



HOW GOVERNMENT AND INVESTORS CAN DELIVER NET-ZERO IN THE US



An investor initiative in partnership with UNEP Finance Initiative and UN Global Compact

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INTRODUCTION

It is time for a new conversation in the US about climate change.

There is overwhelming evidence that the burning of fossil fuels is changing the odds on extreme weather events.¹ In the past decade, the US has experienced over \$800 billion in disaster-related damages.² Protecting and supporting US communities to improve their resilience to climate change is a growing policy priority. However, adaptation alone is insufficient: US policymakers must also implement policy reform to reduce greenhouse gas emissions to net-zero by 2050 at the latest.³

As the PRI's [Inevitable Policy Response](#) project has demonstrated, a delay in implementing the policies necessary to transitioning our economy will result in an eventual policy response that is forceful, abrupt and disorderly, undermining the value of investments and potentially challenging the stability of the financial system.

The design of pandemic response and stimulus legislation, as well as the upcoming elections, provide us with an opportunity to begin that new conversation about climate change. The elections come at a time when the United States is facing a triple threat – the surge of anger due to systemic racism, a global pandemic, and a brewing economic crisis with jobless claims in their millions.

As the economy recovers, long-term economic viability is contingent on the transition towards a net-zero economy in line with the goal of limiting global temperature rise to 1.5°C. This report sets out priorities for US federal climate policy which are economically feasible, readily implementable, and necessary. Policy reform can also represent a growth opportunity to enhance US competitiveness and retool large sections of the US economy.

The priority policy areas included in this report are based on the global framework of policy levers outlined in PRI's Inevitable Policy Response policy forecasts, supplemented with additional analysis and existing research on US decarbonization policies. This is a prioritized selection of key near-term policy interventions necessary to achieve net-zero emissions by 2050.

The role of private finance is central. Investors need to support these wider efforts with the levers at their disposal: capital allocation, stewardship, and their own policy engagement activities.

SIX PRIORITY AREAS

<p>Overall climate ambition and governance</p> <p>Set a long-term goal in law and interim targets to achieve a net-zero carbon economy by 2050 at the latest, with a comprehensive policy framework and new institutional mandates to coordinate and monitor progress. Establish a national carbon price and border carbon adjustment to support other policy and regulatory mechanisms.</p>	<p>Zero-carbon power</p> <p>Decarbonize the power sector, with a goal of 100% clean energy by 2035.</p> <p>Put in place policies to deploy renewable energy at scale, including investment in transmission, grid modernization and energy storage, while prioritizing the needs of low-income communities and households.</p>
<p>Buildings</p> <p>Phase out the use of fossil fuels in residential and commercial buildings by 2050, replacing this with zero-carbon heating and energy efficient retrofits. Scale up federal funding for retrofits, update energy efficiency standards and require all new buildings to be net-zero emissions by 2030.</p>	<p>Road transport</p> <p>Set a goal and interim targets to end the sale of internal combustion engine-powered cars by 2035, and trucks by 2045 at the latest.</p> <p>Put in place policies to meet these targets through incentives and regulations such as zero emissions vehicle standards. Increase investment in advanced transportation infrastructure including EV charging.</p>
<p>Industry</p> <p>Set a goal and interim targets for deep decarbonization of industry by 2050.</p> <p>Increase federal funding and support to develop clean hydrogen technology and industry CCS projects. Set a voluntary 2030 energy efficiency target for industrial businesses and provide new appliance standards and financial support for businesses to reach the target.</p>	<p>Land use</p> <p>Carry out a review of nationwide afforestation and agricultural climate stewardship potential and expand funding to existing conservation programs (such as CRP, CSP and EQIP).</p> <p>Commit at least \$4 billion per year of federal funding to tree restoration through conservation programs and state and local grants.</p>

KEY TERMINOLOGY

What is “net-zero” and why is it important to investors?

Preventing dangerous climate change requires reducing greenhouse gas (GHG) emissions from human economic activities to effectively zero across the globe in the next 30~40 years, with the more advanced economies reaching this target first. The science behind this, which has been documented by the Intergovernmental Panel on Climate Change (IPCC) as well as by national level agencies, led to 190 governments worldwide agreeing to reduce their emissions in the Paris Agreement.

The concept of ‘net-zero’ refers to achieving an overall balance between emissions produced and emissions taken out of the atmosphere. It can be compared to a bath with the taps on; an approach to achieving this balance can either be to turn down the taps, the emissions, or to drain an equal amount down the drain, removals of emissions from the atmosphere, including storage for the emissions. In

contrast to an absolute zero target, which would reduce emissions from all sources uniformly to zero, a *net-zero emissions target* is more realistic because it allows for some residual emissions.⁴

OVERALL CLIMATE AMBITION AND GOVERNANCE

It is imperative that the US government establish clear overarching policy goals and policy apparatus to provide a firm foundation for economy-wide action on climate change at all levels, with a strong focus on a rapid transition to net-zero GHG emissions across a range of key high-impact sectors, which this report will go on to address below.

PRIORITY POLICY CHANGES

- Re-join the Paris Agreement.
- Set a long-term goal in law to achieve a net-zero carbon economy by 2050 at the latest, in line with the overwhelming scientific consensus as set out by the Intergovernmental Panel on Climate Change (IPCC) and with the 2015 Paris Agreement.
- Establish interim progress targets in line with this goal, with targets ('carbon budgets') set at five-year intervals, and progress closely monitored and regularly reviewed. This will provide long-term clarity and near-term confidence to markets, investors and businesses.
- Establish institutional mandates and funding to guide, support, monitor and report on progress towards these decarbonization goals. The US should also introduce new requirements for disclosures by corporations and financial market participants on sustainability and climate-related performance and risk.
- Develop and implement a federal price on carbon, which establishes a collar pricing system with a floor and ceiling price that rises over time. This would look to draw on experience in California, British Columbia and elsewhere. This mechanism could be complemented by non-pricing based instruments, such as clean energy standards.
- In addition, the US should establish a border carbon adjustment for goods imported from countries without a comparable carbon pricing scheme.
- Phase out all fossil fuel subsidies, in line with the recommendations of the OECD and International Monetary Fund (IMF), including support for production, infrastructure and consumption both domestically and internationally.
- In addition to mitigation policies, develop national, state and local climate adaptation strategy for the US. This would include embedding climate-resilience planning into building and infrastructure standards.

It is also important that there is sufficient political and administrative leadership to drive federal climate policy at the heart of government and to coordinate implementation. US policymakers should consider the following steps to put this in place:

- Ensure cabinet-level coordination and implementation on climate policy action, covering both domestic and international affairs (this could be achieved by assigning at the cabinet-level responsibility for US climate policy).
- In addition to the above, create climate policy positions in relevant government departments and agencies to implement and report on climate policy action and progress towards targets.
- Set up an independent body to advise the government on emissions reduction targets and policies, propose carbon budgets, and scrutinize and report to lawmakers and the public on federal government progress towards decarbonization targets.

- Reinstate the US Climate Science Advisory Board

INVESTOR ROLE

As stated in the introduction of this report, the role of private finance is central. Responsible investors understand both the risks of inaction on climate change and the opportunities presented by the transition to a clean, zero-carbon economy. They need to support these wider efforts with the levers at their disposal: capital allocation, stewardship, and their own policy engagement activities.

This report identifies opportunities for investors in relation to each priority policy area. PRI has also developed a seven-part framework to support investors in pursuing their policy objectives:

- Undertake policy engagement, aligning their engagement and investment objectives.
- Work to policymakers' timetables, not their own.
- Leverage arguments based on technical expertise.
- Engage at all levels of the policy process, as well as through the media.
- As far as possible, work together and speak with a coherent voice, especially where there is consensus.
- Better understand the relevant dynamics of policy decision-making across committees and groups.
- Be clear about who they represent and how policies impact their investor base.



ZERO-CARBON POWER

CURRENT SITUATION

CO₂ emissions from power accounted for 37% of total US emissions in 2018.⁵ In 2019, around one-fifth of electricity in the US was generated from renewable sources, with wind and hydropower accounting for the largest share of renewables. Total renewable energy production increased by 40% between 2010-2019.⁶

Increasingly rapid progress is being made, thanks to advances in technology and very rapidly falling costs for renewable energy, alongside the retirement of highly polluting and increasingly uneconomic coal power plants. In many parts of the US it is already cheaper to build and operate renewable energy assets than to build new gas power plants, or even to continue operating most existing coal plants.⁷

In 2018, the renewable energy industry in the United States supported 855,000 jobs.⁸ Over 600,000 clean energy jobs have been lost in the US as a result of the COVID pandemic.⁹ However, recent analysis finds that delivering a zero-carbon power in the US could support 530,000 new jobs every year.¹⁰ Direct investment in renewable energy assets provides large short-term benefits as the sector has high economic multipliers.¹¹ Each million dollars spent in renewable energy could generate 7 to 8

jobs, compared to 2 to 3 jobs generated by equivalent investments in fossil fuels.¹² Jobs created in the renewable energy sector must provide living wages and benefits for workers.

The lack of clear low-carbon generation targets and ambitious supporting policies could slow down investment and progress towards zero-carbon power. The US currently has no federal power sector-wide low-carbon generation targets. Many existing policies to support low-carbon generation are insufficient to achieve deep decarbonization (e.g. the 45Q tax credit) or are being phased out (e.g. the Investment and Production tax credits).

PRIORITY POLICY CHANGES

- Set a clear ambition to decarbonize the power sector, with a goal of 100% clean energy by 2035. Set interim targets for the share of low-carbon generation to ensure a timely and consistent rate of decarbonization over this period. Translate the national targets into specific requirements for emissions reductions by individual state.
- Put in place a series of policy measures to meet these interim targets through deployment of renewables at scale, supported by adequate transmission investment, and identifying opportunities to prioritize the needs of low-income communities and households. Policy measures should include:
 - Increase the development of interstate transmission projects by addressing incentives and support for states and landowners. Improved transmission infrastructure is vital to increase grid flexibility and maximize renewable energy penetration.¹³
 - Establish a Green Investment Bank at the Federal level to reduce construction risk, crowd in private capital and accelerate the deployment of clean energy. This entity should be return seeking rather than profit maximizing to avoid crowding out private investment and existing state level initiatives.
 - Provide support and incentives for accelerating the development and commercial deployment of long-term energy storage, such as through the use of the Section 1603 Treasury Cash Grant.
 - Introduce a federal clean energy standard (CES), alongside increasingly ambitious state standards, as a backstop to ensure power decarbonization targets are achieved. An ambitious CES, which would set steadily increasing targets for the amount of renewable energy electricity providers are required to sell. In the absence of a CES clean energy tax credits would become more important.¹⁴
 - Through financial incentives, regulation on utilities and direct investment (e.g. the DOE Smart Grid Investment Grant program), ensure that every business and household have a smart meter by 2025.
 - Reform wholesale electricity markets to allow for public participation in market governance, reward flexibility, be compatible with federal and state clean energy targets, and support investment in a least-cost, technology-neutral portfolio of supply and demand-side resources.

INVESTOR ROLE

Power sector investment totaled over \$60 billion in 2018, with renewable energy accounting for \$50 billion of that total, and solar and wind together accounting for \$40 billion – a rise of 15% over 2017.¹⁵

In 2018, the US added 7.5 GW of wind power capacity and 8.9 GW of solar PV capacity.¹⁶ The US would need to increase renewable energy capacity from 283 GW in 2018 to in excess of 1,100 GW by 2040 in order to decarbonize in line with the goals of the Paris Agreement and the scientific consensus. This requires renewable energy investment to increase to \$80 billion per year by the mid-2020s,¹⁷ and average renewable generation deployments of 70 GW per year.¹⁸ Investors have a vital role to play in providing capital and engaging with investee companies to help drive business strategies dedicated to decarbonization, as well as engaging with policymakers. Policymakers need to create an enabling environment for investors so they can increase allocations to clean energy solutions.



BUILDINGS

CURRENT SITUATION

Emissions from buildings and homes in the US have remained stable since 2010, while per-household energy consumption has fallen roughly 16% from 2005 to 2018. By 2050, 44% of the commercial building stock and 67% of housing inventory will still consist of buildings built in 2019 or earlier. This increases the need for a strategy to retrofit buildings to improve energy efficiency. Retrofits could reduce emissions from existing buildings by almost 30%.¹⁹ Electric resistance heaters and heat pumps using zero-carbon electricity can achieve significant emissions reductions.

Current US policies lack a clear ambition to decarbonize the building stock, as well as supporting measures to achieve this objective. No targets on the phase out of fossil fuel heating systems in buildings have been set at the federal level. Current policies to refurbish the existing building stock and equip buildings with zero-carbon heating are insufficient in scope (e.g. the Residential Renewable Energy tax credit only covers a subset of technologies) and size (e.g. the Weatherization Assistance Program only achieves a limited number of weatherization services each year).

Improvements in energy efficiency have high potential to create millions of new jobs as well as contributing to poverty alleviation and improvements in living standards for low-income households,²⁰ which typically spend 16.3% of their annual income on energy costs, versus 3.5% for other households.²¹ Government policies and investment should support the creation of long-term jobs in the energy efficiency sector that pay a living wage.

PRIORITY POLICY CHANGES

- Set a goal to phase out the use of fossil fuels in public, residential and commercial buildings by 2050, including interim targets.
- Put in place a series of policy measures to achieve this objective through incentives to replace current fossil fuel heating systems with zero-carbon heating, and a large-scale building refurbishment program to make homes as energy efficient as possible.

- Provide strong incentives for widespread deployment of zero-carbon heating by extending the Residential Renewable Energy tax credit currently covering geothermal heat pumps to 2030 and extending support to air source and water source heat pumps. It is estimated that today's heat pumps can reduce electricity use for heating by approximately 50% compared to electric resistance heating such as furnaces and baseboard heaters,²² potentially slashing electricity bills in half.
- Scale up the Low-Income Home Energy Assistance Program and Weatherization Assistance Program, extending funding to cover refurbishment for the majority of low-income households. About 30% of US households (38.6 million households) are eligible for weatherization, but only about 2% of low-income households in the United States receive weatherization services each year at the moment.²³
- Direct public spending to investment in energy efficiency, prioritizing efforts to improve hospitals, schools, and municipal buildings, as well as housing.
- Prioritize energy efficiency through smart standards. Update appliance efficiency standards and require all new buildings to be net-zero emissions by 2030. Implement advanced appliance and equipment efficiency standards that take a “top runner” approach, which has been applied in Japan since 1998, to regularly test all products currently available in a category, determine the most efficient model, and make that model's efficiency the new baseline for the market.

INVESTOR ROLE

Investment in construction in the US reached \$1.4 trillion in 2018, of which 2% was dedicated to increasing energy efficiency in buildings.²⁴ Taking into account the pre-1980s building stock still in use in the US and aiming to achieve an average energy efficiency improvement of 30% across it, this can generate an investment opportunity of \$182 billion in the residential building stock, \$72 billion in the commercial building stock, and \$25 billion in the institutional building stock.²⁵ Consumer finance will be needed to transition to heat pumps, while major investments needed for district heating and hydrogen infrastructure also create a market for investors to finance high upfront costs while achieving a positive long-term return.



ROAD TRANSPORT

CURRENT SITUATION

Transport emissions in 2018 represented 36% of total US energy emissions – a 5% increase on 2010 levels.²⁶ With power sector emissions already falling, road transport is now a pressing climate policy priority for US policymakers. Electric vehicles (EVs) are becoming cheaper as costs fall and efficiency increases (particularly for the batteries that power them), charging technology improved and consumers are buying in larger numbers. Vehicle emissions and fuel efficiency standards and tax credits for zero emissions vehicles (ZEVs) have contributed to increased development, manufacturing and uptake of EVs, but this shift remains too slow and the life span of US cars exceeds 10 years.

To meet a net-zero goal by 2050, current policies will need to be significantly strengthened. Existing policy frameworks could take the share of EV sales to 8% in 2030, but this may need to reach 30% by 2030 to meet a 2050 goal aligned with the Paris Agreement.²⁷

In 2019, electric and alternative fuel vehicles supported 266,000 jobs in the US, accounting for 10% of all jobs in the motor vehicle sector.²⁸ Estimates suggest that if the EV market grows to 27% of US vehicles on the road in 2035, this could lead to 52,000-109,000 additional jobs per year and increase GDP by USD 6.6 billion per year on average to 2040.²⁹ Government policy and investment should support the creation of long-term jobs in the zero emissions auto sector that pay a living wage. Zero emissions trucks will become cost-competitive in the 2020s. The net cost of shifting from internal combustion engine (ICE) trucks to zero-carbon trucks for consumers could be zero or negative thanks to savings from lower fuel costs and higher efficiency of electric engines compared to ICE engines.³⁰

PRIORITY POLICY CHANGES

- Commit to phasing out the use of fossil fuels in road transportation by 2050 and set target years for ending the sale of internal combustion engine-powered cars by 2035 and trucks by 2045 at the latest.
- Put in place a series of policy measures to meet these targets through incentives and regulations to drive zero emission vehicle uptake in light and heavy-duty vehicles, and investment in advanced transportation infrastructure including EV charging. Policy measures should include:
 - Establish a zero emission vehicle (ZEV) standard for passenger vehicles to achieve a 100% zero emissions car and light duty fleet by 2035, and a zero emission heavy duty fleet by 2050 at the latest.
 - Extend existing EV tax credits for light duty vehicles to at least 2025 and remove the manufacturer cap of 200,000 vehicles.
 - Re-introduce and continue to tighten beyond 2030 the Corporate Average Fuel Economy (CAFE) standards from current 1.5% annual fuel economy improvement to 5% in line with the previous 2011 agreement.³¹
 - Set a target to increase the number of publicly accessible charge points by a factor of 10 to reach levels realized in leading EV markets over the next 5 years. Develop a public financing mechanism to provide access to capital for state and local governments as well as private businesses to deliver this sustainable transport infrastructure.
 - Introduce a ZEV corporate tax credit for heavy duty vehicle (HDV) fleet operators, subject to an adequate manufacturer cap.
 - Introduce an updated “cash for clunkers” program of rebates for consumers trading in the oldest and most polluting vehicles for zero or near-zero emissions models. This should be carefully targeted to support equity objectives, long-term job creation and emission reductions, rather than short-term stimulus for automakers.

INVESTOR ROLE

It is estimated that the US may need to install 13 million electrical vehicle chargers nationwide by 2030, most of them at homes and workplaces, requiring \$11 billion of investment.³² This represents a significant opportunity for consumer finance and investment in business.

Helped by clear targets, policies and incentives, private investors can provide capital along with automakers and charging companies to develop new technologies like hydrogen and electric vehicle infrastructure. Large amounts of capital are already beginning to flow to the sector, with around 250 startups attracting \$250 billion in investment capital and strong opportunities underpinned by improvements in technology and forecasts of a surge in fleet electrification.³³ Ford alone announced a \$11 billion investment in electric vehicles in 2018.³⁴



INDUSTRY

CURRENT SITUATION

Carbon emissions from industry in the US have decreased by 4% in the last decade.³⁵ Current policies center on the 45Q tax credit, which incentivizes industrial manufacturers to deploy carbon capture and storage (CCS) technology; and the Energy Star Program, which aims at increasing energy efficiency in appliances at industrial facilities on a voluntary basis.

Investment in industrial energy efficiency was less than \$4 billion in 2018, down from almost \$10 billion in 2015. Investment in energy efficiency overall in the US was at \$42 billion in 2018.

Current policies lack the ambition needed to decarbonize industry. There are no clear targets at the federal level for energy efficiency and decarbonization of industry. Tax incentives are not sufficient to support investment in CCS technology, and the energy efficiency programs are not sufficiently comprehensive to deliver widespread results across all industrial sectors and players.

PRIORITY POLICY CHANGES

- The US should set a clear goal for deep decarbonization of industry by 2050, with interim targets and a framework of policies designed to deliver on this ambition. Alongside climate policy objectives, achieving greater energy efficiency could provide long-term competitiveness benefits to US firms, such as those in the steel industry competing with overseas firms. In order to achieve this goal, policymakers should take the following steps:
 - Provide federal funding for research, development and demonstration (RD&D) in areas like hydrogen and energy efficiency through direct funding and loan facilities, such as those under the Department of Energy Loan Programs Office.
 - Increase the 45Q tax credit to the level necessary to support industry CCS projects and extend it through to 2030 to reduce revenue uncertainty for businesses and investors, building on early US progress pioneering and deploying CCS in the petrochemicals industry.
 - Set a stretching voluntary 2030 energy efficiency target for industrial businesses and introduce a comprehensive financial assistance program to support both large businesses and SMEs to achieve the target. As with households, this could include “top runner” or “best available technology” appliance standards for industrial equipment.

- Establish a program to assess the potential for hydrogen technology (specifically, 'green hydrogen', produced using renewable power) to deliver emissions reductions in high-emitting industrial sectors (e.g. steel and concrete), and establish funding and regulatory standards to deliver on that potential.
- Reinstate and tighten EPA regulation on methane leakage from oil and gas facilities to cover new and existing plants.

INVESTOR ROLE

Investors can support decarbonization of industry in a range of ways including investing in specific low-carbon assets (e.g. new steel plants using the most energy efficient technology and CCS infrastructure) or through strategic allocation towards more efficient and low-carbon manufacturing businesses. This requires that they build knowledge and equip themselves with tools to assess investment risk and opportunity in relation to energy efficiency technologies and performance. Investors can also engage with businesses to help drive business focus and investment to energy-efficient assets, approaches and technologies.



LAND

CURRENT SITUATION

Between 2000 and 2016 the forest area in the US increased by around 2%, with forest land now covering over one third of the US land area.³⁶ However, despite improvements in the area of conserved land in recent years, existing afforestation programs have no clear goals and limited funding, which limits their ability to deliver significant GHG sequestration potential by 2050.

The main conservation-related programs in the US are overseen by the US Department of Agriculture and farmers can enroll in these programs on a voluntary basis.

The Conservation Reserve Program (CRP), the Conservation Stewardship Program (CSP - the largest conservation program in the US), and the Environmental Quality Incentives Program (EQIP) provide payments in exchange for actions including removing environmentally sensitive land from agricultural production, increasing environmental benefits through improved productivity, and taking steps that can lead to cleaner water and air and healthier soil and habitat.

Government incentive payments or tax credits are necessary to deliver tree restoration, as the up-front costs are high and there are few or no near-term financial returns for landowners. The World Resources Institute estimates over \$4 billion in annual public funding is required over 20 years, through existing schemes or a new tax credit similar to the Investment Tax Credit for solar energy. The social benefits from carbon removal through tree planting, including clean water, flood protection and increased biodiversity, could be five times larger than the costs.³⁷

PRIORITY POLICY CHANGES

- Carry out a review of cost-effective nationwide afforestation and agricultural climate stewardship potential.
- Expand funding to existing conservation programs (such as CRP, CSP and EQIP) to deliver in full the potential for carbon sequestration through forest conservation. Where necessary extend coverage to increase their focus on climate-smart agriculture and land use practices.
- Commit at least \$4 billion per year of federal funding to tree restoration through conservation programs and state and local grants, which could create at least 150,000 jobs and \$6-12 billion per year in economic activity.³⁸

INVESTOR ROLE

Forest land that is rewarded for its carbon sequestration value can provide a revenue stream for investors. If carbon pricing is implemented across the US, at a carbon price of \$30/tCO₂, an acre of forest could generate \$45 per year in carbon credits, rising to \$150 per year at a carbon price of \$100/tCO₂. The opportunity to reforest 53 million acres in the US could deliver \$8 billion per year in carbon credits at a carbon price of \$100/tCO₂.³⁹

Investors can participate in afforestation by acquiring real assets or investing in companies involved in afforestation and reforestation projects, which might include acquiring land, or developing applicable technologies.

SUSTAINABLE FINANCE

CURRENT SITUATION

Investors, and the financial sector more broadly, are increasingly coming to understand that climate change presents risks and opportunities that must be incorporated into their decision-making processes. Empirical and academic evidence demonstrates that the practice of incorporating ESG factors into investment actions is a source of investment value, while the failure to effectively manage ESG issues can destroy investment value.

Federal policy in the US, however, is not designed to support sustainable finance. In fact, in recent months, the Department of Labor (DOL) and the Securities and Exchange Commission (SEC) have taken action to undermine sustainable finance.

The DOL recently proposed a rule that discourages fiduciaries who oversee private sector retirement plans from integrating ESG factors into their investment decisions. The SEC recently finalized a rule that undermines the independence of proxy advisory firms, which provide voting advice to investors on matters subject to a vote at companies annual meetings, often on shareholder proposals aimed at encouraging companies to evolve more effectively toward a decarbonized economy. The SEC is also working to finalize a rule that is expected to make it more difficult for investors to bring shareholder proposals on ESG topics for a vote at companies' annual meetings.

The damaging policies implemented in recent years to discourage sustainable finance must be reversed. That is not enough, however. Policy in the US must be updated to affirmatively encourage sustainable finance.

PRIORITY POLICY CHANGES

- There is now an extensive body of research that makes clear that ESG factors are material investment considerations. Given this evidence, policymakers in the US should make clear that fiduciaries have an obligation to consider ESG factors as part of their investment processes to ensure the integration of material ESG factors into their investment decisions.
- Policy in the US should be updated to encourage investors to engage proactively with companies to encourage them to adopt sustainable practices. Roadblocks such as onerous ownership thresholds as prerequisites for filing shareholder proposals should be avoided and it must be accepted that shareholder engagement adds to long-term value.
- Public companies must be required by either the SEC or legislative mandate to disclose consistent, comparable data on ESG factors to investors and the public. This will ensure that the markets have access to the information needed to integrate climate-related risks and opportunities into their investment actions. The TCFD is a valuable model that US policymakers should look to as they develop disclosure mandates.
- The SEC should establish clear guidelines for green securitization, including supporting companies in raising capital through green bonds, and benchmark financial performance against climate-aligned indexes.
- The Federal Reserve must join the Network for Greening the Financial System and clarify that climate change is a systemic risk that will be incorporated into its stress testing of regulated financial institutions. This will encourage alignment of Federal Reserve's own portfolios with responsible investment and advance a strategic approach towards climate risk within financial markets.

HOW TO GET INVOLVED

If you are interested in keeping updated on the PRI's work in this area, learning more about relevant engagement opportunities as they arise and/or collaborating with the PRI and investors on policy engagement, please [subscribe to the PRI's policy newsletter](#).

The PRI further recognizes that, beyond policies that directly mitigate the US's emissions, additional policy frameworks will be required to counteract some of the effects of this shifts, notably with regard to ensuring trade policies prevent the exportation of emissions, and securing a just transition. Further research will be done on these issues.

CONTACTS

[Heather Slavkin Corzo](#)

Head of US Policy

[Will Martindale](#)

Director of Policy and Research

[Sagarika Chatterjee](#)

Director of Climate Change

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- ¹ Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (2014) available at: <https://www.ipcc.ch/report/ar5/syr/>.
- ² National Oceanic and Atmospheric Administration (NOAA), *2010-2019: A landmark decade of U.S. billion-dollar weather and climate disasters* (January 8, 2020) available at: <https://www.climate.gov/news-features/blogs/beyond-data/2010-2019-landmark-decade-us-billion-dollar-weather-and-climate>.
- ³ Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (2014) available at: <https://www.ipcc.ch/report/ar5/syr/>.
- ⁴ The London School of Economics and Political Science Grantham Research Institute on Climate Change and the Environment, *What is net zero?* (April 30, 2019) available at: <https://www.lse.ac.uk/granthaminstitute/news/what-is-net-zero/>.
- ⁵ International Energy Agency (IEA), *World Energy Outlook 2019* at Annex A (November 2019) available at: <https://www.iea.org/reports/world-energy-outlook-2019>.
- ⁶ US Energy Information Administration (EIA), *Renewable & alternative fuels* (2019) available at: <https://www.eia.gov/renewable/data.php>.
- ⁷ World Resources Institute, *America's new climate economy* (July 2020) available at: <https://www.wri.org/publication/us-new-climate-economy>.
- ⁸ International Renewable Energy Agency (IRENA), *Renewable Energy and Jobs – Annual Review 2019* (June 2019) available at: <https://www.irena.org/publications/2019/Jun/Renewable-Energy-and-Jobs-Annual-Review-2019>.
- ⁹ Reuters, *U.S. clean energy sector loses 18% of jobs during pandemic – report* (June 15, 2020) available at: <https://www.reuters.com/article/usa-clean-energy-jobs/us-clean-energy-sector-loses-18-of-jobs-during-pandemic-report-idUSL1N2DS18M>.
- ¹⁰ Goldman School of Public Policy University of Berkeley, *The 2035 Report: Plummeting Solar, Wind, and Battery Costs Can Accelerate Our Clean Electricity Future* (June 2020) available at: <https://www.2035report.com/>.
- ¹¹ Cameron Hepburn, Brian O'Callaghan, Nicholas Stern, Joseph Stiglitz, Dimitri Zenghelis, *Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?*, Oxford Review of Economic Policy (May 8 2020) available at: <https://doi.org/10.1093/oxrep/graa015>.
- ¹² World Resources Institute, *America's new climate economy* (July 2020) available at: <https://www.wri.org/publication/us-new-climate-economy>.
- ¹³ House Select Committee on the Climate Crisis, *Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America Majority Staff Report* (June 2020) available at: <https://climatecrisis.house.gov/report>. This could include amending the Federal Power Act so that the goals of the National Interest Electric Transmission Corridors program include achieve national climate goals. This could also include federal funding and technical assistance to support state and local authorities to plan and review transmission projects and provide economic development incentives for investments that deploy advanced technology and improve capacity and efficiency in the system.
- ¹⁴ House Select Committee on the Climate Crisis, *Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America Majority Staff Report* (June 2020) available at: <https://climatecrisis.house.gov/report>. A Clean Energy Standard to drive GHG emissions cuts could be combined with an energy efficiency standard to reduce demand for electricity and help consumers save money on power bills.
- ¹⁵ International Energy Agency (IEA), *World Energy Investment 2019* at 58 and 64 (May 2019) available at: <https://www.iea.org/reports/world-energy-investment-2019>.
- ¹⁶ National Renewable Energy Laboratory (NREL), *Latest Data Book Shows U.S. Renewable Capacity Surpassed 20% for First Time in 2018: Growth Continues in U.S. Installed Wind and Solar Photovoltaic Capacity, Energy Storage, and Electric Vehicle Sales* (February 18, 2020) available at: [https://www.nrel.gov/news/program/2020/latest-data-book-shows-us-renewable-capacity-surpassed-20-for-the-first-time-in-2018.html#:~:text=U.S.%20natural%20gas%2Dfired%20generation,\(741%20TWh\)%20in%202018](https://www.nrel.gov/news/program/2020/latest-data-book-shows-us-renewable-capacity-surpassed-20-for-the-first-time-in-2018.html#:~:text=U.S.%20natural%20gas%2Dfired%20generation,(741%20TWh)%20in%202018).
- ¹⁷ International Energy Agency (IEA), *World Energy Investment 2019* at 64 (May 2019) available at: <https://www.iea.org/reports/world-energy-investment-2019>.

- ¹⁸ Goldman School of Public Policy University of Berkeley, *The 2035 Report: Plummeting Solar, Wind, and Battery Costs Can Accelerate Our Clean Electricity Future* (June 2020) available at: <https://www.2035report.com/>.
- ¹⁹ Steven Nadel and Lowell Ungar, *Halfway There: Energy Efficiency Can Cut Energy Use and Greenhouse Gas Emissions in Half by 2050* at 9, (September 2019) available at: <https://www.aceee.org/sites/default/files/publications/researchreports/u1907.pdf>.
- ²⁰ Cameron Hepburn, Brian O'Callaghan, Nicholas Stern, Joseph Stiglitz, Dimitri Zenghelis, *Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?*, Oxford Review of Economic Policy (May 8, 2020) available at: <https://doi.org/10.1093/oxrep/graa015>. See also International Energy Agency (IEA) *Sustainable Recovery: World Energy Outlook Special Report* (June 2020) available at: <https://www.iea.org/reports/sustainable-recovery>.
- ²¹ US Department of Energy Office of Energy Efficiency and Renewable Energy, *Weatherization Assistance Program (WAP) Fact Sheet 2019* (2019) available at: <https://www.energy.gov/sites/prod/files/2019/07/f64/WAP-Fact-Sheet-2019.pdf>.
- ²² US Energy Department, *Heat pump systems* (2020) available at: <https://www.energy.gov/energysaver/heat-and-cool/heat-pump-systems>.
- ²³ American Council for Energy Efficient Economy, *Weatherization cuts bills and creates jobs but serves only a tiny share of low-income homes* (July 7, 2020) available at: <https://www.aceee.org/blog-post/2020/07/weatherization-cuts-bills-and-creates-jobs-serves-only-tiny-share-low-income-homes>.
- ²⁴ International Energy Agency (IEA), *World Energy Investment 2019* at 41 (May 2019) available at: <https://www.iea.org/reports/world-energy-investment-2019>.
- ²⁵ Deutsche Bank, *United States Building Energy Efficiency Retrofits: Market Sizing and Financing Models* at 14 (March 2012) available at: https://www.db.com/cr/en/docs/Building_Retrofit_Paper.pdf.
- ²⁶ International Energy Agency (IEA), *World Energy Outlook 2019* (November 2019) available at: <https://www.iea.org/reports/world-energy-outlook-2019>.
- ²⁷ International Energy Agency (IEA), *Global EV Outlook 2020* at 161 (June 15, 2020) available at: <https://www.iea.org/events/global-ev-outlook-2020>.
- ²⁸ World Resources Institute (WRI), *America's new climate economy* (July 2020) available at: <https://www.wri.org/publication/us-new-climate-economy>.
- ²⁹ National Renewable Energy Laboratory (NREL), *National Economic Value Assessment of Plug-In Electric Vehicle* at 26 (December 2016) available at: <https://www.nrel.gov/docs/fy17osti/66980.pdf>. See also World Resources Institute (WRI), *America's new climate economy* at 3 (July 2020) available at: <https://www.wri.org/publication/us-new-climate-economy>.
- ³⁰ Energy Transitions Commission, *Reaching Net-zero Carbon Emissions from Harder to Abate Sectors by Mid-Century: Mission Possible* (November 2018) available at: http://www.energy-transitions.org/sites/default/files/ETC_MissionPossible_FullReport.pdf.
- ³¹ California v. Chao, D.D.C., No. 1-02826, complaint 9/20/19, available at: <https://src.bna.com/Lwb>.
- ³² McKinsey, *Charging ahead: Electric-vehicle infrastructure demand* (August 8, 2018) available at: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/charging-ahead-electric-vehicle-infrastructure-demand>.
- ³³ Reuters, *Corporate investors pile into electric vehicle startups* (January 11, 2019) available at: <https://www.reuters.com/article/us-autoshow-detroit-startups-electric-an-idUSKCN1P52DC>.
- ³⁴ Reuters, *Global carmakers to invest at least \$90 billion in electric vehicles*, (January 15, 2018) available at: <https://www.reuters.com/article/us-autoshow-detroit-electric/global-carmakers-to-invest-at-least-90-billion-in-electric-vehicles-idUSKBN1F42NW>.
- ³⁵ International Energy Agency (IEA), *World Energy Outlook 2019* (November 2019) available at: <https://www.iea.org/reports/world-energy-outlook-2019>.
- ³⁶ World Bank Database, *Forest area (sq. km) – United States* (1990-2016) available at: <https://data.worldbank.org/indicator/AG.LND.FRST.K2?locations=US>.
- ³⁷ World Resources Institute (WRI), *CarbonShot: Federal Policy Options for Carbon Removal in the United States* (January 2020) available at: <https://www.wri.org/publication/carbonshot-federal-policy-options-for-carbon-removal-in-the-united-states>. See also WRI, *How and Where to Plant 60 Billion Trees in the US* (February 12, 2020) available at: <https://www.wri.org/blog/2020/02/how-where-plant-trees-us>.
- ³⁸ Todd BenDor et al., *Estimating the Size and Impact of the Ecological Restoration Economy*, PLOS ONE 10, no. 6 (June 17, 2015) available at: <https://doi.org/10.1371/journal.pone.0128339>. See also World Resources Institute (WRI), *Restoring trees to the landscape: Creating "Shovel-ready" jobs*

across the United States (April 2020) available at: <https://www.wri.org/publication/restoring-trees-landscape-creating-shovel-ready-jobs-across-united-states>.

³⁹ World Resources Institute (WRI), *How and Where to Plant 60 Billion Trees in the US* (February 12, 2020) available at: <https://www.wri.org/blog/2020/02/how-where-plant-trees-us>.