



Mobilizing America: Rising to the Climate Challenge

The American people are facing one of the greatest tests in our history. Climate catastrophe is on the horizon, and history will judge us for how we rose to meet this challenge in our time. We have seen this problem evolve from a theory to a prediction to a reality to, now, an emergency. It affects Americans today, impacting not only our coasts but also farmers, small businesses, homes, and communities across our country.

Communities from Pacific Junction, Iowa to Conway, South Carolina are feeling the effects of extreme weather and changing rainfall patterns. In South Bend, I have had to order the activation of the emergency operations center for 1,000-year and 500-year floods that came less than two years apart. As temperatures and sea levels rise, so does the cost of food and flood insurance. New health issues from heat, air pollution, and the spread of infectious diseases are growing. From hurricanes devastating Puerto Rico to fires ravaging the Amazon, climate change is affecting everyone, everywhere. It is the security challenge of our time, and a wall on our southern border won't help.

We're running out of time. Experts tell us that we have 10 years to get on the right path, or global warming will reach catastrophic levels by 2050. For too long, Washington has chosen denial and obstruction. But the timeline that compels us to act isn't set by Congress—it's being dictated by science. We must channel all of our energies into a national project—one that unifies every American, from big cities to rural communities, around this urgent threat and seizes the tremendous opportunity of a new era of climate action. As big as this crisis is, our ideas and aspirations are big enough to meet it. When I am President, we will.

Implementing this vision means tapping into the patriotism of every American and every sector of our economy. It means unleashing the power not only of the federal government, but also of cities, towns, and communities. It means tapping into the potential of rural communities to become part of the solution. It means helping industries that have provided so many families a livelihood to transform into clean energy leaders and be ready to provide for generations to come.

My goal is to make our society a net-zero emissions one no later than 2050, working aggressively toward immediate targets to be met in the years ahead. We will build a resilient nation that can stand up to the extreme weather and sea level rise we are already facing, and lead the world in bringing our international partners and local leaders together to solve this crisis. When we tell our children and grandchildren about what we did in this moment, we must tell them that we worked together, took bold action, and met the greatest challenge of our time—for ourselves and for them.

Pete Buttigieg



My plan has three pillars:

- **Build a Clean Economy.** The U.S. must invest in talent and enterprise here at home to unlock new technology and bring together partners to reduce emissions across the electricity, transportation, industrial, and agricultural sectors. We must create clean energy jobs, strengthen our rural communities, and protect America’s natural resources. Our intention is to promote a clean and prosperous future for ourselves and our children and to prioritize justice and inclusion as we embrace these changes.
- **Invest in Resilience.** We are already feeling the effects of climate change, whether it’s farmers affected by floods and shorter planting seasons or communities managing storm surges or devastating forest fires. Our plan makes our cities and states more resilient by prioritizing our communities and focusing on infrastructure and disaster preparedness.
- **Demonstrate Leadership.** Combating climate change will require American leadership to bring our nation together and make the fight for a cleaner future a global priority. In doing so, we can also restore America’s badly damaged credibility by leading the world in rising to this challenge while practicing what we preach at home.

PART I - BUILD A CLEAN ECONOMY

Transforming our economy and ensuring a clean and prosperous future for our children is an audacious yet achievable goal. It is also crucial to remain competitive in a changing economy. The first step of our plan is a bold and comprehensive set of targets and actions—working with Congress and existing executive authorities—to implement a bold and achievable Green New Deal.¹

That is why we are setting a realistic plan to become a net-zero emissions society no later than 2050:²

- By 2025, double the clean electricity generated in the U.S.
- By 2035, build a clean electricity system with zero emissions and require zero emissions for all new passenger vehicles.
- By 2040, require net-zero emissions for all new heavy-duty vehicles, buses, rail, ships, and aircraft and develop a thriving carbon removal industry.
- By 2050, achieve net-zero emissions from industry, including steel and concrete, manufacturing, and agriculture sectors.

My plan will bring Americans together to harness the power of American innovation to eliminate greenhouse gas emissions. Beyond protecting us from the worst impacts of climate change, it will create

¹ U.S. Congress, House, [Green New Deal](#), HR 109, 116th Congress, introduced in House February 7, 2019.

² Intergovernmental Panel on Climate Change. “[Summary for Policymakers](#).” 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. 2018.



more than 3 million high-quality jobs in clean industries and make America the global leader in developing and deploying clean technologies worldwide. This plan will intentionally support and protect workers and communities so that every American will benefit from the transition, creating a stronger, more inclusive, and more equitable society.

A. INVEST TO MAKE THE U.S. THE LEADING CREATOR OF CLEAN ENERGY TECHNOLOGIES

Enact a price on carbon and send rebates to Americans. My administration will work with Congress to pass an economy-wide price on carbon,³ which will automatically increase each year. Revenue will be rebated back to Americans, meaning low- and middle-class households will receive enough to be better off economically than they were before.⁴ We will assess a border adjustment tax on any imported goods not subject to a price on carbon where they were produced, which will help protect American industries.⁵ We will also work through international organizations like the United Nations, G20, and World Trade Organization to press other nations to adopt a similar price on carbon.

We will quadruple federal clean energy R&D funding to \$25 billion per year by 2025, investing more than \$200 billion over 10 years. To achieve net-zero emissions by 2050, we need new technologies for advanced wind and solar and other new clean electricity, long-duration and seasonal storage, smart grid systems, advanced vehicle technologies, steel and cement manufacturing that can contain captured carbon, and direct air capture of greenhouse gases. The Departments of Energy and Defense invest only \$6.1 billion per year in energy R&D.^{6,7} In contrast, China spends approximately \$8 billion a year on energy and environmental R&D and is expected to increase spending.⁸ In today's dollars, the Apollo program would cost \$117 billion over fourteen years.⁹ We need to take this threat seriously and invest accordingly.

The American people have the appetite, creativity, and drive to combat climate change. Their government should support and fund these initiatives. As new industries are built, the entire economy will grow. We will support these efforts **with innovative investment funds**:

³ Gundlach, Justin, Ron Minsk, and Noah Kaufman. "[Interactions between a Federal Carbon Tax and Other Climate Policies](#)." Columbia SIPA Center on Global Energy Policy, March 6, 2019.

⁴ Goulder, Lawrence H., Marc A.c. Hafstead, Gyurim Kim, and Xianling Long. "[Impacts of a Carbon Tax across US Household Income Groups: What Are the Equity-Efficiency Trade-Offs?](#)" *Journal of Public Economics* 175 (May 21, 2019): 44–64.

⁵ Horowitz, John, Julie-Anne Cronin, Hannah Hawkins, Laura Konda, and Alex Yusagave. "[Working Paper 115: Methodology for Analyzing a Carbon Tax](#)." Department of the Treasury Office of Tax Analysis, January 2017.

⁶ Clark, Corrie E. "[Renewable Energy R&D Funding History: A Comparison with Funding for Nuclear Energy, Fossil Energy, Energy Efficiency, and Electric Systems R&D](#)." Congressional Research Service, July 18, 2018.

⁷ Robyn, Dorothy, and Jeffrey Marqusee. "[The Clean Energy Dividend: Military Investment in Energy Technology and What It Means for Civilian Energy Innovation](#)." Information Technology and Innovation Foundation, March 5, 2019.

⁸ "[R&D Spending to Rise in 2019](#)." *China Daily*, March 7, 2019.

⁹ Stine, Deborah D. "[The Manhattan Project, the Apollo Program, and Federal Energy Technology R&D Programs: A Comparative Analysis](#)." Congressional Research Service, June 30, 2009.

- **American Clean Energy Bank.** Building on the success of green banks in states, the American Clean Energy Bank will have \$250 billion of initial capitalization. It will provide loans, grants, credit enhancements, and loan guarantees to finance clean energy technologies and energy efficiency, waste and water, and resilient infrastructure projects that create good local jobs, through which the bank can leverage up to six times more private-sector capital.¹⁰ These investments will target places where private capital is reluctant to go, and will fund innovative startup companies, particularly across the middle of the country. As part of the [Walker-Lewis Initiative](#), this Bank will promote funding for members of under-resourced communities to ensure that they have access to clean energy technology and resilient infrastructure. The Bank will have regional hubs, co-located with our Regional Resilience Hubs, which will provide communities with financing and technical assistance and will ensure all projects funded will abide by critical labor and domestic content standards, notably Davis-Bacon and Buy America.
- **Global Investment Initiative.** Today, the biggest investor in infrastructure around the world is China through its Belt and Road Initiative. If we're going to fight the climate crisis, we need to ensure all nations are building clean energy and resilient infrastructure, which is why we will launch the Global Investment Initiative to build US developed technologies in developing nations around the world. This \$250 billion fund will match with \$250 billion in private investment over ten years to partner on clean energy and resilient infrastructure projects that use American technology and are built by American companies. This will harness the investments in American R&D to strengthen our economy and generate jobs at home, while simultaneously combating climate change around the globe.
- **American Cleantech Fund.** This fund will be one of the largest investment funds in the U.S. dedicated to cleantech.¹¹ It will be capitalized with \$50 billion in seed funding to support dozens of demonstration projects of new technologies that are too risky for the private sector, to build first-of-a-kind technology at government facilities, and to ensure these are translated into full scale U.S. manufacturing.¹²

Issue U.S. climate action bonds. We will create Climate Action Bonds to help pay for clean energy and resilience deployment projects.¹³ Like World War II-era war bonds, these climate bonds will enable every American to invest in climate action and feel that they own a piece of our future. These Series EE bonds will double in value over 20 years and will go to finance projects in the U.S.¹⁴

¹⁰[Comprehensive Annual Fiscal Report](#)." Connecticut Green Bank, Department of Finance and Administration, June 30, 2018.

¹¹ Wesoff, Eric. "[Where Can Cleantech Startups Find Funding in 2019?](#)" Greentech Media, January 24, 2019.

¹² Deutch, John M. "[An Energy Technology Corporation Will Improve the Federal Government's Efforts to Accelerate Energy Innovation](#)." Brookings, May 18, 2011.

¹³ Driessen, Grant. "[How Treasury Issues Debt](#)." Congressional Research Service, August 18, 2016.

¹⁴ "[May 2005 and Later \(EE Bond Rates and Terms\)](#)." TreasuryDirect, May 1, 2019.

Abolish subsidies for polluters. The U.S. spends over \$26 billion annually on the oil, gas, and coal industries to artificially boost polluting sources of energy.¹⁵ We will work to eliminate tax subsidies for the fossil fuel industries—including the intangible drilling oil and gas deduction, excess over cost depletion, and other subsidies—and ban new leases on public lands of fossil production.¹⁶ We will work to raise royalty rates for existing leases to pay market costs.¹⁷ All new infrastructure, including pipelines, will be subject to a climate-positive test.

B. PRIORITIZE ENERGY EFFICIENCY

More energy efficiency will keep dollars in people’s pockets¹⁸—the cheapest energy is energy not used. We will invest across manufacturing sectors; help families, cities, and industries to refurbish homes and offices; and increase productivity by prioritizing energy efficiency.

Expand federal programs for affordable electricity access. We will double Weatherization Assistance Program funding, and the new funding would be used to match new or additional utility spending on weatherization programs. We will also add \$1 billion to the Low-Income Energy Assistance Program, which helps to offset bills during times of crisis—like a polar vortex or a heat wave—so low-income and elderly people don’t have to choose between their safety and other necessities.¹⁹

Develop new tax incentives for energy efficiency. We will work with Congress to develop an energy efficiency rebate to cover 30% of the cost of the improvements for residential homes and apartment buildings, including more efficient heaters, pumps, and appliances, as well as insulation, window and door upgrades, and switching homes from heating with oil or gas to clean electricity.²⁰

- Enact a **tax credit for commercial building efficiency** that provides incentives to make significant building and appliance upgrades to meet LEED Gold or Platinum standards.^{21,22} This will improve efficiency, reduce energy usage, and create good-paying union jobs in the building trades and manufacturing industries.
- **Support mayors and governors who improve building codes** so new single-family and multi-family homes and commercial buildings are energy efficient and built with rooftop solar, energy storage, and EV charging capability.

¹⁵ Chen, Han. "[G7 Countries Waste \\$100 Billion A Year On Coal, Oil, And Gas](#)". NRDC, June 4, 2018.

¹⁶ Metcalf, Gilbert E. "[Ending Fossil Fuel Tax Subsidies](#)." Kleinman Center for Energy Policy, April 27, 2017.

¹⁷ "OIL, GAS, AND COAL ROYALTIES Raising Federal Rates Could Decrease Production on Federal Lands but Increase Federal Revenue." Government Accountability Office, June 2017.

¹⁸ Chu, Steven. "Save Money by Saving Energy." Department of Energy, September 10, 2012.

¹⁹ "[Quadrennial Energy Review: TRANSFORMING THE NATION’S ELECTRICITY SYSTEM: THE SECOND INSTALLMENT OF THE QER](#)." Department of Energy, January 2017.

²⁰ Berry-Johnson, Janet. "[Energy-Efficient Tax Credits Set To Expire](#)." Forbes.Com, 2019.

²¹ P., Macnaughton, Cao X., Buonocore J., Cedeno-Laurent J., Spengler J., Bernstein A., and Allen J. "[Energy Savings, Emission Reductions, and Health Co-Benefits of the Green Building Movement](#)." *Journal of Exposure Science & Environmental Epidemiology* 28, no. 4 (2018): 307–18.

²² Lovins, Amory B. "[How Big Is the Energy Efficiency Resource?](#)" *Environmental Research Letters* 13, no. 9 (September 18, 2018).



Create a New CarbonStar program. Americans want to make smart, environmentally friendly choices, but often lack accessible information to do so. We will develop a new CarbonStar program to provide consumers with information and rebates on products that have a lower carbon footprint. CarbonStar will tell you how clean the electricity that’s powering your home or charging your car is, incentivizing consumers to buy appliances that are better for them and the planet.

C. TRANSFORM THE ELECTRICITY SECTOR

Building an electricity grid where 100% of our power comes from clean energy is not just about doing the right thing for our planet. It’s also about creating more high-paying jobs in wind and solar and more opportunities to drive innovation. Currently, the world’s largest manufacturer of solar panel technology is China.²³ Rather than looking to them, we need to do what Americans do best—lead the way in developing and building cutting-edge technologies.

Establish a national Clean Electricity Standard (CES). Building on the Renewable Portfolio Standards that 29 states and Washington, DC already follow,²⁴ a national CES will set national standards while letting states and regions develop solutions tailored to their communities.²⁵ The CES will begin with current state-level goals and ramp-up to meet the goal of 100% clean electricity by 2035, in conjunction with our ambitious federal innovation, investment, and financing programs and with public-private partnerships.

Incentivize clean energy deployment. We will extend and modernize the investment and performance tax credits for solar, wind, geothermal, and other clean energy technologies and long-duration battery storage, as well as for long distance transmission using performance measures and phase-out levels.²⁶

Integrate high quantities of renewables into the grid. Both long-distance transmission and distributed energy resources enable a zero-emissions electricity system.²⁷ In addition to deploying large amounts of renewable generation into the grid, the U.S. will need to build out a nationwide network of high-voltage direct current transmission lines, in some cases using federal right of ways and burying transmission lines to improve the existing transmission system.²⁸ We will make it easier to coordinate interregional transmission planning, working with governors and states, to enable critical transmission projects.

Electricity markets. Performance-based regulation rewards electric utilities based on their achievement of specific performance measurements—in this case, a 100% clean grid that is affordable, reliable, and

²³ Baraniuk, Chris. “[Future - How China's Giant Solar Farms Are Transforming World Energy.](#)” BBC, September 4, 2018.

²⁴ “[State Renewable Portfolio Standards and Goals.](#)” National Conference of State Legislatures,” February 1, 2019.

²⁵ Moniz, Ernest. “[The Green Real Deal - A Framework For Achieving A Deeply Decarbonized Economy.](#)” Energy Futures Initiative, August 2019.

²⁶ Sivaram, Varun and Noah Kaufman. “[The Next Generation of Federal Clean Electricity Tax Credits.](#)” Columbia University SIPA Center on Global Energy Policy, June 3, 2019.

²⁷ “[Quadrennial Energy Review Chapter 3: Electricity.](#)” U.S. Department of Energy, April 2015.

²⁸ “[Assessing HVDC Transmission for Impacts of Non-Dispatchable Generation.](#)” Energy Information Administration, June 2018.



secure.²⁹ We will ensure that the Federal Energy Regulatory Commission (FERC) sets rules and goals for reliability, cost, emissions, and utility innovation that reward utilities for helping to reach the national goal of building a **zero-emissions clean electricity system by 2035**. Additionally, FERC will modernize wholesale electricity markets to change the way we pay for clean electricity. A modern market will value the positive attributes of clean electricity to compete on a level playing field.^{30,31}

D. MODERNIZE TRANSPORTATION.

Zero emissions vehicles. We will immediately enact more stringent vehicle emission standards, requiring that **all new passenger vehicles sold be zero-emissions by 2035**, and all heavy-duty vehicles sold be net-zero emissions by 2040. We will work to increase and enhance the electric vehicle (EV) tax credit to a maximum of \$10,000 per vehicle, which will begin to phase out only when a certain percentage of vehicles sold in the U.S. each year are EVs. This will allow lower- and middle- income families to be able to afford cleaner vehicles. These consumer incentives will go hand in hand with incentives for building EVs and EV technology in America. Lastly, we will extend the EV infrastructure tax credit to build out charging infrastructure for interstate travel, multi-family housing, commercial and public buildings, and public spaces, to move beyond charging only in personal garages.

Vehicle manufacturer transition. To secure American jobs and help manufacturers transitioning from conventional engine manufacturing to zero-emission vehicle manufacturing in America, we will offer technology transition loan guarantees for retooling existing automobile and powertrain assembly lines and boosting domestic manufacturing of innovative materials, batteries, and electric propulsion technologies. The future of transportation must be built in the U.S. by American workers with high-paying, high-quality careers.

Improve and enforce the renewable fuel standard. The biofuels industry has enabled us to take great strides in lowering greenhouse gas emissions and weaning ourselves off fossil fuels.³² We will work with farmers on policies and incentives that reward best practices and drive innovations that are good for U.S. agriculture and good for our climate. Additionally, we will stop the abuse of “small refinery” exemptions, which allows fossil fuel giants to skirt their obligations to blend biofuels.³³ To do this, we will immediately stop giving small refinery waivers to fossil fuel giants and raise the renewable fuel standards. The future of biofuels will be to expand their use to transportation sectors that are harder to electrify, such

²⁹ Harvey, Hal and Sonia Aggarwal. “America’s Power Plan - Rethinking Policy to Deliver a Clean Energy Future. Energy Innovation Policy and Technology LLC.” America’s Power Plan, October 2013.

³⁰ Ballentine, Roger and Jim Connaughton. “Decarbonizing the Electricity Sector & Beyond - A Report From The 2019 Aspen Winter Energy Roundtable.” The Aspen Institute, 2019

³¹ Corneli, Steven, Eric Gimon, and Brendan Pierpont. “Wholesale Electricity Market Design for Rapid Decarbonization: Long-Term Markets, Working With Short-Term Energy Markets.” Energy Innovation Policy and Technology, June 2019.

³² Chillrud, Rebecca. “Biofuels versus Gasoline: The Emissions Gap is Widening.” Environmental and Energy Study Institute, September 2, 2016.

³³ Chase, Spencer. “EPA Awards 31 Small Refinery Waivers.” Agri-Pulse, August 9, 2019.



as trucks, ships, and airplanes.^{34,35} This means that biofuels will be part of the transportation future for decades to come.

Urban transit. Switching from individual vehicles to public transportation not only reduces traffic congestion, but also reduces emissions while improving air quality.³⁶ Rewarding local innovation in ways that build on the Obama administration Department of Transportation’s Smart City Challenge, we will invest \$100 billion over 10 years in surface transportation for cities, which will include modernizing subways and other transit systems, deploying electric commuter buses and school buses, installing bike and scooter lanes, and implementing low-cost ridesharing to make getting around easier.

Reducing emissions in heavy-duty vehicles, rail, ships, and aircraft. We will enhance heavy-duty vehicle efficiency standards that will reach the goal of 100% clean heavy-duty vehicles by 2040 for new vehicles sold. We will also develop standards to regulate emissions from ships and aircraft. We’ll invest significantly in alternative technologies for decarbonizing heavy-duty vehicles, rail, ships, and aircraft.

Establish a national clean fuel standard. To reduce emissions in passenger and heavy-duty vehicles, rail, ships, and aircraft that are already on the road, the carbon intensity of fuels like gasoline, jet fuel, and others must be reduced over time.³⁷ We will put in place a standard for liquid fuels that requires producers to lower the carbon content of their fuels and incentivizes the development of low carbon or carbon neutral liquid fuels.

E. A 21st CENTURY INDUSTRIAL REVOLUTION

Establish clean industrial technology standards and modernize manufacturing. We will propose clean industrial technology standards to set targets for companies operating refineries, steel, cement, petrochemicals, and other industrial plants to reach **net-zero emissions from industrial sources by 2050**. As part of this, we will push to invest \$1 billion per year into R&D for advanced manufacturing—including technologies and processes to produce low- or zero-emissions steel, cement, and chemicals, carbon capture techniques, and utilizing captured carbon in materials like carbon-fiber or as fuels to provide the heat necessary to create these materials.

Smart rules to reduce methane emissions. We will enact rules that sharply curb methane emissions, including venting and flaring of natural gas and fugitive emissions from all new, modified, and existing oil and gas facilities and pipelines. We will also push to accelerate the repair and replacement of aging natural gas distribution lines, which can leak methane and pose a health and safety threat to communities.

³⁴[Under what conditions might a renewable fuel produced under an approved pathway in the RFS regulations qualify for use in Navy applications?](#) Environmental Protection Agency - Fuel Registration, Reporting, and Compliance, August 19, 2019.

³⁵ Haq, Zia and Borka Kostova. “Biofuels in Defense and Aviation.” US Department of Energy Bioenergy Technologies Office, March 8, 2017.

³⁶ “Transit’s Role in Environmental Sustainability.” Federal Transit Administration, May 9, 2016.

³⁷ Prabhu, Anil (California Air Resources Board). “How Carbon Intense is Your Fuel?” Western Washington Clean Cities. March 8, 2017.



Additionally, we will focus more R&D into innovative ways to identify and eliminate methane emissions, through autonomous drones, automated cameras, and other new technologies.

Buy Clean. We will sign an executive order mandating that any new material the federal government uses or pays for to construct buildings, roads, bridges, or other infrastructure, must be under a specified level of carbon emissions. Under the [Walker-Lewis Promise](#), we pledge that 25% of government contracts will be awarded to women- and minority-owned businesses and anticipate that they will be major partners in the Buy Clean commitment. All new non-combat fleet vehicles purchased for the federal government will also be zero-emission vehicles, made in the U.S.

F. REMOVE CARBON

Deploy at least 1 gigaton of annual CO₂ removal capacity by 2040, including direct air capture. The tax credit to capture carbon (45Q) should be extended and broadened.³⁸ Some of the captured carbon will be stored underground, but with upwards of 10 gigatons expected to be removed globally every year after 2050,³⁹ we can use this material for other creative purposes, from converting captured carbon into materials like carbon fiber that can be 3D-printed into car parts, building materials, and consumer products to converting carbon into fuels like ethanol and methane.

G. SUPPORT FARMERS AND CLIMATE-SMART AGRICULTURE

For too long, rural America has been ignored in the climate conversation—or worse, told that whole regions and ways of life are a part of the problem. Pitting rural America against the rest of the country has allowed climate change deniers, corporate polluters, and their enablers in Congress to roll back critical environmental protections and impede climate progress. At the same time, farmers are increasingly harmed by climate-linked extreme weather. The droughts in California from 2015 to 2017 cost farmers some \$3 billion and the 2019 floods in Iowa cost many farmers a growing season.⁴⁰ NASA has predicted that, if current emissions trends continue, the southwestern U.S. faces an 80% chance of experiencing decades-long megadroughts. Farm workers, many of whom are immigrants, are also suffering.^{41,42} A poor climate also leads to less nutritious food.⁴³

Under a Buttigieg presidency, farmers will be at the forefront of American climate innovation. The Department of Agriculture (USDA) will support growers in developing new tools and technologies to make agriculture more productive and more sustainable. Farmers will lead the way in our fight against

³⁸ Larsen, John, Whitney Herndon, Mikhail Grant and Peter Marsters. "[Capturing Leadership - Policies for the U.S. to Advance Direct Air Capture Technology.](#)" Rhodium Group, May 2019.

³⁹ Mazurek Ph.D, Jan, and Giana Amador. "[2050 Priorities For Climate Action: How Philanthropy Can Help To Scale Carbon Removal - Climateworks Foundation.](#)" Climateworks Foundation. 2019.

⁴⁰ Williams, Jack. "[For Farmers, Record Flooding and a Wet Spring Mean Many Fields Can't Be Planted.](#)" PBS. June 5, 2019.

⁴¹ "[NASA Study Finds Carbon Emissions Could Dramatically Increase Risk of U.S. Megadroughts.](#)" NASA, August 7, 2017.

⁴² Khokha, Sasha. "[California's Drought Is Hitting Indigenous Latino Workers Hard.](#)" Public Radio International, October 26, 2015.

⁴³ Arneeth, Almut. et. al. "[Climate Change and Land.](#)" Intergovernmental Panel on Climate Change, August 7, 2019.



climate change by pioneering net-zero or net-negative farming techniques, providing our energy sector with renewable biofuels, and ensuring that our fields and forests can continue to thrive.

Double USDA R&D investments over four years, committing nearly \$50 billion over a decade to research that the country needs to put healthy food on our plates, develop food exports to meet the needs of growing populations around the world, and promote a healthy environment for future generations.⁴⁴ These investments will prioritize R&D to reduce agriculture’s carbon emissions to net-zero or even net-negative, and develop technologies for monitoring and measuring soil carbon, while also boosting the bottom line for farmers.

Provide support for farmers and ranchers to adopt advanced soil management methods and technologies that help mitigate climate change. We will provide opportunities for farmers to get paid for sequestering carbon in their soil, including through reduced and no tillage of soil, cover crops, precision nitrogen management, improved grazing systems, and science-based crop rotation plans. We will also support market-based approaches that incentivize soil management methods and technologies. Creating pathways to increase soil carbon will have benefits that reach well beyond combating climate change, including increased soil health, biodiversity, productivity, and resilience. We will promote conservation of forests and grasslands through voluntary conservation programs, tax incentives, and the carbon sequestration market. And, we will expand existing programs that reward farmers for generating valuable ecosystem services, like the Environmental Quality Incentives Program and Conservation Stewardship Program.

Double investments in extension services. For more than a century, the USDA Cooperative State Research, Education, and Extension Service has supported farmers, ranchers, and rural families as they seek to improve farm efficiency and sustainability. We will double investment in agricultural extension services to make sure that farmers and ranchers have the technical support they need as they apply the results of agricultural research.

H. FOCUS ON JOBS, TRAINING, AND TRANSITION

Creating a clean economy means creating new jobs. **Our plan will create more than three million high-paying clean energy and infrastructure jobs in the U.S. over the coming decade**, in manufacturing clean energy technologies like wind turbines and solar panels, building new electric vehicles, and in building and managing the resilient infrastructure needed to decarbonize the economy. Over the coming decade, 37 million net jobs will be created globally in the clean energy revolution, and we will want as much of this to take place in America as possible.⁴⁵

⁴⁴ ["USDA FY 2019 Budget Summary."](#) United States Department of Agriculture. 2019.

⁴⁵ ["Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times."](#) The Global Commission on the Economy and Climate, August 2018.



When Studebaker collapsed in 1963, many feared South Bend would go with it.⁴⁶ But just as we’ve transformed the old Studebaker factory into a hub for technology development and job growth, we will create the new clean economy in the places where jobs are being lost today. In Eastern Kentucky and West Virginia, thousands of coal miners were laid off just this summer when their plants closed. Empty promises about going back won’t help those miners. New jobs will. And these jobs will help all of us.

We will focus on strengthening American manufacturing and creating new industries and union jobs with good wages and strong worker protections across the nation. The American middle class powered our growth over the last century, and the American middle class will lead us into a cleaner future. We will:

- **Incentivize strong labor standards at companies producing clean energy technologies**, like electric vehicles, efficient appliances, and other components of the clean energy economy.
- Incorporate “**high road**” labor standards into federal tax credits, grants, and loans for clean energy.
- Prioritize **energy efficiency and industrial efficiency projects** to create and promote new high-paying, union jobs in weatherization and modernization of homes, buildings, and factories in every city and town across the country.
- Target **investments to communities most in need**, including low-income communities, communities of color, and deindustrialized communities.

Provide transition assistance for displaced workers and families. Workers in industries impacted by the changing energy landscape will be guaranteed support through a transitional fund—\$200 billion over 10 years—to invest in community economic development and training and transition programs for displaced workers, making retirement and health benefits available to all who want them, and offering loan guarantees for renovating existing plants and assembly lines to build new low-carbon products and create jobs in their communities.

Equity and justice for communities. We need to provide communities at the front lines of climate change and other environmental disasters the tools to benefit from the transition into a clean economy. Black, Latinx, Indigenous and low-income communities are particularly harmed by extreme weather, like hurricanes and flooding, and are often less able to recover post-disaster. Seniors and people with disabilities are also impacted in unique and dramatic ways, such as difficulty finding accessible transportation to evacuate or keeping in touch with caregivers after emergencies.⁴⁷ In addition to the creation of [Health Equity Zones](#) introduced in our Douglass Plan, we will deploy community-centric resources—including resilient transportation options and community solar—so those without a rooftop or car can access locally-sourced clean energy and accessible public buses, subways, and low-cost car share

⁴⁶ Colwell, Jack. “[Breaking the News: Studebaker Closing](#).” South Bend Tribune, December 8, 2013.

⁴⁷ Shih, Regina A, Joie D Acosta, Emily K Chen, Eric G Carbone, Lea Xenakis, David M Adamson, and Anita Chandra. “[Improving Disaster Resilience Among Older Adults: Insights from Public Health Departments and Aging-in-Place Efforts](#).” Rand Health Quarterly 8, no. 1 (August 2, 2018).



systems.⁴⁸ In the coming weeks, we will be rolling out more specific action plans on environmental justice and supporting frontline communities in combating climate change.

Respecting the sovereignty of federally-recognized tribes and other Indigenous communities. We will work closely with federally-recognized tribes and other Native communities to ensure that they benefit from the clean energy transition. We understand the unique government-to-government relationship that a president has with the leaders of federally-recognized tribes, and our responsibility to uphold treaties created by his predecessors that ensured access to clean water, clean air, and clean land. We will elevate consultation with tribal governments and Native communities to where it belongs, and will fight alongside tribes to stop any development that potentially harms their land and people. We will also seek out experts from tribes and Native communities to inform our path forward as a cleaner, more sustainable nation.

Establish the U.S. Climate Corps. In our [A New Call To Service](#) plan, we commit to quadrupling service opportunities to 1 million high school graduates by 2026. This plan includes a new Climate Corps focused on resilience and funded through an innovative partnership with the private sector. Activities include training for communities on sustainability options, and resilience opportunities; resilience upgrades for homes in vulnerable communities; teaching in schools and communities on issues such as sustainability and conservation; and data and program analysis for local communities on how they can access support from public and privately-sponsored programs, grants, and technical assistance.

PART II - INVEST IN RESILIENCE

From sea-level rise to extreme heat, no region of the U.S. is immune to the impacts of climate change. Even as we fight to reduce carbon emissions and minimize the impacts of a warming climate, many of these impacts are already here and will continue for the foreseeable future. Often, it is low-income, Black, and Latinx Americans who are hit first and hardest. Climate-exacerbated disasters have cost more than \$500 billion over the past four years,⁴⁹ with the federal government funding a large portion of disaster recovery efforts.⁵⁰

My climate security plan seeks to protect the well-being of all Americans—from rural America to coastal communities—by investing in local solutions. By focusing on community resilience, we will ensure that fewer Americans suffer the impacts of extreme weather and sea level rise, and that resources are available to help when they are needed the most. We'll better prepare our U.S. military, diplomatic corps, and

⁴⁸ [“Equitable and Just National Climate Platform.”](#) Equitable and Just National Climate Platform: A Just Climate, 2019.

⁴⁹ [“U.S. Billion-Dollar Weather and Climate Disasters.”](#) NOAA National Centers for Environmental Information (NCEI), 2019.

⁵⁰ [“High Risk: Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks.”](#) U.S. Government Accountability Office (U.S. GAO), 2019.



international aid organizations to operate in a warming world. And we'll invite every American to come together through national service and enlist in this critical effort.

Establish next-generation “Regional Resilience Hubs” to help communities. Communities need resources to understand and manage their risks. Our [Commitment to America’s Heartland](#) plan lays out our vision for next-generation Regional Resilience hubs, which will work with community leaders, the private sector, and academia. They’ll be supplemented with **\$5 billion in annual Resilient America Grants**. A portion of the grant money would be allocated through design competitions, with the grants going to the most innovative solutions with the highest potential. Each Regional Resilience Hub will have a Board of Advisors made up of local elected leaders, community leaders, and other citizens.

Ensure all federal investments in infrastructure are climate resilient. Promoting resilient infrastructure is crucial to preparing communities against climate change. The American Clean Energy Bank and Regional Resilience Hubs will finance investments in resilient infrastructure, and we will develop federal guidelines for investments in and implementation of new approaches, including nature-based solutions, that make our natural resources, communities, and individual Americans safer and more resilient. We will work with Congress to set a national climate risk reduction standard for federal investments. This will ensure that every federal dollar used will support programs and projects that are resilient to climate risks such as flooding, wildfires, and drought. All federally-funded infrastructure projects would be screened for climate risk and designed, built, and operated to manage that risk across their full lifecycle.

Prioritize equitable disaster preparedness and relief. So that all communities get the resources they need to prepare for and recover and rebuild from disasters, whether due to hurricanes in Puerto Rico, Texas, or Florida; wildfires in California; or flooding and tornadoes in the Midwest, we will take a new approach to relations between the executive and legislative branches to ensure:

- Stable and predictable funding for public health infrastructure to prepare for and mitigate disasters.
- Rapid deployment of federal assets and emergency reserve funds for public health disaster relief and rebuilding, so that communities do not have to wait for congressional action. Lack of presidential and federal government leadership during Hurricane Katrina contributed to the loss of over 1,800 lives.⁵¹ Black residents of New Orleans and the Gulf Coast were disproportionately affected and had less access to resources for recovery.^{52, 53} And the recent delay while Congress and the President argued over hurricane relief for Puerto Rico not only cost lives and slowed recovery, but also held hostage other communities in need of critical assistance.^{54, 55}

⁵¹ [“Hurricane Katrina Statistics Fast Facts.”](#) CNN, August 8, 2019.

⁵² Phillip, Abby. [“White People in New Orleans Say They’re Better off after Katrina. Black People Don’t.”](#) The Washington Post, August 24, 2015.

⁵³ Maxwell, Connor. [“America’s Sordid Legacy on Race and Disaster Recovery.”](#) Center for American Progress, April 5, 2018.

⁵⁴ Schwartz, Emma. [“Hurricane Maria’s New Death Toll Estimate Is Higher than Katrina’s.”](#) PBS. Public Broadcasting Service, August 28, 2018.

⁵⁵ Cochrane, Emily. [“House Approves Disaster Relief and Puerto Rico Aid Over Trump’s Opposition.”](#) The New York Times, May 10, 2019.



- Protection for FEMA-designated funding so that it is available for the people who need it most and cannot be diverted.
- A federal focus on building inclusive and equitable communities throughout the disaster recovery process. We will direct agencies to guarantee that any post-emergency recovery improves equity for Black, Latinx, and Indigenous communities, people with disabilities, low-income families, seniors, immigrants, and others through such features as universal access for people with disabilities, affordable homes for low-income families, and quality transportation systems. This new infrastructure and economy will also be resilient to future climate impacts in ways that support all residents.

Establish National Catastrophic Extreme Weather Insurance. The federal government currently insures catastrophic risk for individual citizens and public sector and non-profit organizations for flooding. However, there is no comprehensive federal program to allow communities and individuals to be assured that they will have the resources to recover and rebuild following a catastrophic event. We will establish a National Catastrophic Extreme Weather Insurance (CEWI) program to provide stability to individuals and communities who experience the major disruptions caused by climate change and other natural risks such as earthquakes. Families would be able to purchase catastrophic insurance based on risk and location from private insurers, regulated by the federal government. The government would also create an exchange for families to purchase catastrophic insurance subsidized by the government depending on income level.

PART III - DEMONSTRATE LEADERSHIP

A. EXECUTIVE LEADERSHIP

We must restore American leadership and put the world on a path to meet the goals of the Paris Agreement—because to confront a threat that crosses borders, the U.S. needs to lead the world in doing so together. We will rebuild our most important global relationships and heal internal divisions by bringing together Americans together right here at home. We will change the system of how the federal government works on climate change solutions, set aggressive standards and goals for results, and empower state and local governments to partner in this effort.

Set standards, establish guidance, and use the power of the purse. The federal government needs to set aggressive standards to show that this is not a time for “business as usual.” In addition to stopping the dangerous rollbacks championed by the current administration, we will:

- In the absence of congressional action on climate change, **use every executive authority available** to take action to reduce emissions and require resilience in infrastructure.
- **Sign a “Buy Clean”** executive order mandating that any new material the federal government uses or pays for to construct buildings, roads, bridges, or other infrastructure, must be under a specified level of carbon emissions. Under the [Walker-Lewis Promise](#), 25% of government



contracts will be awarded to women and minority owned businesses, and anticipates that they will be major partners in the Buy Clean commitment.

- **Strengthen SEC guidance on disclosure of material climate risks faced by publicly-listed companies**, including risks from the physical impacts of climate change and the risks of transitioning to a low carbon economy.

The Pittsburgh Climate Summit. Mayors know that good ideas don't only come from Washington, DC. We will convene local and regional leaders from around the country and world in a summit aimed at developing buy-in for decisive and bold climate action at a local level. In my administration's first 100 days we will gather these leaders, including mayors, governors, and other community leaders to commit to concrete action within their communities, because one size doesn't fit all, and local leaders often pioneer solutions with global reach. Communities and constituencies should be actively involved in designing and building their future. This summit would help leaders collaborate on best practices, develop shared resources, and build plans to commit their communities to solve climate change and transition to a 100% clean energy economy. The best ideas will be funded and scaled. The U.S. will also host a future COP meeting of global climate leaders in the United States.

B. SECURE OUR NATION

Climate change poses a grave threat to our national security, as our military leaders have emphasized.⁵⁶ Climate change and the extreme weather it brings can fracture civil society as crops fail, livestock dies, water becomes scarce, and coastal communities are forced to escape the rising tide. Our ability to defend our nation from attack and protect our troops across the globe depends on reliable energy at our military bases. Increasingly extreme weather and sea level rise is already threatening our military's ability to fight and win our nation's wars and defend the homeland, with two-thirds of military installations already at increased risk from climate disruption.⁵⁷ And climate-related migration is destabilizing entire regions and poised to grow dramatically. These climate-fueled threats make the jobs of our men and women in uniform harder.

Climate security must be deeply integrated into all aspects of national security planning. This includes increasing the climate planning and regional readiness budget at the Department of Defense (DOD) to allow our military leaders to build resilience for military bases and installations and elevating and integrating climate security and resilience at DOD by creating a senior climate security role in the Secretary of Defense's office responsible for preparation for climate security risks. As part of a Climate Watch Floor, regional experts will monitor situations on the ground using a variety of data sources to identify key hotspots. In collaboration with the State Department, USAID, and other agencies, the Secretary of Defense will prepare plans to respond to critical situations. The DOD can also be a driving

⁵⁶ Femia, Francesco, and Caitlin Werrell. "[UPDATE: Chronology of U.S. Military Statements and Actions on Climate Change and Security: Jan 2017- August 2019](#)." The Center for Climate & Security, August 22, 2019.

⁵⁷ "[Report on Effects of a Changing Climate to the Department of Defense](#)." Office of the Under Secretary of Defense for Acquisition and Sustainment, January 10, 2019.

force for clean energy. We will direct that all new DOD facilities and non-combat vehicles be zero-emissions by 2025 and work to retrofit existing facilities while maintaining security, resilience, and safety for national security missions.

C. INTERNATIONAL COOPERATION

Climate change is an urgent threat not only to the environment and economy, but also to our national security. Moreover, it is an especially challenging crisis because it cannot be solved without a truly global response. Every ton of greenhouse gas contributes equally to the problem regardless of where it is emitted. And the U.S. only emits 13 percent of total greenhouse gas emissions.⁵⁸ The vast majority of emissions growth will occur in developing and emerging market countries. This is why stronger U.S. action must be paired with diplomacy and foreign policy, a combination of carrots and sticks, to spur greater collective action and ambition.⁵⁹ This task is made harder by the need to rebuild U.S. international credibility, diplomacy and multilateral relationships following the current administration’s reckless foreign policy—but climate diplomacy also represents a chance to rebuild American credibility and leadership around a key global issue. We will ensure all the tools available in the foreign policy toolkit are deployed against the climate change challenge.

Renew America’s commitment under the Paris Climate Agreement. We will take the steps necessary to rejoin the Paris Agreement on the first day in office and make clear to the world that we are “back in, and all in.”

Elevate America’s—and the world’s—climate ambition. We will prepare and submit a more ambitious U.S. emission reduction goal, known as a Nationally Determined Contribution, that commits the U.S. to greater emissions reductions and that will challenge other countries to increase their climate change goals as well.

Reduce non-CO2 greenhouse gases. Twenty-five percent of greenhouse gas emissions come from gases other than CO2, such as methane, nitrous oxide, and hydrofluorocarbons (HFCs).⁶⁰ We will prioritize global collaborative efforts to reduce these emissions by:

- Leveraging new satellite data spotlighting global sources of methane emissions to build international agreement, for instance, through a G-20 initiative, to monitor, regulate and reduce these harmful emissions.
- Submitting to the Senate for ratification the Kigali Amendment to the Montreal Protocol, an international agreement of nearly 200 countries to phase out the use of HFCs that has broad industry support and would avoid up to 0.5 degrees Celsius of warming, but has languished under the current administration.
- Reinvigorate the G-20 initiative to phase out fossil fuel subsidies.

⁵⁸ [“Emissions Gap Report 2018.”](#) UN Environmental Programme, November 2018.

⁵⁹ Bordoff, Jason. [“Why Companies Need to Change their Approach on Climate Change.”](#) Columbia SIPA Center on Global and Energy Policy, June 26, 2019.

⁶⁰ [“Global Emissions.”](#) Center for Climate and Energy Solutions, January 4, 2018.



Accelerate change through global cooperative efforts. We will pledge **\$5 billion** per year to identify the best ideas and shift the global debate toward a focus on scaling proven climate mitigation and adaptation strategies. We will also collaborate with foreign governments to generate additional or matching funding, multiplying U.S. resources.

Double the U.S. pledge to the Green Climate Fund so that our multilateral climate efforts engage the least developed countries.

Redevelop bilateral and multilateral relationships on climate change and clean energy with nations like China and India—building off of sub-national and Track II efforts—and encourage more climate discussions in other settings like G7 and G20. Additionally, we will establish a Tipping Points Coalition to invite a core group of major emitting economies to make bold new climate commitments to form the nucleus of a new multilateral “club” that inspires other actors.

Revitalize U.S. leadership in the Arctic Council. As climate change worsens, the Arctic Ocean will be on the front lines of its impacts. The Arctic sea lanes will become increasingly open to shipping and oil and gas drilling. Economic competitors like China and Russia will become more prominent forces there, raising national security concerns. We will place the issue of climate change front and center in multilateral dialogue at the Arctic Council and focus on reducing emissions from the Arctic, including by opposing drilling there and working with other countries to reduce short-lived pollutants that play a key role in Arctic climate change.

Stop carbon-intensive export finance subsidies. Globally, there are still more than 450 coal plants under construction or planned, two-thirds of them in China, India, and Southeast Asia. China has been subsidizing and building many coal plants not only at home, but around the world through its Belt and Road Initiative, with disastrous long-term climate consequences. We will rally nations to oppose China’s dirty energy projects and offer countries desperately in need of energy with more financing options for cleaner projects through the Global Investment Initiative.

Support innovation. We will revitalize existing forums for clean energy technology collaboration, including the Clean Energy Ministerial and Mission Innovation. Doing so will ensure that as the U.S. dramatically increases federal R&D spending for clean energy at home, other nations follow suit. We will invest in and reinvigorate global R&D cooperation between nations and between researchers and private sector entrepreneurs. The U.S. will also provide technical assistance to improve other nations’ R&D capabilities to ensure that increased spending is deployed as effectively as possible. Government funding will also extend to demonstration and deployment (RDD&D) given the high costs, long-term nature, and risks associated with energy technologies.

Focus globally on hard-to-abate sectors. Beyond electricity, other sectors of the economy are harder to decarbonize and pose particular challenges for global cooperation and competitiveness. We will prioritize further abatement efforts in these sectors:

- **Transportation:** We will support efforts of the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) to reduce carbon emissions in these sectors.



- **Industry:** Industry accounts for nearly one-fifth of global emissions today.⁶¹ In addition to the negotiating process of the UNFCCC, we will pursue new coordination agreements among governments and businesses within specific industrial sectors, such as steel, aluminum, petrochemicals, and cement. Such agreements will take the form of emission standards for each sector of heavy industry or technology standards that mandate a particular type of low-carbon technology be used.

Protect America’s energy security in critical materials. The clean energy economy will be built on a range of critical materials, such as cobalt and lithium, that are required for everything from batteries to renewables. Indeed, these materials are critical to America’s security more broadly from defense to technology to automobiles. Today, America is completely import-dependent for at least 14 of these critical materials.⁶² We will pursue a broad range of solutions to increase America’s security with respect to critical material disruptions, including increasing domestic supply and recycling, funding research for alternatives, diversifying trade and supply chains, exploring whether to build strategic stockpiles, and pursuing collaborative agreements with other nations to respond to disruptions.

In the history of humanity, we have faced few crises like the threat posed by our changing climate. But the magnitude of the crisis can also galvanize us to rise to the occasion and build a safer, healthier, and more prosperous world. If we come together and harness the power of every American—from scientists and growers to students and auto workers—we will be proud of our response to this emergency.

⁶¹ [“Mission Possible: Reaching Net-Zero Carbon Emissions from Harder-to-Abate Sectors to Mid-Century.”](#) Energy Transitions Commission, November 2018.

⁶² Bazilian, Morgan D. [“We Need to Get Serious about ‘Critical Materials.’”](#) Scientific American Blog Network, June 10, 2019.