployment thus far. However, a new advance market commitment to purchase just over $1 billion worth of permanent carbon removal shows there could be a strong market.

While there is increasing corporate and governmental funding for developing CDR solutions, philanthropy is important in helping to shape how the field develops. In the U.S. in particular, a growing body of public- and private-sector funding is driving research, development, deployment, and scaling, and philanthropy can ensure that CDR is providing additional climate benefits, not replacing efforts to transition to non-polluting technologies. To truly benefit from CDR solutions, philanthropy will be needed to ensure approaches that scale are environmentally sound and benefit local communities.

Solutions Philanthropy Makes Possible:

- Accelerate scientific understanding of and technology development for ocean alkalinity enhancement.
- Build capacity for local communities to participate in decision making around CDR facilities.
- Scale funding for locally driven landscape restoration.
- Monitor and scrutinize carbon removal claims to ensure the market drives toward quality.

PHILANTHROPY IN ACTION

Ending Coal

Coal emits toxic pollutants that make people sick, contaminate water, and drive planet-heating emissions. To respond to this threat, a **diverse coalition** led by the Sierra Club launched the Beyond Coal Campaign in 2002 to stop proposed new coal plants, retire the existing dirty fleet, address the impacts of coal mining, and replace coal with clean energy.

What was initially a state-based effort seeded by a group of small foundations grew to a national campaign and collaborative philanthropic investment of more than $250 million as more people joined the fight.

Philanthropy enabled campaign activities at all levels, including grassroots organizing, **legal strategies**, **finance**, and **research**. Advocacy was critical to influencing policy and leaders—especially locally. So was ensuring a just transition that supported workers and local economies.

The campaign has stopped more than 350 coal plants from being built and helped retire two-thirds of the plants operating a decade ago. U.S. plant closures have prevented disease and thousands of premature deaths and saved billions of dollars in health care costs. Retiring plants and transitioning to renewable energy helped reduce 605 million metric tons of carbon from the air by 2020—roughly three-quarters of U.S. greenhouse gas reductions in the past decade—and improved air quality and health outcomes nationwide. Coal's share of electricity in the U.S. has fallen from 50 to less than 20 percent, and the U.S. now gets more power from renewable energy than from coal. This work has scaled and is now part of a series of global coal campaigns.

LEVERS USED:

Movements and Coalitions

Activists and organizers representing diverse groups united against a common enemy.

Legal Strategies

Permits were challenged and clean air and water laws enforced to restrict coal projects.

Finance

The divestment movement led coal-financing institutions to recognize risks.

Capacity Building

Lawyers and volunteers learned how to block coal permits and about health and economic impacts. Learnings were shared with other communities.

Research and Innovation

Research helped determine that many coal plants were no longer economically viable and highlighted coal's negative health impacts.

Why Geography Matters

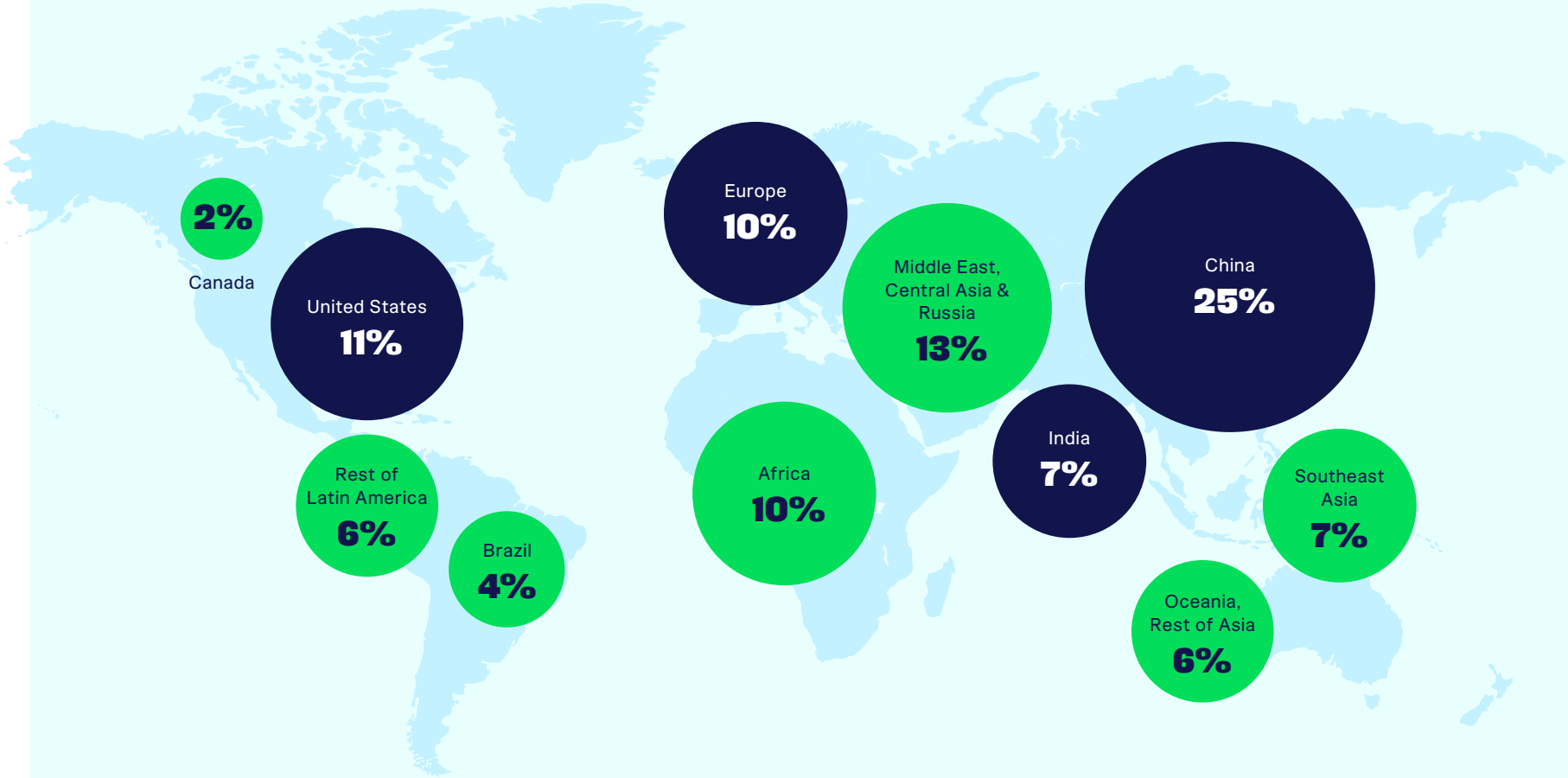
The places *where* philanthropists choose to focus are also very important. Countries experience climate change in different ways and take varied approaches to the climate challenge. Some nations are championing more aggressive strategies while others must be pressured to act. Climate impacts are often felt most acutely by the people least responsible for creating the problem. This is particularly true in developing countries.

Currently, half of the world's climate emissions come from four economies—China, the United States, the European Union, and India—so philanthropic investments in these regions can result in outsized impact in reducing pollution. Emerging economies and developing countries—especially in Africa and South Asia, which are expected to see tremendous growth by 2050—need a path to prosperity that is not based on fossil fuels, and philanthropic support can help ensure that countries see a viable pathway to a vibrant clean energy economy and do not lock in emissions as they develop.

For example, between 2015 and 2019, philanthropy enabled local civil society organizations to bring new coal plant construction in Southeast and East Asia almost to a standstill. Increasingly, coal plant developers are having more difficulties finding financing and insurance for new facilities, and banks from Singapore and Japan have enacted policies eliminating support for new coal power plants. In addition, philanthropy can assist developing countries in quickly and equitably shifting to a clean energy future. However, there is still much work to be done to bring the region's energy sector in line with global climate goals.

Share of Greenhouse Gas Emissions by Geography

There is an immediate opportunity for emissions reductions in the regions where emissions are currently the largest (dark blue-shaded circles). However, as other geographies develop, philanthropy can help them to avoid growing their emissions and to support low-carbon development pathways. For example, India is anticipated to have the largest increase in energy demand of any country over next 20 years, highlighting the potential for policies and investment to accelerate the clean energy transition.[10]



Total slightly exceeds 100 percent due to rounding.

Source: IPCC AR6 WG3 Technical Summary, 2019

Geography matters to advancing equity. The impacts of climate change are often felt most acutely in poor, developing countries and island nations—countries that have played a minimal role in causing the crisis. These nations need global support to reduce their emissions, grow clean energy economies, and adapt to the impacts of climate—another reason for philanthropists working in climate to consider giving globally.

Global giving can easily be done in collaboration with others and through vetted organizations including regional climate foundations, which have extensive geographic knowledge and relationships. Philanthropic giving to these intermediaries—called regranters—supports many smaller groups.

Regional Climate Foundations

These regranting entities take a regional approach to climate solutions. Because they are led by local teams, they are well positioned to fund strategies that take regional contexts and needs into account. They can help donors navigate the complexities of international giving, such as legal requirements, and identify local organizations, connections, and movements.

African Climate Foundation ▶
africanclimatefoundation.org

Energy Foundation (United States) ▶
ef.org

Energy Foundation China ▶
efchina.org

European Climate Foundation ▶
europeanclimate.org

India Climate Collaborative ▶
indiaclimatecollaborative.org

Iniciativa Climática de México ▶
iniciativaclimatica.org

Instituto Clima e Sociedade (Brazil) ▶
climaesociedade.org/en

Shakti Foundation (India) ▶
shaktifoundation.in

The Sustainability, Equity, and Diversity Fund (India) ▶
sed.fund

Tara (East, Southeast, and South Asia, excluding India and China) ▶
taraclimate.org

ViriyaENB (Indonesia) ▶
viriyaenb.org

PHILANTHROPY IN ACTION

Seizing the Methane Moment

Methane gas has contributed to nearly half of warming to date,[11] yet it has been overlooked in terms of policy priorities and climate finance. Reducing methane emissions caused by energy, agriculture, and waste could avoid nearly 0.3 degrees Celsius of global warming by 2050, and is critical to achieving global commitments to eliminate greenhouse gas emissions. Methane mitigation also can help improve health and livelihoods, preventing 255,000 premature deaths, 775,000 asthma-related hospital visits, 73 billion hours of lost labor, and 26 million tons of crop losses globally. And because many of the people most harmed by methane pollution come from poor and marginalized communities, there are significant equity and climate justice impacts.

To seize the moment on this urgent issue, philanthropists pledged $200 million ahead of the 2021 U.N. climate meetings in Glasgow to create the Global Methane Hub (GMH), which has since helped inspire more than 150 countries to sign the Global Methane Pledge, committing to take action toward reducing methane emissions. More than 50 countries have developed national methane action plans or are currently doing so.

GMH unites philanthropists, experts, non-profits, and governments to scale solutions that drastically reduce methane emissions, recognizing that this is the most impactful—and cost-effective—way to tackle global warming at scale. It pools funds to support ambitious, catalytic work—for example, resourcing organizations that provide **technical assistance** to governments that have signed the Global Methane Pledge. It funds **research and development** of breakthrough technologies to reduce emissions, and has helped to influence **policy** and leverage **financing**. By sharing strategies, resources, expert staff, data, and metrics, this collaborative endeavor enables a faster and more ambitious path to impact.

LEVERS USED:

Capacity Building

Technical assistance helps countries accelerate implementation of technical solutions, identify financing, and understand obstacles to implementing solutions.

Research and Innovation

Research breakthroughs in difficult sectors, such as reducing livestock methane emissions, help expand the pipeline of solutions and lower mitigation costs.

Policy

Policy actions ensure that methane reductions—and increased ambition—are part of countries' climate plans, and that regulation accelerates solutions. They can also help deliver local benefits like cleaner air, improved productivity, and resilience.

Finance

Working with multilateral development banks can shift finance toward methane mitigation and leverage catalytic funding dramatically.

Philanthropist Insights

Achieving net-zero emissions by mid-century requires disrupting “business as usual” and charting a bold new path forward at this crucial moment. A collective, global transformation is needed, and philanthropy can catalyze this change.

During the past decade, funders have learned a great deal about how to most effectively deploy philanthropy to tackle climate change, including what works and what does not. Based on their experience, here are some considerations to guide new climate philanthropists.

The biggest risk in climate philanthropy is sitting on the sidelines.

Kristian Parker,
CLI Ambassador, Vice-Chair,
Board of Trustees of the
Oak Foundation

Act quickly while continuing to learn

Philanthropists must act expediently. You don't have to be an expert to begin giving. Pick a path that interests you and get started, learning and iterating on your approach along the way. There are strategies at many different phases of evolution. You may choose to invest in nascent areas where there is tremendous need for research, innovation, and discovery. Early contributions can seed important work and leverage additional resources. Alternatively, some philanthropists focus on existing, high-impact strategies or proven solutions that can immediately deploy new funding to scale results—like electric vehicles, which are close to a tipping point toward mass adoption.

Make a long-term commitment

Donors empower meaningful change when they commit to multi-year, core support that allows organizations to set ambitious goals, hire great people, pursue long-term strategies, and attract additional funding. Highly restricted, short-term investments typically produce highly restricted, short-term ideas and outcomes, especially given how little philanthropy has invested in this work so far.

To solve complex challenges, look at multi-faceted solutions

Comprehensive strategies—reflecting diverse contributions of organizations and individuals who are thinkers, financiers, scientists, practitioners, communicators, and movement builders committed to shared goals—can more effectively solve problems and achieve greater impact than individual organizations working on their own. Consider supporting a range of stakeholders and organizations working together on solutions that incorporate communications, education, and advocacy.

Join forces to bolster impact

Collaboration is key to making the massive transitions required to protect our future, and the growing community of new and experienced climate philanthropists can be a valuable resource as you chart your path toward climate action. Working with other philanthropists can help get solutions to scale faster. There are decades of shared experience and success to build upon and deep knowledge about where to go from here. As a new climate donor, you can bring fresh perspectives and new ideas that will benefit existing funders.

To learn more about how philanthropists can join together to maximize impact, see *The Power of Collaborative Philanthropy: Giving Together to Address the Climate Crisis*, produced in partnership with the Bill & Melinda Gates Foundation. ▶

Philanthropy can not only accelerate just transitions to a low-carbon future—it can enable resilient societies and amplify the voices of the most vulnerable, so no one is left behind.

Yamide Dagnet,
Director, Climate Justice,
Global Program,
Open Society Foundations

Empower those closest to the challenges

The best solutions are informed—and often led—by those closest to the problem. Some organizations prefer to receive funding directly from philanthropists. Another option to get funding to a broad array of groups is giving through re-granting intermediaries ("regranters"), which serve as hubs in geographic or focus areas and help donors learn together and align with others for greater impact. Regranters have deep geographic, cultural, and issue-specific knowledge and can help donors strategize on how to support the diverse landscape of climate players. These include many groups working at the intersection of climate and other areas such as health, poverty, equity, and education.

Center equity and justice in your giving

In the past several years, more than half of all foundation funding for climate went to groups in the U.S. and Europe despite significant and rapid scaling needed in the global south. Within the U.S., only 1.3 percent of funding from 12 of the largest environmental funders went to Black, Indigenous, and people of color-led justice-focused organizations. Understanding these inequities is important for new climate donors, so as not to perpetuate the status quo and continue to exclude people of color, grassroots groups, and communities that are low-income, marginalized, or based in the global south.

There is growing recognition that achieving lasting, transformative change on climate will require deeply investing in the power and capacity of communities that historically have been left behind. This means funding grassroots solutions, movement building, and organizations with leaders who are women and people of color.

Actions Philanthropists Can Take To Make Equity and Justice Guiding Principles for Their Giving:

- Diversify your spaces and conversations.
- Redefine "impact" and how it is measured. Greenhouse gas emissions are important metrics that only tell a partial story. Consider indicators such as economic gains, jobs, reduced energy poverty, and community engagement as measures of impact.
- Trust and fund those who have borne the brunt of climate change and other intersecting crises to innovate solutions and paths forward.
- Acknowledge that money is power and fund grassroots, Black-led, Indigenous-led, people of color-led, women-led, and global south-led organizations like you want them to win—enabling them to scale to achieve visionary outcomes.
- Support self-determination and the redistribution of power. Community-directed funds flip the power dynamic between philanthropy and grantees, enabling experienced community experts to determine where funding goes while donors learn.
- Take as many concrete steps as you can, as fast as you can, toward a more equitable and just future.

The Climate Leadership Initiative's *Climate, Equity, and Justice Guide for Philanthropists* delves into these ideas in detail and provides many practical examples. ▶

Beyond philanthropy

While giving is the focus of this guide, philanthropists have the flexibility and are uniquely positioned to strategically deploy all types of capital toward solving the climate crisis. A portfolio approach can augment and leverage philanthropic investments to achieve even greater impact. Potential considerations include the following:

- **Invest for impact:** There are many opportunities to accelerate climate action through impact investing across asset types. Patient, risk-tolerant capital is needed for early-stage research and development, bringing transformative clean energy innovations to market and scaling solutions. Additionally, aligning portfolios with "climate-safe" principles and seeking positive environmental, social, and governance (ESG) impact as well as financial returns are critical to meeting the climate challenge and fueling the climate transformation we need.

- **Engage in politics:** Passing, implementing, and ensuring the durability of public policy requires elected leaders and policy makers who are committed to climate action. In addition to directly supporting candidates across all parties who make tackling climate change a priority, individuals can support groups engaged in issue advocacy, political organizing, and voter mobilization (in the United States, 501(c)(4) or 527 organizations). And elected officials at the national level are not the only focus; subnational leaders, like governors, mayors, state officials, and city councils also wield influence over climate policy and are accountable to voters.

- **Ensure your business's practices support a cleaner, healthier planet:** Businesses are stepping up by adopting science-based targets, assessing carbon footprints, using renewable resources, reducing their emissions, and eliminating harmful environmental practices. Increasingly, companies are factoring climate risk into decision making and playing a role in the policy arena.

- **Use your voice and connections:** By strategically tapping networks, connecting people, and engaging peers, philanthropists can be effective influencers and advocates. They also have the ability to exert power and inspire change as customers, shareholders, board members, and citizens.

Photo: Tenure Facility

PHILANTHROPY IN ACTION

Recognizing and Protecting Community Land Rights

Destroying forests is a significant cause of carbon emissions. More than 26 million hectares of forests are destroyed every year (comparable to 50 soccer fields per minute). While 2.5 billion people, including more than 470 million Indigenous Peoples and local communities (IPLC), customarily claim at least half of the world's lands and forests, they legally own only 10 percent, hindering their attempts to protect it. Strengthening the land and resource rights of populations whose well-being is tied to their forests is a vital opportunity to support communities and combat climate change.

The evidence is powerful: when the rights of IPLC are recognized and secured, deforestation rates are two to three times lower and carbon stocks are higher than in forests managed by other actors. Secure rights for these stewards improves ecosystem integrity, protects biodiversity, and even reduces the risk of emerging disease and future pandemics—making this approach more effective than almost any other strategy.

Philanthropy is helping to catalyze this idea through organizations like the Tenure Facility, an organization conceived of, by, and for IPLC that focuses on securing land rights. By providing **financial resources** and **building grassroots capacity** and political will, the Tenure Facility is helping IPLC secure the lives of the millions of people and hectares of forest at risk.

Since launching in 2015, the Tenure Facility has advanced collective security over more than 14 million hectares and is on track to secure 20 million by 2023—benefiting 7.3 million IPLC in at least 12 countries, and helping to save at least half a billion tons of emissions in the next decade.

LEVERS USED:

Finance

The Tenure Facility provides financing at scale—more than 80 percent of its budget flows directly to community-led projects, growing capacity to secure land rights for Indigenous Peoples and local communities. By developing relationships and improving collaboration with local and national governments, the private sector, and philanthropy, IPLC are better able to leverage additional funding.

Capacity Building

Technical assistance includes upgrading community knowledge and tools, including technologies for mapping territories and methodologies for land titling to make the case for legal land rights and improve land management

Act Now, Change Tomorrow

The evidence is irrefutable: Human influence has warmed the climate at a rate that is unprecedented in at least the past 2,000 years. The negative impacts of climate change are already severe and widespread, and they will continue to escalate the longer we delay acting.

If we move quickly, we have the power to change course. The more we can expediently and proactively support the changes we need, the more we can reduce and prevent the disastrous harm of climate change on countries, economies, communities, nature, and people.

We have the knowledge we need, and solutions are increasingly affordable, but our greatest threat is inaction. The most impactful thing we can do is to act now. Philanthropy has an important role to play by effecting incredible positive change in all aspects of life, and the actions you take today will determine our future.

Additional Resources

For more about the science of climate change, the role of different sectors and geographies, and how we can reduce emissions sources and support sinks, please refer to the following resources:

Video of climate scientist Johan Rockström on how we have 10 years to avoid destabilizing the planet. ▶

Documentary: Breaking Boundaries: The Science of Our Planet ▶

The National Academy of Sciences and the Royal Society: Climate Change Evidences and Causes, 2020 Update details the current state of climate change science from the leading governmental science organizations of the United States and the United Kingdom. ▶

The Royal Society (March 2020): Climate Change: Evidence and Causes includes answers to key questions. ▶

Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report 2023: Synthesis Report summarizes the state of knowledge of climate change, its widespread impacts and risks, and climate change mitigation and adaptation. ▶

IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis addresses the most up-to-date physical understanding of the climate system and climate change, bringing together the latest advances in climate science, and combining multiple lines of evidence from paleoclimate, observations, process understanding, and global and regional climate simulations. ▶

International Energy Agency: Net Zero by 2050—A Roadmap for the Global Energy Sector, May 2021 ▶

United Nations Development Programme: The Climate Dictionary: An Everyday Guide to Climate Change is a helpful resource of climate change terms and concepts. ▶

NOTES

[1] wri.org/insights/net-zero-ghg-emissions-questions-answered

[2] climateworks.org/report/funding-trends-2023/

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[5] ozone.unep.org/sites/default/files/2019-04/RTOC-assessment-report-2018_0.pdf

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[7] Intergovernmental Panel on Climate Change Sixth Assessment Report, Climate Change 2022: Mitigation of Climate Change

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[9] www.ipcc.ch/report/ar6/wg3/downloads/outreach/IPCC_AR6_WGIII_Factsheet_CDR.pdf

[10] iea.org/reports/india-energy-outlook-2021

[11] Climate Change 2022: Mitigation of Climate Change. Working Group III Contribution to the IPCC Sixth Assessment Report

About Climate Lead

Climate Lead empowers philanthropic leaders everywhere to take immediate and far-reaching climate action. As an impartial and trusted guide, Climate Lead equips new climate philanthropists with the information and insights they need to drive transformative solutions. We cut through the complexity by curating roadmaps, in partnership with a diverse network of experts, to help you make a bold impact on climate from day one.

Climate Lead provides specialized services to help new climate philanthropists give with confidence and make influential, game-changing contributions to address the climate crisis. These include:

- One-on-one advising
- Curated portfolios of solutions that have been vetted for impact
- Connections to a diverse, global network of climate experts and peer philanthropists
- Learning events and resources

Climate Lead guides donors toward urgent and high-impact climate giving. Our approach provides:

- **Specialized Expertise:** We translate credible and current insights from a global, diverse network of climate experts and leaders to help you deepen your climate learning and make informed choices that create tangible impact.

- **Trusted and Impartial Advice:** We offer our services free of charge, prioritizing philanthropic leaders' interests and climate impact above all.

- **Networked Community:** We connect you to a built-in global community of advisors, field partners, climate funders, and other luminaries who are interested in maximizing impact through partnership and collective action.

- **Tailored Support:** We meet you where you are and provide holistic support along every step of your climate journey.

climate lead