

A photograph of a dense forest with tall, slender trees and vibrant green foliage. In the background, a body of water is visible through the trees. The overall scene is bright and natural.

VISION FOR EQUITABLE CLIMATE ACTION

MAY 2020

Drafted by the
Equitable and Ambitious Climate Vision
Action Team of the
U.S. Climate Action Network

ABOUT THIS DOCUMENT

The Vision for Equitable Climate Action (VECA) is a comprehensive vision for tackling the climate crisis drafted by members of the USCAN Equitable and Ambitious Climate Vision Action Team. Over nearly two years, more than 175 people from at least 106 USCAN member organizations participated in developing the VECA platform through a transparent, inclusive process. Not all USCAN members agree on every detail in the platform, but all support its urgency, scale, ambition and focus on justice. The platform will be updated annually in response to new developments or perspectives.

To download a copy of the VECA platform and find additional information resources, visit www.equitableclimateaction.org.

ABOUT USCAN

The U.S. Climate Action Network (USCAN) is a vital network for 175+ organizations active on climate change. Our mission is to build trust and alignments among members to fight climate change in a just and equitable way.

For more information about USCAN and how to become a member visit www.usclimatenetwork.org.

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Introduction

The U.S. Climate Action Network (USCAN), a network of more than 175 organizations, embarked in 2018 on a transparent, inclusive process to develop a comprehensive vision for tackling the climate crisis. The process led to the creation of this platform, developed by an “Action Team” that every member was invited to join. Nearly 200 individuals from at least 106 organizations contributed.

This document presents a vision of just and equitable policies with the goal of satisfying what climate science says is necessary to hold global average temperature rise to 1.5°C. While this vision does not signify universal policy alignment or endorsement of every position, all members of USCAN agree with the need for immediate, equitable action, at all levels of government, at the scale needed to respond effectively to the climate crisis. These policy solutions may be added to, amended, or crystallized in the future based on our work, and innovation, case studies of success, or further understanding of the policy changes that are necessary.

Problem Statement

The Science

Humanity is facing an emergency climate crisis that poses an existential threat to human civilization and guarantees extreme suffering if we do not act immediately.¹ Excess greenhouse gases in the Earth’s atmosphere from the production, transportation, and combustion of fossil fuels and from unsustainable forestry, agricultural, and industrial practices are causing extreme and catastrophic changes to the planet’s climate system² and harming the communities that are host to the polluting facilities and processes. Eighteen of the 19 hottest years on record have occurred since 2001.³ Rising temperatures are resulting in more intense storms, droughts, and ecosystem collapse. Extreme storms like Hurricanes Katrina, Sandy, Harvey, Maria, Irma, and Florence and Typhoons Haiyan, Mangkhut, and Yutu⁴ are becoming

¹ Climate Vulnerability Monitor: A Guide to the Cold Calculus of a Hot Planet. (2012). DARA. Retrieved from <https://daraint.org/wp-content/uploads/2012/10/CVM2-Low.pdf>

² Global warming of 1.5°C. (2018). *Intergovernmental Panel on Climate Change*. Retrieved from <https://www.ipcc.ch/sr15/>

³ NASA Earth Observatory (2019) [2018 Was the Fourth Warmest Year, Continuing Long Warming Trend](#)

⁴ Kossin, J. P., Hall, T., Knutson, T., Kunkel, K. E., Trapp, R. J., Waliser, D. E., & Wehner, M. F. (2017). Extreme Storms. *Climate Science Special Report: Fourth National Climate Assessment, Volume I*. Retrieved from <https://science2017.globalchange.gov/chapter/9/>

more powerful, wetter, costlier, and more deadly in the United States and across the globe. Food and water security are under threat, with some areas facing up to a one-third decline in per capita crop production with 2°C of warming above pre-industrial temperatures.⁵ According to the most recent report from the Intergovernmental Panel on Climate Change (IPCC), on our current trajectory, hundreds of millions of people are at risk for extreme suffering and early death. Up to a billion people could be forced from their homes in mass climate-driven migration by 2050.⁶ Global warming already severely threatens many ecosystems and biodiversity generally. Threats to humans and wildlife alike grow significantly worse as warming approaches 1.5°C, with increasingly catastrophic consequences at higher levels of warming. Even under optimistic projections of business-as-usual greenhouse gas pollution, there is an unacceptably high 5% chance by 2100 of global heating to levels that pose “existential threats” to “a majority of [human] populations.”⁷

The Injustice

The injustice of climate change creates a moral obligation and call to action. Structural racism and economic injustice, including a history of colonialism and exploitation, have meant that

Emanuel, K. (2017). Assessing the present and future probability of Hurricane Harvey’s rainfall. *Proceedings of the National Academy of Sciences of the United States of America*, 114(48). Retrieved from <https://www.pnas.org/content/114/48/12681.full>

Webster, P. J., Holland, G. J., Curry, J. A., & Chang, H. –R. (2005). Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment. *Science*, 309(5742). Retrieved from <http://science.sciencemag.org/content/309/5742/1844.full>

Holland, G., & Bruyère, C. L. (2013). Recent intense hurricanes response to global climate change. *Climate Dynamics*, 42(3-4). Retrieved from <https://doi.org/10.1007/s00382-013-1713-0>

Patricola, P. M., & Wehner, M. F. (2018). Anthropogenic influences on major tropical cyclone events. *Nature*, 563. Retrieved from <https://www.nature.com/articles/s41586-018-0673-2>

Wang, S-Y, S., Zhao, L., Yoon, J-H., Klotzbach, P., & Gillies, R. R. (2018). Quantitative attribution of climate effects on Hurricane Harvey’s extreme rainfall in Texas. *Environmental Research Letters*, 13(5). Retrieved from <https://iopscience.iop.org/article/10.1088/1748-9326/aabb85/pdf>

Risser, M. D., & Wehner, M. F. (2017). Attributable Human-Induced Changes in the Likelihood and Magnitude of the Observed Extreme Precipitation during Hurricane Harvey. *American Geophysical Union*. Retrieved from <https://doi.org/10.1002/2017GL075888>

⁵ Hodges, J. (2018). Food Crops from Corn to Rice Are Seen at Risk from Warmer Climate. *Bloomberg*. Retrieved from <https://www.bloomberg.com/news/articles/2018-10-08/food-crops-from-corn-to-rice-are-seen-at-risk-from-warmer-change>

⁶ Kamal, B. (2017). Climate Migrants Might Reach One Billion by 2050. *reliefweb*. Retrieved from <https://reliefweb.int/report/world/climate-migrants-might-reach-one-billion-2050>

⁷ Xu, Y., Ramanathan, V. (2017). Well below 2°C: Mitigation strategies for avoiding dangerous to catastrophic climate changes. *Proceedings of the National Academy of Sciences of the United States of America*. Retrieved from <https://www.pnas.org/content/early/2017/09/13/1618481114>. The “optimistic” scenario referred to, termed “baseline-fast,” is the IPCC Representative Concentration Pathway 6.0. See IPCC AR5 WIIII, Ch. 6, p. 427.

those who are least responsible for the climate crisis and have the least resources to adapt are being hit first and worst: indigenous communities, communities of color, poor people, elderly people, women, young people, immigrants, people with disabilities, the global south, and others whom our current political and economic systems marginalize. Communities that have historically borne the brunt of public health and environmental harms from exploitative and toxic industries, as well as those whose energy burdens are disproportionately high, have been sacrificed for the whole. Extractive systems of mass production and mass consumption, in which we are all complicit, have been perpetuated by the willful deception and greed of a few profiteers in the fossil fuel industry, industrial agriculture, and other extractive industries. A culture of valuing profits over human lives has allowed falsities to flourish, such as the idea that the means towards our energy future must forgo climate justice. Intergenerational injustice has been the result of a culture of perpetual growth, and a result of the short-sighted greed and intentional deception of profiteers who knew for decades that their business model, if continued, would cause mass human suffering. Rather than change course or sound the alarm, they have doubled down and used the profits they earned from wrecking the earth to buy off politicians, lie to the public, and do everything in their power to maintain the status quo. We are nearly out of time, especially for those most vulnerable, who are already losing their lives and livelihoods. We must act immediately and at emergency speed. The window to meet this challenge with adequate solutions is closing—not just for those most vulnerable, but for us all.

The Roadblocks

Effective responses to the climate crisis have been hindered by the corrupting influence of fossil-fuel and extractive-industry money in politics, by a lack of political will and power to implement equitable and bold solutions, and by fractured organizing. Money from fossil fuel and other extractive industries drives U.S. politics, and as a result, climate denial reaches the highest levels of our government. All our political parties are culpable—either for outright denial, or for failure to put forward a program addressing the crisis with the speed and urgency it demands. We believe that solutions lie within the grassroots, in our communities, in our reconnecting with our interdependence on each other and the natural world, and in organizing. There is no more time for incrementalism, delay, or half-measures. Our movement cannot afford to be fractured. We must unite around common solutions, and we also must join forces with other movements that can help ensure a government that works to protect all people, not just a wealthy few.

Policy Solutions

The policies below comprise what we must do to protect our communities and overcome the injustice and the roadblocks that have prevented us from addressing the climate crisis at scale. Some of them incorporate time frames or measurable criteria. Success in meeting these goals is

not guaranteed, but it is necessary to avoid intolerable levels of human suffering. The policies are ambitious and, in most cases, have not been implemented at the scale outlined. They will require commitment over a decade or more, substantial resources, and acceptance of some failures along the way. Like the effort to put humans on the moon more than 60 years ago, we cannot predict every detail of how we will succeed. Nor can we guarantee success. But we are certain that we must try.

As a community, we have a clear and unambiguous goal to act equitably and ambitiously to exceed the U.S. goals originally put forward in the Paris Climate Agreement and meet the global goals of that agreement.

Below, we enumerate a list of needed policies and public investments on a sector by sector basis, followed by two overarching issues that are related to all other policy areas, ensuring a just transition and financing the platform, and three non-sectoral topics.

Sectors and Topics

Economy-Wide Target

The IPCC's special report on Global Warming of 1.5°C was notable for its combination of scientific and ethical clarity. It discussed some critical truths:

1. We must do everything to try to hold the warming to a maximum of 1.5°C. We may fail, but this effort is our only chance of achieving the Paris Agreement's backstop goal of holding global warming "well below 2°C."
2. To have a substantial chance of achieving 1.5°C, global emissions must decline by at least 45% and as much as 60% from 2010 levels by 2030 and must reach net zero around 2050.⁸

These constraints are not in themselves sufficient to define the U.S. fair share of the global climate mitigation challenge. The United States is an extremely wealthy country with a great

⁸ On the 2030 and 2050 requirements of 1.5°C and 2°C, the relevant IPCC text reads: "In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO₂ emissions decline by about 45% from 2010 levels by 2030 (40–60% interquartile range), reaching net zero around 2050 (2045–2055 interquartile range). For limiting global warming to below 2°C CO₂ emissions are projected to decline by about 25% by 2030 in most pathways (10–30% interquartile range) and reach net zero around 2070 (2065–2080 interquartile range)." IPCC, 2018: Summary for Policymakers. In: 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 [V. Masson-Delmotte, 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, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland. C.1, p. 14.

deal of historical responsibility for the climate crisis and a large capacity to respond to it. Therefore, it must do substantially more than the global average.

There is lively, ongoing debate about the maximum achievable rate of emissions reductions. In the U.S., a 2030 target of 100% reductions would be ideal, but many experts think it is simply not possible. We should strive toward that goal but, given that authoritative voices are arguing that domestic carbon dioxide emissions can be reduced as much as 70% by 2030, we believe this is an appropriate target and should be coupled with commensurate annual targets. A U.S. fair share also includes substantial financial support for emissions cuts in other, poorer countries. (See Global Issues and Responsibilities below).

Electricity

Renewable Energy

- Target a just and equitable transition to 100% renewable energy by 2030, while protecting economically disadvantaged ratepayers from temporary rate shocks, ensuring that the benefits of the transition are shared equitably by all, prioritizing marginalized communities, and addressing the health effects of legacy pollution.
- The IPCC defines renewable energy as any form of energy from solar, geophysical (including wind, geothermal, tidal, hydro), or biological sources that is replenished by natural processes at a rate that equals or exceeds its rate of use.⁹ We amend this definition to add that renewable energy shall not be harmful to our communities or the environment. Examples of technologies that should not be treated as renewable sources of energy because of their adverse health, climate, environmental, and social justice impacts include burning wood chips, wood pellets, solid waste, or construction and demolition debris.

Nuclear Energy

- No new nuclear energy.
- Phase out existing nuclear energy, in an equitable manner, as soon as reactors can be replaced by expanding renewables and efficiency and not with fossil fuels.

⁹ IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (IPCC-SRRN), 2011. O. Edenhofer, R. Pichs- Madruga, Y. Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. von Stechow (eds), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Technical Summary, 1.2 (p. 38).

- End subsidies to nuclear energy and redirect those resources to renewable energy, phasing out of nuclear energy facilities, and a just transition for nuclear energy workers.

Biomass Energy

- Biomass is a broad term that covers everything from algae to old growth forests. Renewable energy policies that include biomass fuels with no limitations perversely incentivize technologies that can produce greater carbon emissions than the fossil fuels they are intended to replace.
- Renewable energy policies in the U.S. and abroad that currently include biomass fuels must be reformed to remove subsidies for wood-burning power plants, garbage incinerators, and other highly polluting technologies.
- New proposals for renewable energy that include biomass fuels must be carefully crafted to avoid providing subsidies or other incentives for technologies with deleterious health and environmental impacts.

Stop Subsidizing Polluting Fuels

- Eliminate subsidies for polluting fuels as soon as possible and ensure adequate, equitable access to funding and finance for clean renewables, prioritizing marginalized communities.

Enact Utility Reforms

- Accelerate deployment, integration, democratic ownership, public ownership, and affordability of renewables.
- Maximize energy efficiency and electrification of other sectors.
- Promote local, community-based control and decentralized, resilient grid modernization including storage.
- Place a moratorium on essential utility service disconnections.

Transportation

Surface Transportation

- Retain the fuel efficiency standards that are currently in effect through the 2025 model year. Phase in a zero-emission standard for some light- and medium-duty vehicles

beginning in 2026, leading to a zero-emission standard for all new light and medium duty vehicles no later than 2030. Require zero emissions for new heavy duty (freight) vehicles by 2035. Offer incentives to internal combustion engine vehicle owners who scrap their vehicles to accelerate the decarbonization of the existing fleet, ensuring that lower-income households benefit equitably from consumer incentive programs.

- To ensure that state and local transportation investments are consistent with national climate policy goals, to advance environmental justice and equity, and to improve public health, condition federal transportation funding on state and local governments adopting transportation plans designed to: (a) achieve zero emissions from the surface transport sector by 2050; (b) assure affordable transit access to employment, schools, medical care, entertainment venues, and public services, including paratransit; and (c) avoid placing or expanding heavily trafficked highways, parking, freight distribution centers, and other high-polluting transportation infrastructure without requiring that polluting internal combustion engines be replaced with zero-emission technologies to avoid disproportionately exposing low-income communities and communities of color to the harmful health effects of vehicle pollutants.
- Transform to zero-emission fleets for school buses, other buses, and public transportation by 2030. Electrify rail by 2030. (See Solutionary Rail.¹⁰) Provide funds for low- and middle-income families to purchase electric vehicles.
- Invest in publicly owned high-speed rail with a focus on connecting major metropolitan areas within 500 miles of each other as soon as possible.
- Massively redirect resources and incentives to implementing “complete streets,” which are designed and operated for all users; incentivizing public transit, walking and biking; coupling housing and transit policy to encourage high-density affordable housing near transit; and requiring metropolitan planning organizations to reduce greenhouse gas emissions by 30% to 50% by 2030 and 100% by 2045, with an emphasis on access and affordability of transportation options. Consideration for funding should be given to the disproportionate lack of funding and resources in rural areas.
- Make federal surface transportation funding contingent on the adoption by statewide and metropolitan planning organizations of transportation plans that achieve quantifiable reductions in carbon dioxide pollution from mobile sources, averaged over each four-year transportation planning cycle.

¹⁰ Solutionary Rail, www.solutionaryrail.org

- Recognizing the value of reducing air pollution from the transport sector, including pollutants that accelerate climate disruption and impair human health, tax policies to fund transportation infrastructure investments should be designed to ensure an equitable distribution of costs to users based on their use of, and impact on, facilities, and to encourage the replacement of vehicles that use polluting fuels with zero-emission vehicles.

Aviation

- By 2022, the Federal Aviation Administration develops air traffic optimization policies that minimize the overall climate impact of air travel, including not only carbon dioxide emissions but also other, non-carbon dioxide effects in the upper atmosphere.¹¹
- Vastly increase R&D for efficiency and electrification of aviation.
- Achieve low to zero emissions in the aviation sector by no later than 2050, by deploying technology-forcing aviation emission standards for new aircraft types and the current aircraft fleet. Supersonic jets must meet the same emissions standards as subsonic aircraft.
- Implement a private jet and frequent-flier tax to avoid unnecessary flights, calibrated to the expected demand reduction needed to meet climate stability goals, while ensuring equity and mobility for isolated communities.

Shipping

- By 2030, require ships entering U.S. ports to achieve carbon dioxide emissions per ton of cargo that are half of the average rate of emissions in 2018. Vastly increase R&D to develop more fuel-efficient ships and low- to zero-emission ship propulsion technologies with the goal of eliminating greenhouse gas pollution from shipping.

¹¹ U.S. aviation is only 9% of U.S. transportation emissions and 2–3% of global greenhouse gases, but ~5% of the global warming impact that the Earth experiences due to the radiative forcing effects from burning jet fuel in the upper atmosphere.

Manufacturing and Industrial Processes

Goals

- Manufacture more renewables, electric vehicles, public transit, and other goods essential to a clean energy economy.
- Make manufacturing clean, removing toxic materials and processes and greenhouse gas emissions—including in the renewables sector—and limit the need for mining.
- Ensure high-quality jobs that pay family-sustaining wages, that are safe for workers and do not expose workers to toxics, with equitable access to jobs, including in the renewable energy sector.
- Reduce manufacturing-related waste and extraction by expanding remanufacturing and reuse to encourage sustainable life cycle management as part of a “circular economy.”

Policies

- Measure and transparently report job creation, worker safety adherence, pollution reduction progress, and life cycle management—both for the goods produced and the supply chain.
- Limit the need for mining through increased recycling, right to repair, and longer product life, eliminating planned obsolescence.
- Invest massively in R&D and deployment for solutions to increase manufacturing energy efficiency; eliminate greenhouse gases, other pollutants, and waste from manufacturing; substitute materials; clean up pollution from legacy polluting manufacturing; and redevelop brownfields where appropriate.
- Ensure that government procurement supports clean, equitable, job-creating manufacturing.
- Require companies to clean up pollution from manufacturing and limit the need for mining.
- Create a clean-technology industrial bank (like a “green bank”) to deploy clean manufacturing for the clean energy economy (e.g., renewables, electric vehicles, public transit), with democratically determined local content and manufacturing requirements as appropriate for the clean economy of the future.

- Immediately sign and ratify the Kigali Amendment to the Montreal Protocol phasing out the use of hydrofluorocarbons (HFCs).
- Limit greenhouse gas emissions and toxic pollution from manufacturing, and phase out highly polluting manufactured materials.
- Enact policies that require all manufacturing jobs that benefit from the above investments and incentives to abide by high-road labor standards, with unions, frontline communities, and other impacted local populations taking the lead on developing these policies, such as prevailing wages, strict safety standards, and project labor agreements with unions.

Agriculture

Mitigation, adaptation, and resilience in the agriculture sector are essential to climate action, especially to protect livelihoods and the right to food. The agricultural sector should be a sink and not a source of greenhouse gas emissions.

- Secure the right to food, ensuring that economically disadvantaged areas, communities of color, and climate-impacted communities have access to healthy food.
- Make a massive investment in agroecology and regenerative practices to restore soils, promote biodiversity, and protect ecosystem services in rural areas, including by dramatically reducing the use of synthetic fertilizers and pesticides. Rural areas contain only 19% of the U.S. population but represent 97% of the country's land mass. The potential for this expanse of land to contribute to carbon sequestration is enormous.
- Reform economic support for farmers to better protect family farms and farm workers.
 - Reform subsidies and other forms of price supports to support agroecology and environmentally sound and climate-friendly agricultural practices, such as cover cropping, integrated pest management, and agroforestry.
 - Ensure fair prices for family farmers so that farming provides a decent livelihood.
 - Ensure the availability of affordable credit for family farmers, especially young and minority farmers who may lack access to other sources of credit and capital.
 - End and provide restitution for historic discrimination against minorities in agriculture programs.

- Enact protections for farm workers to ensure safe working conditions, a livable wage, and other labor protections, regardless of immigration status.
- Enact antitrust rules that stop and reverse the corporate consolidation of agribusiness companies to protect farmers, workers, consumers, and rural communities and reduce vertical and horizontal consolidation.
- Transform the livestock sector by increasing understanding of the significant role animal agriculture plays in driving climate change and addressing the heavy impacts of livestock production on the environment. Support transformative approaches to greenhouse gas reduction and ensure that economically disadvantaged communities, communities of color, and indigenous communities do not continue to disproportionately bear the burden of pollution and climate disruption from the livestock and poultry industries:
 - Establish mandatory targets for greenhouse gas emission reductions for the animal agriculture sector based on a comprehensive life cycle assessment (LCA) approach, from cradle to post-farm gate (including land conversion and feed production through slaughter and processing).
 - Ensure transparency and consistency in the methods by which greenhouse gas emissions data is generated and make all data on the amounts and types of emissions generated by the livestock and poultry industries available to the public.
 - Develop an effective national strategy to reduce the amount of greenhouse gases generated by this industry, including significantly reducing and phasing out concentrated animal feeding operations (CAFOs) and ensuring a just transition for livestock farmers and farm workers.
 - Invest in and incentivize mitigation and prevention strategies that reduce greenhouse gas emissions from animal agriculture while improving the surrounding environment, such as supporting efforts to reforest areas that were previously deforested to support grazing or minimizing the use of conventional agriculture for industrial feed purposes.
 - Support responsible grazing practices that recognize the limitations of available pasture and the value of natural grasslands as carbon sinks and native wildlife habitat.

- Promote plant-centric diets that include healthy amounts of sustainably sourced animal products.
 - Encourage procurement policies at all government and institutional levels that increase the availability of healthy, plant-based options and reduce the amount of meat and dairy purchased and served.
 - Emphasize the connection between diets that are healthy for people and the climate by including sustainability considerations in national dietary guidelines and related programs and policies.
 - Support research and development to improve the availability and healthfulness of plant-based foods while minimizing environmental impacts.
 - Support programs that provide safe, affordable, and culturally appropriate food options in underserved communities.
- Reduce food waste to mitigate unnecessary agricultural greenhouse gas emissions and create a sustainable food system that conserves natural resources.
 - Standardize date labels to reduce consumer confusion and waste.
 - Track and publicly report food waste throughout the supply chain, particularly at the farm and retail levels.
 - Prioritize prevention of food loss and waste through initiatives such as improving inventory management, retailer commitments to whole-crop and seasonal/bumper-crop purchasing, extended produce specifications, and investments in packing, tracking, and storage innovation.
 - Invest in universal composting programs to reduce the amount of compostable food going into landfills while expanding access to fertilizers that are not reliant on CAFO waste or destructive mining practices.

Buildings and Energy Efficiency

Reduce Energy Use in Existing Public, Residential, and Commercial Buildings

- Retrofits
 - Conduct high-quality, deep energy efficiency retrofits of 75% of all existing public and private buildings by 2040 and 100% by 2050 while meeting applicable building safety standards.
 - Start by retrofitting (1) economically disadvantaged households; (2) multifamily residential buildings; (3) properties that are rented; and (4) placing additional early focus on the small number of buildings that consume a disproportionate share of energy.
 - Upgrade existing homes, including multi-family units and mobile homes in low-income and disadvantaged communities that may not currently be sustainable or habitable. If homes are not habitable and cannot be recovered, use those areas for community green space, affordable housing, or other community benefit.
 - Ensure that renters and economically disadvantaged households are not negatively affected; retain housing affordability; and prevent gentrification.
 - State energy departments and U.S. Department of Energy should track the number of buildings that have received deep energy retrofits in each state, beginning in 2020.
- Equity and justice
 - Remove fees for access to renewable energy sources for those who are economically disadvantaged.
 - Ensure that houses receive energy efficiency upgrades prior to accessing to renewable energy.
 - Provide restitution for victims of predatory lending and other unethical business practices. If companies go bankrupt after receiving federal funding to work on homes, this program will investigate and handle claims as well as seek retribution or recoup funds from those who profit from these practices.
 - Ensure energy efficiency work is done by workers earning living wages, working in safe and healthy conditions, with collective bargaining rights, while supporting

public jobs programs and prioritizing businesses owned by women and people of color.

- Other supports and incentives
 - Expand federal, state, and local funding and financing tools, including property assessed clean energy financing, federal funds for the Weatherization Assistance Program and funding for utility-based low-income weatherization and energy efficiency programs.
 - Require utilities to prioritize energy efficiency and demand-side management solutions to reduce overall power demand before considering building new power generation.

Reduce Energy Use in New Residential and Commercial Buildings

- Update state and local building codes to require all new commercial and residential buildings to meet the Architecture 2030 ZERO Code standard by 2025.
- Update building codes to require all new commercial and residential buildings to be onsite net-zero ready by 2025 if physically capable of generating all the energy required to operate the building using onsite energy sources.¹²
- Require proposed commercial and residential buildings to undergo an environmental justice assessment of community impact before receiving building permits.

Electrify Buildings

- New buildings. Update building codes to require all equipment and appliances (as that phrase is used by the Department of Energy, including heating and cooling loads) used in new buildings to operate on electricity by 2025.
- Existing buildings. Require all replacement appliances and equipment that can be powered by electricity to be powered by electricity by 2025.

¹² Some properties lack the renewable resource base to generate all power affordably on site—for example, tall towers that have thousands of square feet of floor space and little solar exposure.

Appliance standards

- Update federal appliance and equipment efficiency standards every two years, or as often as is practicable, including a forecast of efficiency standards over the coming 10 years.
- Incorporate appliance durability and repairability standards into the efficiency standards.

Use Land Use Laws to Support Energy Efficiency and Climate Resilience

- Leverage transit-oriented development, mixed use zoning, core density, and smaller dwellings to support energy efficiency in the building and transportation sectors.
- Integrate housing policy, land use policy, and transportation policy to advance equity and carbon reduction goals. For example, locate high density, efficient, affordable housing near convenient urban transit.
- Promote climate-wise development practices for resilience. For example, site new development outside of hazard zones such as fire prone landscapes, flood zones, and low elevation coastal zones.

Health

Climate change is already damaging human health and will have a greater impact in the future. The health effects of these disruptions include threats to mental health; increased respiratory and cardiovascular disease, injuries, and premature deaths related to extreme weather events; and changes in the prevalence and geographical distribution of food- and water-borne illnesses and other infectious diseases. Climate change also affects the delivery of health care and the ability of communities to rebound from extreme weather events. The most vulnerable—children, the elderly, persons with disabilities, low-income communities, and communities of color—bear a disproportionate burden and are the least equipped to recover.¹³

As climate change poses significant threats to human health, the health sector also contributes nearly 10% of U.S. greenhouse gas emissions. Hospital and health care systems must implement climate-smart healthcare by decarbonizing the health sector and building resilient facilities and public health infrastructure. This includes adapting both infrastructure and service delivery to remain effective in the face of new threats and build resilience in communities.

¹³ Refer to the U.S. Fourth National Climate Assessment – Chapter 14: Human Health
<https://nca2018.globalchange.gov/chapter/14/>

Without transformational action, climate change will be increasingly severe, leading to more illness, injury, and death; displacement of populations because of food and water scarcity; more frequent natural disasters and violent conflict; and worsening health inequities. By mobilizing climate action for health and health action for climate, the U.S. can reduce climate pollution and build healthy communities that are resilient in the face of climate risks.

Climate solutions must improve all people's health. Solutions must clear the air, improve land and water quality, and provide healthy food choices to nurture people's bodies and spirits. They must combat the devastating health impacts of climate change, reduce injury and illness, care for mental health, and extend people's lives.

Climate solutions must prepare us for harmful impacts. They must protect our families, our communities, and our livelihoods from the harmful impacts we are already experiencing from climate change, and they must center communities that are the most vulnerable to the health and mental health impacts of climate change.

Public Health Infrastructure and Community Resilience

- Climate change must be an integral component of federal, state, and local public health planning and programming.
- Deeply engage communities most vulnerable to health harms of climate change in planning, policy development, and budgeting, offering meaningful roles and power in decision-making processes, and respecting history and traditional ecological knowledge.
- Provide adequate planning and funding to protect all communities from the adverse health impacts of climate change, including robust heat island mitigation; expansion of tree canopies, green space, and green infrastructure; cool roofs and cool pavements; rainwater and graywater capture; strategies to reduce the occurrence and impacts of catastrophic wildfires and floods; community preparedness and resilience training; and increased availability of affordable, climate-adapted housing.
- Provide guidance based on an integrated assessment of the health and health equity outcomes of proposed climate solutions and investments.
- Invest in hospital and community health center resilience by providing funds to conduct climate vulnerability assessments and support infrastructure improvements.

Hospital and Healthcare Facilities

- Implement climate-smart energy, water, transportation, food, anesthetic gas, and waste management practices in health care facilities, clinics, and provider offices.

- Assess vulnerability to extreme weather or other climate-related events that would limit healthcare facility operations, and invest, plan, and implement strategies to build health and mental health system resilience using the BRACE framework¹⁴ in collaboration with public health and other community agencies.
- Improve access to care for those that are uninsured, underinsured, or in rural or underserved communities, as these populations are more likely to experience health threats posed by climate change including increased infectious disease and even pandemics.

Phasing out Fossil Fuels

- *Keep Fossil Fuels in the Ground and Stop Expansion.* Begin responding to the climate crisis by stopping the problem from getting worse than it already is. A phase-out of fossil fuels should include a halt to all new permits for fossil-fuel exploration, production, and infrastructure, a phase-out of all subsidies to fossil fuels, and divestment of all public and private financial investments from the exploration, production, and distribution of fossil fuels. Fossil fuel companies should not receive government assistance or bailouts. Instead, any assistance should directly support impacted fossil fuel industry workers and communities (such as to diversify tax bases) and lay the groundwork for a just transition.
- *Target a Just Transition to 100% Renewable Energy.* During this transition, center people of color and frontline, indigenous, and low-income rural communities to ensure they receive the early benefits of a just transition. A just transition should include a managed decline of the fossil fuel industry and a phase-out of all existing fossil fuel production, accompanied by massive investment in clean energy. A federal jobs guarantee offering a green job for anyone who wants one, prioritizing programs for non-violent returning citizens who were previously incarcerated, could simultaneously lift communities out of poverty while transitioning our economy to 100% renewables.
- *Ensure That Polluters Pay the Full Costs of Their License to Operate.* To safeguard public funds from the risk of fossil fuel industry insolvency, and to ensure existing point-source risks are not externalized to frontline communities, local communities should secure the funds necessary from the fossil fuel industry, as a condition of industry's license to operate, to ensure that the costs of adaptation, mitigation, and climate risk are not passed on to consumers or workers. They should secure these funds by requiring fossil-fuel risk bonds that protect public funds and prioritize them over the interests of secured creditors.

¹⁴ Building Resilience Against Climate Effect Framework. Centers for Disease Control.
<https://www.cdc.gov/climateandhealth/BRACE.htm>

- *Ensure That Polluters Pay for the Cost of a Just Transition.* Ensure that the costs of phasing out fossil fuels are borne by the polluting corporations that have driven the crisis and obstructed solutions, and that those costs are not passed on to others, through appropriate bonding secured by public officials.

Drawdown, Negative Emissions, Forest Protection, and Other Natural Solutions

The IPCC has warned that deep reductions in greenhouse gas emissions will not be enough to limit global warming to 1.5°C. All modeled pathways project the use of carbon dioxide removal (CDR) to compensate for residual emissions and for delays in implementing emissions reductions.¹⁵ The IPCC found that it is feasible to draw down excess atmospheric carbon dioxide without recourse to experimental carbon capture and sequestration technologies by relying entirely on nature-based solutions, primarily forests, in combination with steeper emissions reductions.¹⁶ In addition, the IPCC noted that restoration of natural ecosystems and soil carbon sequestration, if done properly, could provide essential co-benefits such as improved biodiversity, soil quality, and local food security.¹⁷

- Immediately protect, restore, and enhance natural ecosystems—such as forests, wetlands, peatlands, coastal and marine ecosystems—to protect communities from climate change, remove carbon from the atmosphere, protect endangered and keystone species, and protect and increase carbon stored in natural sinks.
 - *Forests.* The U.S. must immediately scale up forest protection, rewild and restore degraded forests, reduce consumption, and transition to truly clean, renewable energy before it is too late. Standing forests draw enormous amounts of carbon out of the atmosphere and store it long-term in trees and soils. To avoid climate catastrophe, we must rethink the way we value forests. Forests help provide a cost-effective solution to the threat of climate change and create healthier, more resilient communities, ecosystems, and economies.¹⁸

¹⁵ IPCC, 2018: Summary for Policymakers. In: 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 [V. Masson-Delmotte, 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, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland. C.3, p. 19.

¹⁶ Booth, M.S. 10/7/2018. The IPCC's Recipe for a Livable Planet: Grow Trees, Don't Burn Them. Retrieved from: <http://www.pfpi.net/the-ipccs-recipe-for-a-livable-planet-grow-trees-dont-burn-them>

¹⁷ IPCC, 2018: Summary for Policymakers. P. 19, C.3.5, p. 19.

¹⁸ Stand4Forests: A Unified Call for Forest Protection in the United States. Accessed October 2019 from <https://stand4forests.org/>

- *Wetlands.* The preservation, restoration, and conservation of freshwater and marine wetlands and peatlands is necessary to provide efficient sinks for greenhouse gases such as carbon, methane, and nitrous oxide. In particular, seagrass meadows and mangrove forests should be protected and restored for their carbon drawdown and sequestration potential. Science-based best practices should be developed and implemented for the control of invasive species that threaten the natural ecosystem functions of wetlands and peatlands, as well as for reducing the impacts of stormwater runoff resulting in contamination of wetlands from hog and chicken farms, landfills, and other land-based pollution sources.
- *Oceans.* Oceans directly absorb atmospheric heat and play vital roles in carbon drawdown and sequestration. Measures should be put in place to enhance the carbon drawdown and sequestration potential of marine waters by preserving the overall health of ocean ecosystems. Kelp forests, certain beneficial phytoplankton, and other submerged aquatic vegetation, as well as shellfish and coral reefs, all play critical roles in the marine carbon cycle. More marine protected areas (MPAs) must be designated to protect and restore appropriate marine and estuarine areas for their carbon drawdown and sequestration potential, while maintaining traditional uses of these areas by local communities for food and sustenance.
- Ensure accurate and transparent accounting of emissions in the forestry, land-use, bioenergy, and marine sectors.
- Stop false solutions such as industrial-scale bioenergy, bioenergy with carbon capture and storage (BECCS), and other forest and biogenic carbon offset schemes that deliver neither sufficient long-term emissions cuts nor environmental and climate justice. Halt conversion of natural forests to plantations of genetically engineered trees or non-native species and reject similarly problematic afforestation plans.
- Develop just economic transition strategies for communities dependent on extractive forest economies, particularly indigenous communities, communities of color, economically disadvantaged communities, and rural communities. Provide more options and incentives for landowners and municipalities to maintain forests and other natural ecosystems for their carbon sequestration and resiliency benefits.

Adaptation

Guiding Principles

- Resist new developments for housing or industry in areas that are, or may be, particularly climate-vulnerable.
- Center equity considerations in the siting, resourcing, and construction of green infrastructure, ensuring that those most vulnerable benefit from such projects in terms of health, well-being, employment, finances, and environmental impacts.
- Center equity in the development and implementation of climate adaptation plans, community resilience plans, and disaster action plans, and plans must reflect the voices, experiences, and expertise of those impacted first and worst by climate change.
- Use a human rights-centered approach when people are displaced by climate change and its impacts to ensure that the movement is well-resourced and those being moved are safe, have access to clean water, food, and health care, and have the right to return to their communities.
- Apply equity considerations in managed retreats to ensure that communities are resourced and treated with dignity and respect.
- Resiliency efforts must address climate displacement and migration, protect those most vulnerable, and be resourced and include technical and health support for frontline communities.

Policy Proposals

- Reform insurance programs that provide support to communities impacted by flooding, hurricanes, droughts, and wildfires to include affordability, mitigation, access, equity, and accurate flood and fire maps. The National Flood Insurance Program, among others, should be reformed.
- Put an immediate halt to any development in climate-vulnerable areas that risks worsening the vulnerability of communities, such as development in flood-prone areas, forests, and wetlands.

- Aim for balance between pre- and post-disaster spending. Currently, for example, the Disaster Recovery Act only sets aside 6% for pre-disaster resilience. Support policies that protect people and protect or upgrade community infrastructure to meet the demands of dangerous or harmful weather that falls short of disaster, such as more frequent and more intense heat waves and downpours.
- Develop and implement a human rights-centered approach to displacement, migration, and resettlement. Provide support for communities to plan and implement responses to extreme weather, disease, and disasters to ensure that vulnerable populations are provided with transportation assistance, shelter, food, health services, and other resources and accommodations as needed. Ensure a legal right to return for communities. If economically disadvantaged or middle-income people cannot return to a place because it has been rendered unsafe by climate impacts and private insurance does not provide adequate compensation, provide a right to recompense from the federal government. Build or rebuild affordable housing and transportation for displaced residents, with a priority on supporting those with the greatest need.
- Establish and provide policies, governance frameworks, and funding for people to move if they must or want to. The right to return should not require people to return to unsafe places. Economically disadvantaged communities and individuals should receive assistance to relocate from lands frequently impacted.
- Spend Community Development Block Grant funding provided by the U.S. Department of Housing and Urban Development with an equity-centered frame, including:
 - Providing disaster funds to residents of manufactured homes.
 - Putting the needs of families struggling to make ends meet first and prioritizing them for support for future climate-related crises.
 - Supporting rental assistance.
- Defend the Clean Water Act to protect fragile water, essential ecosystem services and human health around discharge areas.
- Implement natural adaptation measures, including, but not limited to:
 - Implement beach and dune nourishment and plant mangrove trees and seagrass to address sea level rise and violent storm impacts.

- Support the proliferation of phytoplankton, submerged aquatic vegetation, and kelp forests. Also, protect coral reefs and other marine ecosystems. These actions will help protect ocean life from acidification and other effects of climate change.
- Support safe reuse of water, and restrict excess water use to adapt to drought and low-water supply conditions.
- Expand and protect forests, wetlands, and aquatic grasslands to buffer against chronic flooding and support aquifer replenishment.
- Protect, restore, connect, and expand intact native forests, wetlands, and other corridors for animals and plants to move more climate suitable habitats, and protect aquatic conduits that support movement of animals and plants. Measures include roadless rules, removal of aquatic obstructions, and other policies to protect species migration.

Crosscutting Overlays

Just Transition

- *Those most affected should benefit first from the transition.* Communities that have suffered the worst adverse impacts from the extractive economy—particularly environmental justice communities, census tracts with high levels of poverty or unemployment, and indigenous communities—should be prioritized for the benefits of the clean-energy transition. The transition should be used as an opportunity to build household and community wealth in these communities, which historically have had wealth and resources extracted from them. This means policies such as the following:
 - When recovering from climate harms, prioritize providing support and assistance related to health, infrastructure, jobs, and economic recovery for the most affected communities and those with the least resources.
 - As we transition electric power generation from fossil fuels to renewable energy, prioritize—and provide public funding for—community owned and controlled renewable energy in frontline communities, including rural communities that are vulnerable economically through economic and social transitions. Ensure that rural communities that are financially dependent on leasing land for fossil fuel extraction can find alternative income sources that are not harmful to people and the environment, such as leasing land for renewable energy generation.

- As we redesign buildings, including homes, public buildings, and commercial buildings, to be more energy efficient, prioritize households and communities with the greatest needs, such as frontline and indigenous communities, residents of low-income housing, communities with a high energy burden, traditionally economically disadvantaged communities, manufactured home communities, and rural communities.
- As we transition the transportation system from gasoline-burning cars, prioritize and fund electrified public transit accessible to all, electric vehicle charging infrastructure, and adequate rebates to make personal electric vehicles affordable in those communities that have borne the largest historical burden from transportation-related pollution or that face a lack of adequate transportation choices.
- As we transform the food and agriculture system, ensure that farm workers earn living wages, work in safe and healthy conditions, and have collective bargaining rights. Prioritize access for communities that lack adequate access to nutritious food.
- Ensure affordable electricity, housing, transportation, water, and food through policy and direct government spending.
- In these and other areas, ensure that people in affected communities have mechanisms to determine the needed investments in their own communities instead of receiving solutions imposed from outside.
- *Justice for extraction-dependent workers and communities.* Many communities, even while they face adverse environmental and health impacts from extractive and other contaminating industries, are dependent on fossil-fuel industries for their local economy and tax base. It is not just the workers in fossil fuel industries who are affected, but small businesses that depend on sales to the fossil-fuel workers, and public sector workers such as school teachers, firefighters and emergency personnel, utility workers, who depend on tax revenues from the fossil-fuel facilities. These are also communities where a just transition must prioritize wealth-building. Transition plans must include:
 - Viable pathways to a healthy, resilient local economy for all communities and workers, prioritizing extraction-dependent communities and workers.
 - Funding for local communities to implement their visions for resilience.

- Guaranteed income and benefits for at least three years—preferably five years—for all affected workers.
- These mechanisms must be initiated before economic disruption begins.
- *Unionization rights.* The transition must strengthen and protect the right of all workers to organize, unionize, and bargain collectively, free of coercion, intimidation, or harassment.
- *Job quality.* The transition must create inclusive, good-paying, family-sustaining jobs with adequate health, retirement, and other benefits and protections for workers' health and safety. Quality jobs should provide much more than enough remuneration for survival. They should provide opportunities and skills training for households and communities to build wealth for greater resilience. They also should incorporate training to ensure that workers have the knowledge and skills needed to participate fully in the transitioning economy.
- *Job access.* The transition should include local, targeted hiring strategies, as well as specific goals for pre-apprenticeship and apprenticeship programs.
 - *Federal jobs guarantee.* To ensure that the needed transition does not result in economic dislocation and large-scale unemployment, there should be a federal jobs guarantee ensuring that everyone who is able and willing can get meaningful work.
 - *Inclusivity.* Benefits should flow to workers as well as community members who have been chronically unemployed and underemployed, the undocumented, the formerly incarcerated, indigenous peoples, and all other populations that have not benefited from or have not been able to fully participate in the extractive economy.
- *Rural Investment.* Rural areas are characterized by low density of population, homes, and businesses per square mile and frequently have limited infrastructure and access to key services. Rural communities often experience reduced local tax base and inadequate public spending, and their residents are further burdened by increased spending and travel to access basic and critical services such as healthcare.
 - While these geographies may be high in greenhouse gas impacts from resource extraction or agriculture (grazing or agribusiness monocropping), they may also

be rich in potential for carbon sequestration, from both forests and agriculture, offering great opportunities for mitigation with the right incentives.

- More resources and infrastructure need to be appropriated to prepare and support vulnerable rural communities with emergency preparedness, recovery, and restoration. A just transition for rural communities must invest in rural educational attainment, provide universal rural broadband access and job skills training, and support rural prosperity.

Financing the Platform

- There is no higher priority for government investment than responding to the climate emergency. A national response to this threat should not be stymied by demands that all actions be fully funded by existing revenue or cuts in other government services. We face an existential crisis that demands an immediate response by the whole of society.
- There are many federal government initiatives for which we do not ask the question, “How do we pay for it?”¹⁹ Recent examples are expensive wars and tax cuts for major corporations and the wealthiest Americans.²⁰
- History, including very recent history, has demonstrated repeatedly that governments can engage in a large degree of deficit spending without harmful consequences.
- The costs of responding effectively to the climate crisis cannot be considered in a vacuum. They must be considered in our current context, a world in which decades’ worth of reckless exploitation of fossil fuels and inaction by policymakers have set humanity on course for unspeakable disaster. The alternative to ambitious, large-scale climate action—failing to respond adequately—would not only abdicate our moral and constitutional responsibilities and cause unimaginable suffering and loss of life; it would be far more expensive than taking ambitious and equitable action to respond to the crisis.
- Switching to renewable energy will save trillions of dollars in fuel and health care costs, and the transition will involve massive investments that will create jobs and spur economic growth.

¹⁹ This discussion applies to federal government expenditures on U.S. activities.

²⁰ Treasury will again borrow \$1 trillion to pay for tax cuts, spending <https://www.axios.com/treasury-borrowing-debt-government-spending-tax-reform-a5f699d6-31a9-41b1-861a-02329a744797.html>.

Other Topics

Greenhouse Gas Pricing

Not all carbon prices are created equal. A carbon price belongs in the USCAN Vision for Equitable Climate Action only if it meets very stringent requirements:

A carbon price must not be a primary source of revenue for climate funding. There are other, better ways of funding the necessary investments. Carbon pricing revenues will decrease as fossil fuel use declines and will not provide a reliable long-term funding source. In addition, climate action should not be limited by claims that sound policy must be entirely “paid for” “as you go,” by tax increases or other tradeoffs in government budgets. A carbon price should be employed to achieve specific climate policy objectives, including equitable treatment of communities affected by those objectives.

A carbon price should be progressive and must not be regressive. We recognize that even a fee placed at the point of extraction/import would have the effect of increasing the cost of living for consumers in the near term. As a result, a carbon price should be coupled with policies that offset increased costs to economically disadvantaged households and communities assist them in transitioning away from dependence on fossil fuels to cleaner, more affordable options; and benefit communities experiencing historical and present-day exploitation by the fossil fuel industry. Communities hurt by present-day and historical exploitation by the fossil fuel industry must also receive direct long-term health care assistance.

A carbon price must not allow any free permits. A persistent weakness of carbon markets (including California, the Regional Greenhouse Gas Initiative, and the European Emissions Trading System) is that there have been handouts of free allowances. There should not be any such handouts, period. At the same time, policies must be designed so that carbon prices do not incentivize the leakage of emissions sources to other jurisdictions.

A carbon price must not create pollution hotspots or perpetuate environmental injustice. There is documented evidence that in some jurisdictions that have adopted a carbon price, such as California, polluting industries such as oil refiners have purchased rights to pollute instead of cutting pollution in those communities—disproportionately low-income and people of color—that have borne the greatest historical pollution burden. Any carbon pricing system must contain mechanisms that prevent this from occurring. In practice, this means that carbon pricing should not in any way be seen as an alternative to non-market-based regulations. This is particularly true in communities with severe air quality problems.

A carbon price must in practice cover all greenhouse gas emissions, with the sole exclusion of soil carbon and land-used emissions, as below. The price must cover emissions from all non-fossil-based fuels such as forest biomass and trash, and non-energy emissions such as refrigerants and cement manufacturing. It is imperative that we do not transition to fossil fuel

replacements that emit even more greenhouse gases than fossil fuel sources. The pricing mechanisms must cover all methane emissions, including leaked emissions, and methane emissions should be priced based on their greenhouse gas impacts on a 20-year time horizon. All other climate forcers, such as hydrofluorocarbons and black carbon, must also be covered based on their climate impacts.

A carbon price should not be applied to soil carbon, livestock, or land-use emissions.

Mitigation can and must occur in these sectors, including reducing methane emissions from the livestock sector (especially concentrated feeding operations) and nitrous oxide from the overapplication of fertilizers, both of which have many environmental costs beyond climate change. However, other policy tools will be more effective at driving this mitigation than a price on carbon while also being more responsive to the many justice and equity issues in this sector, including the right to food and the need to support small, independent family farmers. The pricing mechanism should be applied to all fossil energy inputs associated with farming, such as tractor fuel.

A carbon price must be placed at the point of extraction or import. This will help ensure that fossil fuel companies are forced to bear the true cost of fossil fuels and that the price is applied without loopholes or complex, manipulatable schemes that may be difficult to enforce. If companies pass along costs to consumers, the increased cost will still be forced into their business model. This fee at the point of extraction or import should be set to ensure that as consumption of oil decreases, the cost of oil remains high, deterring further extraction and preventing demand growth.

A carbon price must not be enacted outside of a broader policy platform. Putting a price on carbon will not be enough to reduce U.S. emissions at the rate necessary. Any price on carbon must be accompanied by a suite of regulations and investment policies that rapidly transition the economy away from greenhouse gas emissions. In particular, a carbon price addresses the “demand side” by raising the price of fossil energy, but it cannot be effective without simultaneous “supply side” regulations such as a ban on new fossil fuel extraction, exploration, and processing facilities, and a phaseout of existing facilities.

A carbon price must not be a bargaining chip. A carbon price must not be coupled with deregulation, liability limits, or other policies that make it more difficult to mitigate the climate crisis or other environmental harms. A carbon price is a complement to other climate and environmental policies, not a replacement for them.

A carbon price must prevent a drop in fossil fuel prices as their use declines. A carbon price is an important tool to ensure that fossil fuels do not become so inexpensive that low fuel costs create a disincentive for making the transition to zero emission alternatives.

A carbon price must be high and increase over time until we achieve zero emissions. If a carbon price is not high enough, it will not have the desired effect. The IPCC has said that a minimum carbon price in 2030 must be at least \$135/ton carbon dioxide equivalent, and in

2050 the price must be \$245/ton. A carbon price smaller than these numbers will not be worth enacting. The necessity of a high carbon price underscores the need to ensure that poor and vulnerable populations get a disproportionate rebate to ensure they come out ahead under the new pricing mechanism.

A carbon price must be coupled with strong just transition provisions. When fossil fuel sectors go into decline because of market forces, which will happen if a carbon price is enacted, there is potential for rapid, destabilizing economic shifts in some regions that are dependent on extraction. These shifts affect workers as well as the tax base of local communities. Any carbon price must be accompanied by strong just transition provisions that ensure that workers and communities are not left stranded. An intentionally planned transition always produces more predictable and just outcomes than one left to the whims of market forces.

Geoengineering

Solar radiation management. Solar radiation management strategies aim to reflect a small proportion of the sun's energy back into space, counteracting the temperature rise caused by increased levels of greenhouse gases in the atmosphere that absorb energy and raise temperatures. These methods include injecting highly reflective sulfur aerosols into the stratosphere, seeking to increase the brightness of clouds by seeding them with salt from seawater droplets, and mounting mirrors on satellites to reducing incoming solar radiation.

We oppose these solar radiation management approaches on the grounds that they could pose serious environmental risks. Those risks include altering precipitation patterns in a way that undermines food production in developing countries and slowing the replenishment of the ozone layer. Moreover, solar radiation management does not address the root causes of climate change and does not mitigate ocean acidification. It also could hamper climate solutions by reducing the efficiency of solar energy technologies. To rely on solar radiation management could lock future generations into continuing the technology or facing "termination shock," rapid warming that gives species and ecosystems far too little time to adapt.

We do not oppose low-tech strategies such as painting rooftops or paved spaces white, although it is unclear that they would contribute significantly to mitigating global warming. These strategies are low cost, low risk, and do not threaten agriculture or interfere with solar energy technologies. They also will help with climate adaptation in urban environments by mitigating heat-trapping and heat-islanding.

Direct air capture. Direct capture of carbon dioxide from the air may be helpful on the margins, as one small part of a broader set of policies that achieve net zero carbon pollution and return atmospheric carbon to safe levels, and may be more relevant to some actors and sectors than other parts of the economy. Moreover, the IPCC has modeled scenarios consistent with keeping

global temperature increase below 1.5°C that rely entirely on natural solutions for carbon removal.

But direct air capture is not a substitute for other climate policies, and we should not rely on it to meet climate goals. At present, the technology is only in the piloting phase. It is unlikely to become capable of removing large amounts of carbon from the atmosphere, and given its current state, it cannot meet the demands of aggressive decarbonization at the scale and on the timeline necessary.

Direct air capture also carries significant risks. One is that it could incentivize the continued use of fossil fuels, which would needlessly harm countless communities, despoil the natural environment, diminish public health, and waste money. Carbon dioxide from direct air capture must not be used for enhanced oil recovery.

Direct air capture is energy intensive; therefore, any use of direct air capture must account for competing uses for renewable energy, particularly because the rapid electrification of the economy may increase demand for electricity.

Direct air capture should be used only at the margins of climate policy, to mitigate the impact of residual carbon pollution that cannot be phased out more quickly in a scenario of rapid, economy-wide decarbonization or, in a scenario of net-zero carbon pollution, to assist in restoring atmospheric carbon to safer levels. At the same time, climate policy should not encourage “overshoots,” in which atmospheric carbon is deliberately permitted to exceed safe thresholds for some period before being removed from the air.

Our priority should be to use natural solutions to draw down atmospheric carbon as much as possible. If used, direct air capture must be coupled with policies to ensure that it does not prolong the use of fossil fuels or create new harms or inequities.

Global Issues and Responsibilities

- The United States must immediately rescind its threat to withdraw from the Paris Agreement, and, if necessary, take the appropriate steps to rejoin that Agreement. It must also immediately make a new contribution to the Green Climate Fund (GCF) to replace the U.S. Obama-period disbursement that the Trump Administration rescinded; end public financing and subsidies of fossil energy and deforestation; and begin a long-term process designed to increase its future actions to align more closely with its fair share of the shared global effort to stabilize the climate system.
 - The U.S.’s immediate new GCF contribution must be justifiable both ethically and terms of the scale of the necessary global mobilization. For example, as the global Green New Deal discussion has evolved, authoritative voices have proposed that the U.S. contribute \$200 billion to the GCF, an amount that, when taken together with a

70% reduction in U.S. domestic emissions by 2030, would represent a good faith effort to meet the demands of both science and global equity.

- The U.S. must also immediately end all public financing and subsidy of fossil energy and deforestation, both within its borders and throughout the world. This termination must include but is not limited to oil, gas, and coal project financing, as well as loans and guarantees via multilateral development banks, export credit agencies, and other taxpayer-backed government agencies.
- At the same time as these immediate actions are taken, the American people must begin a profound new conversation about global climate justice and about the U.S.'s fair share in the shared global effort of stabilizing the climate system. Doing our fair share unavoidably involves radically scaling up both U.S. domestic actions and international cooperation. This new conversation must consider all relevant finance channels (e.g., Global Environmental Facility funds and bilateral initiatives, as well as contributions to the GCF), and must include both U.S. obligations within the Paris regime and the obligations of fossil energy companies, as per the internationally recognized “polluter pays” principle.
- The scope of international cooperation must also go beyond mitigation finance to include significant assistance in the form of technology transfer and other measures to ensure that environmentally sound and socially just technologies are affordable and easily accessible to poorer countries. And, critically, it must include adaptation and disaster recovery assistance as well as technological leapfrogging.
- U.S. trade policies must be reviewed, rewritten, and implemented in a manner consistent with the goals of the Paris Agreement. Such policies must not allow companies to offset or export their emissions overseas; they must not encourage fossil fuel production; and they must not be weaponized—such as through investor-state dispute settlement mechanisms—to prevent other countries from implementing policies to combat climate change.
- The U.S. must recognize its role in contributing to current and future climate-induced forced migration. As part of this responsibility, the U.S. must provide support, commensurate with a fair-shares analysis, for persons permanently displaced by climate change, allow for significant inflows of climate-displaced persons into our country, and ensure full protection of the rights of those who relocate here. The U.S. must also play a constructive role in ongoing and future processes to develop international agreements regarding the rights of climate-displaced persons.

- U.S.-based fossil-fuel companies must cease domestic oil and gas exploration and development, and U.S.-based banks, insurance companies, and asset management companies must cease the financing of such activities. If not curtailed, U.S. oil and gas expansion will impede the world's ability to manage a climate-safe, equitable decline of oil and gas production. This policy demands a correspondingly ambitious just transition program, which must be well planned and funded at scale.
- It is in the national security interests of the U.S. to rapidly and fairly transition its own economy away from fossil fuels and to assist other countries in doing the same. To that end, it is also in the national security interests of the U.S. to rapidly wind down our extraction and exports of fossil fuels while ensuring a just transition for extraction-dependent workers and communities.
- Consistent with these principles, it is against the national security interests of the U.S. to provide any form of assistance to corporations and foreign governments, if that assistance will be used to explore and develop fossil fuel resources, or to build infrastructure such as pipelines or export and import terminals that lock in fossil fuel extraction and use.
- It follows that under no circumstances should the U.S. military intervene or provide technical or logistical assistance to secure fossil fuel infrastructure—whether owned by U.S. corporations or not—against social movements opposed to extraction, or foreign governments planning or implementing a fossil fuel phase-out. Such actions would be inconsistent with U.S. national security.