

Solutions

EDF
ENVIRONMENTAL
DEFENSE FUND
Finding the ways that work

Vol. 52, No. 2 / Spring 2021



America's electric revolution

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Trump rollbacks:
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Safe passage

The 1918 Migratory Bird Treaty Act protects 4 billion birds that pass through the U.S. every year, including these roseate spoonbills. The Trump administration gutted the act. At the urging of EDF and Audubon, the Biden administration has now restored it. EDF and allies used the act to win a settlement of \$100 million from BP for the deaths of 1 million birds after the 2010 Gulf of Mexico oil spill. Overall, BP paid an estimated \$65 billion for causing the disaster.

A new day in Washington



Early in the Biden administration, it's clear the United States not only talks about climate and environmental justice, but is determined to deliver. "Put simply," a *New York Times* editorial declared, "the richest and most powerful nation in the world is back in the fight to rescue the planet from the fires, floods, famines, rising sea levels, human dislocations and other consequences of a warming globe."

The imperative to act on climate permeates this administration. And American business is now coming on board. The investment community is increasingly focused, and recently General Motors announced its plan, which EDF helped develop, to manufacture only zero-emission light-duty vehicles by 2035. This will accelerate the global movement toward electric cars and trucks.

The upshot is that we now have the best opportunity ever to dramatically curb U.S. climate pollution, create millions of good jobs and assist low-wealth communities and communities of color that have suffered the most from climate change and industrial pollution. But we have to act quickly and decisively.

To reduce U.S. net greenhouse gas emissions to zero by 2050, the administration, having rejoined the Paris Agreement, should begin by pledging to cut emissions 50% below 2005 levels by 2030. To reach those goals, EDF is calling for electrifying transportation, decarbonizing power production and slashing methane emissions from the oil and gas industry and agriculture. Too little attention has been paid to cutting emissions from trucks and buses, which represent less than 5% of registered vehicles but account for 28% of climate pollution from road transportation and 57% of the soot from vehicles.

Transportation and power generation cause more than half of U.S. greenhouse gas emissions, and our cover story describes EDF's accelerating efforts to clean up those sectors (*see p. 8*). We're also helping farmers become part of the climate solution by advancing legislation that supports climate-smart farming practices (*see p. 14*).

As always, EDF is creating pathways that bring people together. That helps ensure durable progress. Today, with Congress closely divided, we are building bipartisan majorities for legislation that President Biden will need to realize his climate vision. More than a half-century has taught us that this is the surest path to a better future.



Twenty-one years ago, I wrote in these pages: "I am delighted to welcome Peter Klebnikov as senior editor." Since then, Peter has published more than 100 issues as editor-in-chief of *Solutions*, and I'm sorry to say this will be his last, as he moves on to pursue his dreams of writing about wildlife and teaching. Over the two decades that Peter has covered EDF, he always upheld the highest journalistic standards. We will miss him.

Fred Krupp
EDF President



Environmental Defense Fund's mission is to preserve the natural systems on which all life depends. Guided by science and economics, we find practical and lasting solutions to the most serious environmental problems.

Our work is made possible by the support of our members. Donate online at edf.org/newsletter or by mail: EDF, Attn.: Member Services, 1875 Connecticut Ave. NW, Ste. 600, Washington, DC 20009



On the cover:

With new leadership in Washington, EDF's efforts to deliver more clean energy, more clean cars and trucks and better health for all communities are moving into high gear.

The clean electric future is finally on its way. See what it will look like, and how EDF is making it happen, on page 8.

Solutions

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FIELD NOTES

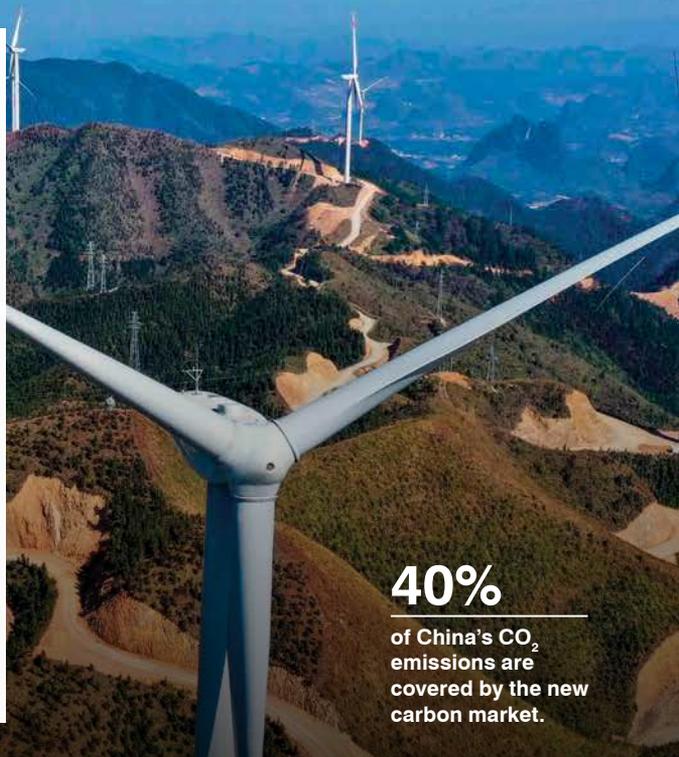
China launches world's largest carbon market

As the U.S. reengages on climate, China, in a major advance, has kicked off its national carbon market. China's National Emissions Trading System will initially cover 2,225 power plants — about 40% of its carbon emissions — before expanding to industries such as chemicals and steel. China is the world's number one emitter of greenhouse gases.

For EDF, this marks the culmination of 30 years of policy and technical work with Chinese regulators. In preparation for the opening, more than 7,000 people trained on market simulation software developed by EDF.

"This is one of the biggest developments for the world's largest carbon market in the recent rollercoaster year," says Zhang Jianyu, head of EDF's China program.

EDF introduced market-based solutions to solve environmental problems in China in the 1990s when we helped launch a sulfur dioxide trading program. We then helped design pilot carbon markets for various cities and provinces. The carbon market is key to cost-effectively reducing emissions in China, which aims to reach carbon neutrality by 2060.



40%
of China's CO₂ emissions are covered by the new carbon market.

A National Academies grant of **\$1.2 million**

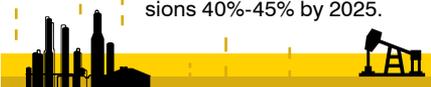
will help EDF investigate how wetlands and other natural features could help protect vital coastal habitats from flood-induced chemical spills on the Gulf Coast.



BREAKTHROUGHS

10x

New research from EDF's Dr. Daniel Zavala-Araiza and an international science team shows that climate-warming methane pollution from onshore oil and gas facilities in Mexico is at least 10 times higher than official estimates. This finding will help inform Mexico's efforts to reduce its oil and gas methane emissions 40%-45% by 2025.



ALAMY



Clean air for global cities

Air pollution is a global health crisis, causing an estimated 6.7 million premature deaths each year worldwide. EDF and World Resources Institute are co-leading Clean Air Catalyst, a global consortium of organizations launched by the U.S. Agency

for International Development to help low- and middle-income countries develop lasting clean air solutions. The first two pilot cities in the five-year project are Indore, India (*left*), and Jakarta, Indonesia, with WRI leading the effort in Indonesia.

EDF will work with the consortium and local partners to pinpoint local pollution sources and build consensus around a solution that has broad support.

"Science and policy alone won't solve it," says EDF's VP for Health Sarah Vogel. "This is about collaboratively building an understanding of where the harm is coming from, and getting past the finger-pointing so people can thrive while reducing pollution."



ALAMY

55,000

environmental enforcement officers have been trained by EDF and partners.



IN THE COURTS

 EDF and allies are suing the EPA over the Trump administration's dangerously inadequate risk evaluation for 1,4-dioxane, a likely carcinogen found in drinking water, air and consumer products. The EPA grossly underestimated the health impacts of the multiple exposures faced by millions of people.

 Texas must reduce pollution in San Antonio after a court agreed with EDF and ruled that the city's air quality fails to meet national standards for ozone.

MEET EDF

Dr. Ilissa Ocko Climate scientist

Climate science is a huge topic. How do you choose priorities?

You look for the biggest sources. Just two greenhouse gases, CO₂ and methane, are responsible for 75% of global warming today. Then you look at where the majority comes from. It's not a long list: energy, transportation, agriculture... Very quickly you can see where we have to focus our efforts.

Then what?

My job is to help my EDF colleagues determine what actions would have the greatest impact, scientifically. Then they work to see what makes the most sense economically and politically.

Does science have a role in politics?

Science is critical for informing wise decision making. But it's data and in that sense it's objective. It gets really dangerous when science is manipulated, undermined or ignored to confirm a particular agenda.

We can guess what you're talking about ...

The last four years were appalling, worse than I could have imagined.

And now?

The Biden-Harris administration's environmental agenda feels like we're in Narnia after the White Witch was defeated. Everything that was dreary is now sunshine and hope!



GETTY

Ticket to ride

MethaneSAT, built to locate and quantify climate-harming methane pollution from the oil and gas industry worldwide, will be ready to launch in late 2022 on a SpaceX Falcon 9 rocket (above). It will have the best methane detection sensitivity of any satellite. Public data from the project, led by EDF subsidiary MethaneSAT LLC, will help governments and companies reduce emissions swiftly and transparently. Methane pollution is responsible for at least 25% of the warming we experience today.

Casting a wide net(work)

Across the globe, small-scale fisheries are a vital source of local nutrition and income: They provide up to half the world's catch and 90% of fishing-related jobs.

However, especially in tropical zones, many face declining fish populations, under-regulation, unpredictable markets and the increasing impacts of climate change.

Now support is at hand. EDF and a global coalition of nonprofits, together with small-scale fishing communities, have developed a new online resource where people can exchange information about making their fisheries more sustainable.

The Small-Scale Fisheries Hub features case studies, tools and forums designed to help communities improve governance, food security and ocean and ecosystem health.

"The Hub enables communities to connect and collaborate like never before," says project director Alexis Rife. Already, visitors from more than 90 countries have accessed the site, which is available in 20 languages.



SHUTTERSTOCK

A new era for environmental law

By Joanna Foster

After facing down a four-year assault on our most important environmental protections, EDF's general counsel Vickie Patton and her team are rolling up their sleeves and ushering in the next generation of environmental safeguards. "General" Patton, as her colleagues call her, answered questions about how we can rebuild stronger.

Q. Former President Trump took aim at over 100 environmental initiatives. How would you describe the state of affairs that the Biden administration inherited?

A. Thanks to the tenacity of the EDF team, numerous environmental organizations, state attorneys general and many more, Trump's reckless rollbacks were challenged at every turn, and the Biden-Harris EPA has a solid legal foundation on which to carry out the urgent work of protecting human health and the environment. That said, the EPA itself has been battered over the past four years. Many people left the agency or were

forced out, and there is a tremendous amount of work to be done to rebuild the ranks and morale at EPA and make sure the agency can fulfill its mission. Also, we have lost precious time, which has real consequences for the climate and for neighborhoods that are unjustly afflicted by unhealthy air every day. We need to leap ahead with new protections while cleaning up the Trump era's wreckage.

Q. What progress has already been made in reversing the damage?

A. The good news is that some of the most damaging rollbacks that Trump pursued have already been struck down in court.

In a huge victory for public health and EDF's legal team, Trump's censored science rule was recently vacated by a federal court in Montana. We've been fighting this dangerous rule since its inception and took the lead in holding the EPA accountable for illegally rushing it across the finish line before Trump left office. This win is historic. It means that Trump EPA

administrator Andy Wheeler's multiyear effort to censor and suppress the EPA's reliance on the best public health science has completely failed. It will never take effect. We are thrilled to turn the page on this dark chapter.

And remember how Trump used to boast at his rallies that he would destroy Obama's Clean Power Plan? Well, on Trump's last day in office, the U.S. Court of Appeals for the D.C. Circuit handed down a landmark decision striking down his unlawful attempt to repeal the Clean Power Plan. That means President Biden's EPA has a clean slate to carry out its responsibilities under the Clean Air Act to reduce harmful carbon pollution from existing power plants.

Q. What are your priorities for rolling back Trump's rollbacks?

A. EDF is focusing on the biggest sources of climate pollution — fossil fuel power plants, cars, trucks and buses and leaks from oil and gas operations. These are also the biggest sources of health-harming pollution. Our nation has the legal authority and the responsibility to take action under clean air laws. The solutions are at hand to not just reinstate regulations but also ensure our country adopts stronger protections that save lives and address environmental injustice.

Among the new measures needed, we also want to integrate climate disclosures and climate risk management into financial regulation. We need to ensure that all publicly traded companies are required to fully disclose their climate risk under federal securities law, and that banks are addressing climate risks in explicit ways and stress testing our financial systems.

Q. What can be repaired quickly? What will take longer to unwind?

A. The Biden administration has already begun reversing Trump's rollbacks. Any policy Trump reversed in an executive order can be reinstated with executive authority — like rejoining the Paris climate accord. Other Trump rollbacks were undertaken through a rule-making process, so the administration will also have to act through public notice and comment rule makings. Regulations that were not yet finalized can be paused immediately. Regulations that were finalized may take a year or longer to unwind, but the administration is making this a priority.

JOHN RAE



EDF's top attorney, Vickie Patton, also known as "The General"



A focus on communities burdened by pollution makes communities — and environmental law — stronger.

AM VITALE

On his first day in office, President Biden directed his EPA to promptly review dozens of Trump-era environmental actions.

The rollback of the clean car standards is at the top of the list. President Biden gave the EPA and the Department of Transportation until July to address weakened federal standards. It is crucial that the administration then adopt next generation standards for cars, trucks and buses. Addressing Trump's methane rollbacks are also high on Biden's list and something EDF has advocated, as is the President's commitment to address the methane pollution from existing oil and gas activities.

Q. What can EDF do to make sure that Trump-style rollbacks never happen again?

A. One key lesson learned from the Obama administration is that major policy actions that were adopted at the beginning of the administration often proved to be the most durable. That's partly because there was time to defend them in court, so they were really solidified in law before Trump took office. With this in mind, we are advocating that the Biden administration adopt new climate and clean air standards by the fall of 2022.

Another lesson learned is the importance of addressing the full array of harmful contaminants from major pollution sources like diesel trucks and buses. If we enact limits on the deadly particulates and smog-forming contaminants

discharged by these vehicles — as well as their climate pollution — then we will have protections that deliver climate and clean air benefits, save lives and are legally durable.

Also, the real world has a huge say in the permanence of regulation. Even if a future administration were to consider rolling back clean car standards, industry support just won't be there if GM and Ford have already invested billions in electric vehicles, as they've said they will.

Q. What gives you hope going forward?

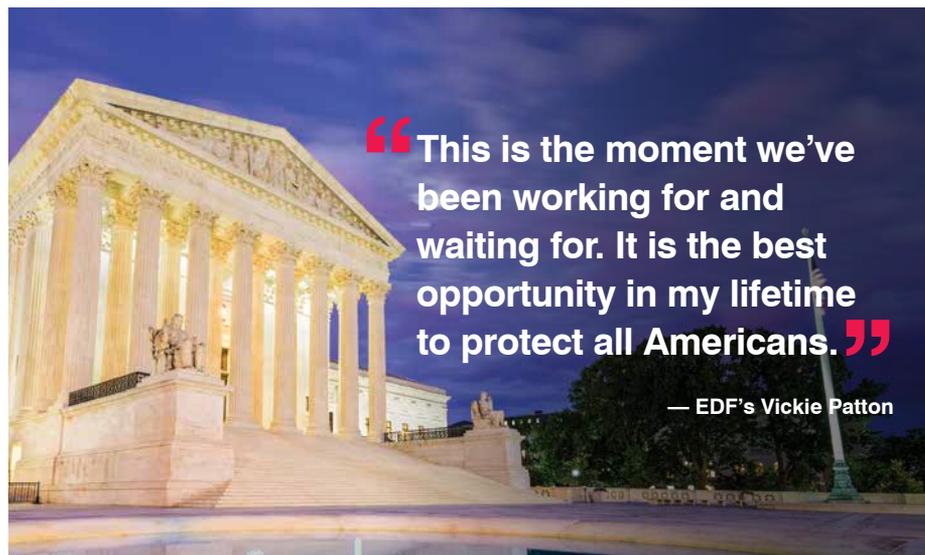
A. This is the moment we've been working for and waiting for. It is the best opportunity in my lifetime to protect all

Americans from climate and air pollution and ensure no community is left behind. And we can do it by supporting domestic manufacturing and high-quality jobs that rebuild shared economic opportunity.

Until now, we've never had a president who ran explicitly on climate action and climate leadership. We've never had a president who ran on the imperative to advance racial justice.

This is the time to reimagine American environmentalism and make it far more inclusive, equitable and lasting.

It's up to all of us to determine what this moment becomes. It is ours to seize and shape. It feels so good to get to work.



“This is the moment we've been working for and waiting for. It is the best opportunity in my lifetime to protect all Americans.”

— EDF's Vickie Patton

ISTOCK



America goes electric

By Shanti Menon

Clean rides to school. Clean air for polluted neighborhoods. A clean, modern electric grid, millions of electric vehicles — and millions of jobs to build them. With new leadership in Washington, EDF is racing to make this future a reality.



BEFORE THE SHIFT TO REMOTE learning, Jennifer Cantley drove her two older sons to their Nevada school rather than put them on the school bus. She worried that diesel fumes, which accumulate inside the bus, would trigger their asthma. Both had been repeatedly hospitalized.

Last summer, when smoke from wildfires in California hung thick in their valley, she woke up to find her son Gabriel in the throes of a severe asthma attack. “If I hadn’t woken up, he would have died,” says Cantley. “As a mom, thinking of leaving him on that school bus...you want to protect them.”

For years, Cantley, a field organizer for EDF affiliate Moms Clean Air Force, has been pushing her state to protect the climate and the health of children. In 2019, she helped build bipartisan support in the Nevada Legislature to fund the purchase of electric school buses. Now, she, EDF and others are taking the effort nationwide. EDF is advising the U.S. Department of Energy on how to design an equitable zero-emission school bus pilot program, while Cantley and Moms are urging Congress to pass the new Clean School Bus Act, which would invest \$1.2 billion in electric buses and infrastructure.

“Getting electric school buses for every school in the country would be a huge change in protecting children,” says Cantley. “Not to mention reducing emissions for everyone just walking by.”

Turning yellow buses “green” is just one piece of a massive shift to electric vehicles that needs to happen in America — starting now. In order to clear the air,



Lives in the balance: Jennifer Cantley and her sons fight for clean air in Nevada.

stabilize the climate and save lives, we need to get millions of clean cars, trucks and buses on the road and prepare our electric system — built for fossil fuels and predictable weather — to run them with reliable clean energy.

With the administration committed to climate action, and the momentum that EDF and allies have already achieved with states and businesses, the dramatic shift to electrify America is poised to take off. EDF’s goal is for all new cars sold to be zero emission by 2035 and all new trucks sold to be the same by 2040.

Tackling climate, jobs and justice

President Biden has made clear his support for clean energy and clean vehicles to not only confront the climate crisis, but to create millions of jobs and reduce the

long-standing burden of pollution faced by communities of color and low-income communities. “Tackling transportation checks all the right boxes for the Biden administration,” says EDF’s head of political affairs, Elizabeth Gore. “It’s an opportunity to spur economic recovery, address environmental injustice and drive down climate emissions.”

Before the coronavirus hit, the clean energy sector was creating jobs 70% faster than the economy as a whole, and clean energy jobs were growing nearly five times faster than fossil fuel jobs. The administration estimates that its plans to tackle the climate emergency will create 10 million jobs overall, including 1 million jobs in the auto industry alone.

Pedal to the metal for carmakers

The fulcrum for transitioning to electric vehicles is the manufacturers. In 2017, even as automakers were lobbying the Trump administration to roll back U.S. and California clean car laws, EDF was hard at work urging them to deliver climate pollution reductions. By 2020, the tide had turned: Ford, Honda, VW, Volvo and BMW agreed to abide by California’s clean car standards, and Ford set a goal of becoming carbon neutral by 2050. And this January, General Motors, with help from EDF, announced that it would sell only zero-emission cars by 2035. This decade, automakers plan to invest more than \$257 billion globally to develop new electric models; more than \$22 billion for new or renovated plants in the U.S.

Equally important is the electrification of trucks and buses, which run largely on diesel and cause 28% of climate pollution and 57% of soot pollution from vehicles. California, with strong input from EDF, now requires that about 60% of trucks and buses sold in the state be clean by 2035. New Jersey is considering adopting the same rule and has committed nearly \$100 million to clean trucks and buses. Both states are part of a



Charging stations: Build them and they will come.

COURTESY CHARGEPOINT MEDIA

15-state coalition, supported by EDF, that is working to make at least 30% of truck and bus sales clean by 2030 and 100% clean by 2050.

To spur change, EDF is working with truck manufacturers and fleet operators. Today, at least 125 clean truck and bus models are in production or development. Electric trucks are picking up garbage in Seattle, making deliveries for IKEA and ferrying goods to and from the ports of Los Angeles and Long Beach. Sales are poised to skyrocket as big buyers such as Amazon, FedEx and governments commit to electric vehicles.

“Manufacturers are ready to make these trucks,” says truck expert Jason Mathers, who directs EDF’s vehicles strategy, “and fleets are eager to drive them.”

A priority on health and justice

Thousands of pollution-belching fossil fuel-powered trucks rumble in and out of warehouses and distribution centers every day, many of them — due to a history of discriminatory policies and disenfranchisement — situated in low-wealth communities and communities of color. The resulting air pollution worsens conditions from heart disease to diabetes to asthma and raises the risk of complications from COVID-19, contributing to thousands of premature deaths a year. EDF analysis in North Carolina shows that people living within half a mile of some warehouses were more than twice as likely to have health problems that could be exacerbated by air pollution. With the amount of

freight goods expected to increase 25% by 2030, these inequities will get worse unless we take decisive action now.

EDF has developed a mapping tool to help states, companies, utilities and carriers identify where to roll out electrification first. It overlays warehouse locations with local demographics and health information — data that will help people advocate electrification in their neighborhoods and show state and local authorities where to encourage charging infrastructure and prioritize enforcement of clean air regulations. The tool is being piloted in North Carolina and New Jersey, with plans for expansion.

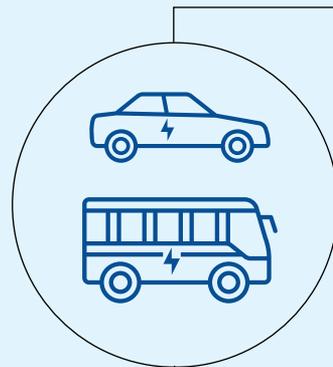
We’re also encouraging businesses to shift to clean transportation. “Transitioning to zero-emissions delivery by 2025 is a cornerstone of our climate commitments,” said Steve Moelk of IKEA Retail U.S. “EDF’s innovative clean shipping solutions are invaluable in helping us navigate toward this ambitious goal.”

A clean, modern grid

This winter’s catastrophic Texas freeze exposed the grid’s vulnerability to weather extremes and the urgent need to make infrastructure resilient while cutting climate pollution. In order to stop adding pollution to the atmosphere by 2050, we’ll need four times the wind and solar and 60% more transmission lines by 2030, according to Princeton University. We’ll need more energy storage to kick in during extreme weather or when wind and solar lag. We’ll need to

Fast lane to a clean future

Electricity and transportation are responsible for 28% of U.S. greenhouse gas emissions. The country needs to make big changes to reach net-zero emissions by 2050. A recent Princeton study suggested the following:



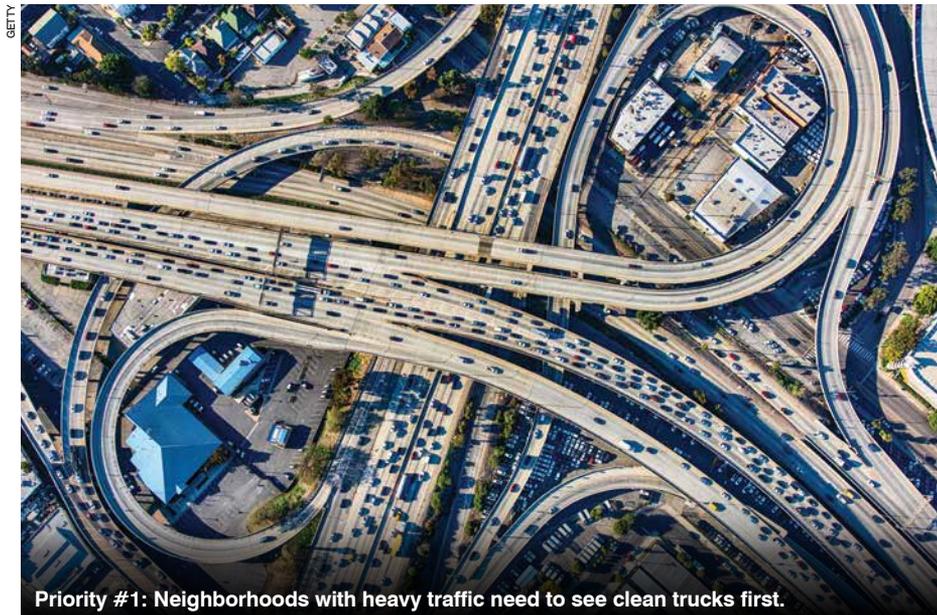
50 million electric cars
1 million electric trucks and buses



3 million public charging ports
23% of homes with electric heat pumps



4x more wind and solar
60% more transmission lines



Priority #1: Neighborhoods with heavy traffic need to see clean trucks first.

able for 55% of U.S. climate pollution.
to stave off the worst climate impacts.
Following priority actions by 2030:

Big benefits:



\$5,300

saved for each EV buyer in 2027, compared to lifetime costs for a gasoline vehicle.



1 million

jobs will be created by a transition to zero-emission transportation, according to the Biden administration.



200,000–300,000

lives saved by a clean U.S. economy that produces zero net pollution by 2050.

Sources: Princeton University Net Zero America study; EDF analysis

ALAMY



Clean, affordable wind and solar should supply half of U.S. electricity by 2030.

develop more clean energy sources such as geothermal energy and use carbon-capture technology.

For years, EDF has worked with utilities such as Xcel Energy and with state and federal regulators to clean up and modernize our sprawling, century-old grid. In order to ensure a clean, reliable electric system, utilities will need to pivot from being one-way suppliers of electricity to managing a two-way, decentralized system, with solar panels, wind farms and batteries providing local power and sending it back to the grid.

Even electric vehicles can store and supply power — and move where needed.

“They’re batteries on wheels,” says Pamela MacDougall, an EDF smart grid engineer who is helping reenvision Puerto Rico’s energy system.

If a storm knocks out power in some areas, electric trucks or buses can be deployed to plug into critical buildings and keep them running. MacDougall and EDF attorney Larissa Koehler, a transportation policy expert, are launching a pilot project to test how electric school buses can provide backup power for schools.

In Texas, EDF is urging officials to protect against devastating future blackouts by improving planning and hardening grid infrastructure for extreme weather, expanding energy efficiency and other solutions.

Another essential for an affordable, reliable modern grid is broadband, but at least 14.5 million rural Americans don’t have it. “Rural America cannot be part of this transition without it,” says Curtis Wynn, former board president of the National Rural Electric Cooperative Association and

CEO of Roanoke Electric in North Carolina. Rural electric co-ops serve 92% of the nation’s high poverty counties, and leading utilities among them are valuable partners in EDF’s efforts to ensure an equitable energy transition. EDF is working with Roanoke on several energy efficiency and EV projects that will help inform advocacy for federal broadband funding.

From electric customers in rural North Carolina to kids on school buses to factory workers in Detroit, the shift to clean power and transportation will soon touch us all. Electrifying America is a massive effort, but as businesses, states and, most important, the federal government join to make the transition, America is about to hum onto the fast track to the clean electric future. Buckle up!

INSIDE SOLUTIONS

LIVE
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The electric transportation revolution

Join the conversation with:

Tim O’Connor, EDF energy transition director, on America’s electric future.

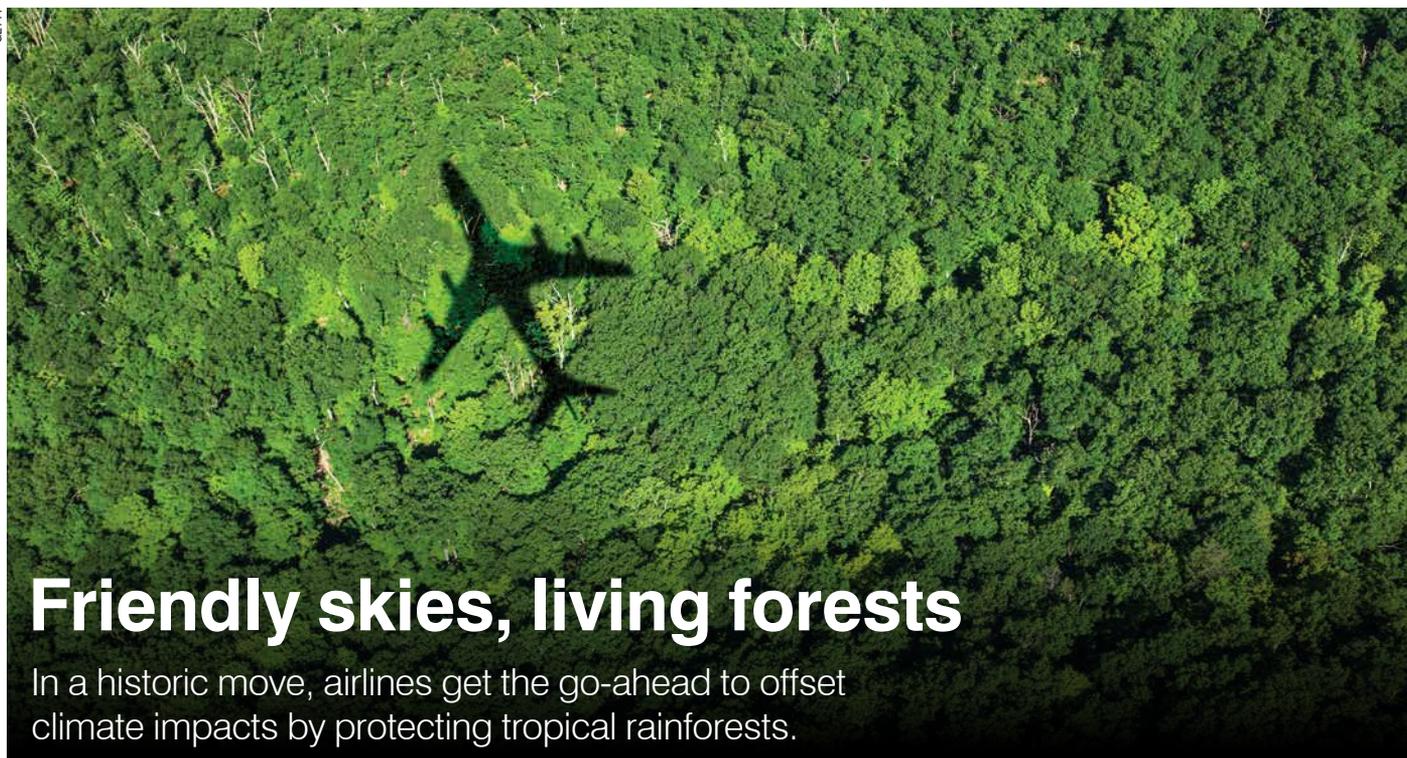
Pamela MacDougall, EDF grid modernization manager, on creating a clean, reliable, smart grid.

Curtis Wynn, president and CEO of Roanoke Electric, on ensuring a just transition.

Moderated by **Tasha Kosviner**, managing editor, *Solutions*.

May 19, 2021 2–3 p.m. ET

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Friendly skies, living forests

In a historic move, airlines get the go-ahead to offset climate impacts by protecting tropical rainforests.

ANNIE PETSONK HAS AVIATION IN her blood. The daughter of a conservation-minded engineer, she grew up hearing her father's tales of flying an open-cockpit biplane in rural Pennsylvania and watching him work with farmers to try to turn corncocks into biofuel. So when the International Civil Aviation Organization recently took an important step in tackling airline emissions, the victory was particularly sweet for Petsonk, EDF's longtime aviation expert who was recently tapped to serve at the U.S. Department of Transportation.

In a major move, ICAO, the United Nations agency that sets standards for global aviation, as part of a package of measures to cap emissions, allowed airlines to offset emissions by paying to protect imperiled tropical forests. This marks the first time that credits from funding forest conservation have been accepted as part of an international carbon market. The program, Reducing Emissions from Deforestation and Forest Degradation, is known as REDD+.

The two forest carbon credit programs approved by ICAO measure

emissions reductions at the scale of entire regions or countries rather than of stand-alone projects. EDF has for years promoted this jurisdictional approach to protecting tropical forests.

"These programs are the gold standard," says Pedro Piris-Cabezas, EDF's director for sustainable international transportation. "Instead of protecting patches of forest here and there, these transparent and verifiable programs ensure net reductions in deforestation and degradation at a scale massive enough to make a real climate impact."

Protection on a massive scale

Before the pandemic, international aviation, if it were a country, would have been the sixth-largest emitter of greenhouse gases, between Japan and Germany. More efficient airplanes, better operational practices and alternative jet fuels are on the way, but for now carbon offsets are key to ICAO's goal of carbon neutral growth.

EDF's work on airline emissions is just part of our broader effort to slow climate change by stopping the destruction of the world's remaining forests.

Tropical forests have an unparalleled capacity to store carbon and

are home to 50% of the world's terrestrial biodiversity. They are also being destroyed at the rate of one football field every six seconds. Ending forest loss and pursuing restoration and reforestation efforts could reduce annual global greenhouse gas emissions by as much as 25% with a concerted effort over the next couple of decades. Despite this enormous opportunity, forest preservation efforts receive less than 3% of global funding to reduce climate change.

"You can't solve climate change without ending deforestation," says EDF's Steve Schwartzman, senior director for tropical forest policy. "ICAO's decision sends an important signal that protecting and restoring forests is a global priority and gives international recognition to the highest quality programs."

Even as the airline industry recovers from the pandemic, EDF is pushing for bigger cuts in its future emissions. And we're working through a nonprofit market intermediary, Emergent, to increase private markets for tropical forest protection to deliver at least a billion tons of annual emissions reductions from high-quality forest carbon credits by 2025.

"The planet needs us to make forests worth more alive than dead," says Schwartzman. "If our current system can't do that, we need to change the system."

Joanna Foster



THE WILSON LEGACY

This feature honors the memory of Robert W. Wilson, a longtime EDF supporter and champion of harnessing market forces to drive environmental progress. See edf.org/wilson.

Home Depot forced to take action on lead

ROBERT RICKETT REMEMBERS THE day he was called to an old house in Belgrade, Maine. Rickett, a now-retired lead abatement specialist, recalls that the homeowner, five months pregnant and raising a two-year-old, told him she was worried. The Home Depot contractors she'd hired to replace windows seemed careless.

"We collected 10 dust samples, and eight of them came back above the lead-safe level," Rickett says. "One memory that sticks with me is the toddler's room. You could actually see the kid's finger marks in the dust inside the crib. When I saw that, my heart broke."

It was far from an isolated incident, according to the Environmental Protection Agency, which recently announced that Home Depot U.S.A. Inc. will pay \$20.75 million for failing to ensure that its contractors safely handled lead when renovating customers' homes in more than 25 states.

The civil penalty is the largest to date under the Toxic Substances Control Act, the chemical safety law that EDF was instrumental in strengthening in 2016. Home Depot, whose contractors perform thousands of jobs daily, also agreed to enact procedures to protect customers from lead exposure in the future.

The U.S. banned residential lead-based paint in 1978, but it remains in an estimated 34.4 million older homes, often under



surface layers of paint. Repairs can release lead in the form of paint chips and dust, which can cause health problems ranging from learning disabilities to seizures and death. Even small amounts can be devastating to children's developing brains and nervous systems.

Calling out the Trump EPA

EDF, allied with other watchdog groups, began actively monitoring the Home Depot case shortly after learning that the EPA had started a criminal investigation of the company in 2017.

Over the next few years, although complaints about negligent practices continued to pile up, the EPA took no action. In response, EDF's chemicals policy director Tom Neltner wrote to the agency last year urging action. "We are particularly concerned that children may be harmed by ongoing violations by Home Depot while the investigation continues," Neltner wrote.

The EPA quickly responded to Neltner's letter, and emphasized that reduction of children's exposure to lead was a priority. A few months later, the agency announced the settlement, filed in a federal court in Georgia. The agreement is a big win for children's health and a template for other companies to follow. EDF is also encouraging Lowe's, Menards and other firms to develop rigorous lead paint policies.

"If it wasn't for groups like EDF, who are paying attention to these issues and

urging agencies to take action, we wouldn't even know about many of these situations," says Tom Laubenthal, technical chief at The Environmental Institute in Marietta, Georgia. "A great many contractors weren't paying much attention to the lead-safe rules, because it's cheaper to ignore them. But this settlement has sent ripples. Everyone is paying attention now."

Tom Clynes

LEAD SAFETY FOR YOUR WHOLE FAMILY

A tiny amount of lead dust is enough to poison a child and put your family at risk. When renovating:

- Insist on an EPA-certified lead-safe renovator if old paint will be disturbed and ask to see the contractor's training certificate.
- Get an explanation of how the contractor will minimize lead hazards. Be sure it includes specifics about protective equipment and cleanup.
- Request references from at least three recent jobs involving buildings built prior to 1978, and ask how the contractor dealt with lead paint.
- For more information, read the EPA guide to hiring a lead-safe renovator: bit.ly/RenovateRite
- Doing a renovation yourself? bit.ly/RenoRepair

JOHN PAE



EDF chemicals expert Tom Neltner

Changing landscapes

By Tasha Kosviner

America's farmland feeds us, provides a livelihood for millions and can protect us from storms. Can it also be a key weapon in the fight against catastrophic climate change?

CORI WITTMAN STITT, A FARMER'S daughter who grew up planting and harvesting, was 13 before she saw her first plow. "I didn't know what this piece of equipment was," Stitt, now 38, recalls. "When I asked my dad, he just beamed!"

That's because the family farm, a thriving 18,000-acre crop, cattle and timber operation set in the steep terrain of north central Idaho, has proudly practiced no-till farming — which improves soil conditions by growing crops without plowing — for 30 years.

When they began, the Wittmans were outliers. In a business where margins are thin even in the best of years, many farmers considered any changes to conventional techniques to be risky.

But that story is changing. As climate change intensifies storms, fires and droughts, exposing the fragility of our global food supply, America's 2.6 million farmers are urgently seeking new ways to protect their land and livelihoods.

Whether that's no-till, which limits

erosion and rebuilds depleted soils, planting cover crops to lock in nutrients or restoring wetlands to absorb excess rain, farmers are warming up to changes that can both fight climate change and protect their land and their bottom line. EDF is helping them accelerate progress.

A historic first

The evolution in the fields is also resonating in Washington, D.C. In a historic first, the vast majority of America's farmers, ranchers, forest owners and others who manage working lands have come together to lobby the federal government for support of climate-smart farming techniques. The Food and Agriculture Climate Alliance, which EDF helped found with the American Farm Bureau Federation, the National Farmers Union and others, is calling for the financial and policy support farmers need to adopt new farming techniques that will tackle both the causes and effects of climate change. This effort marks a huge shift for

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an industry that has, in the past, avoided using the phrase "climate change."

"We are proud to have broken through historical barriers to form this unique alliance," said Zippy Duvall, co-chair of the new alliance and president of the American Farm Bureau Federation.

"I've never seen momentum like this," adds EDF's director of agricultural policy, Callie Eideberg, who helped launch the alliance and negotiate its policy recommendations.

The movement will find an open door at the White House, where the Biden-Harris administration has pledged to make agriculture a cornerstone of its ambitious climate agenda. The U.S. Department of Agriculture, not historically a key player in climate policy, is poised to become a linchpin of the administration's strategy. Helping guide the process is USDA senior adviser for climate Robert Bonnie, who led EDF's work on agriculture for more than a decade, developing opportunities for farmers to benefit from conservation practices.

The administration is already exploring the creation of a carbon bank that would offer credits to farmers for sequestering carbon through sustainable practices. The White House is also looking to better direct the USDA's billions of dollars in conservation funding toward practices that reduce greenhouse gas emissions from agriculture.



Idaho farmer Cori Wittman Stitt: Looking after the land for the next generation.



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The science of success

So far, the administration's plans reflect EDF's recommendations. Now we need to refine the science so we can accurately calculate the carbon storage potential of millions of acres of farmland.

"The USDA wants to move very quickly, and we applaud that," says Eideberg. "But we need to ensure carbon credits are rigorous and scientifically sound."

EDF scientists are developing standards that reliably quantify net emissions reductions related to land management.

"It's very difficult to measure incremental changes in soil carbon against the high background amount that's already there," says EDF scientist Dr. Doria Gordon. "Once we improve our ability to cost-effectively monitor that, we'll really be able to quantify agriculture's contribution to the climate solution and value it in the marketplace."

At the same time, two popular bipartisan bills that EDF helped introduce in the last Congress are expected to resurface very soon. The Growing Climate Solutions Act would establish the role of independent, private sector certifiers to work with farmers to verify carbon credits. And the Cover Crop Flexibility Act would rethink federal crop insurance, so it no longer inadvertently disincentivizes cover crops.

A more resilient land

But we aren't waiting for federal action. EDF is working with the National Corn Growers Association to improve sustain-

ability over thousands of acres of farmland. Our scientists have also created a methodology to assess how much nitrous oxide, a potent greenhouse gas, is lost from fields, part of a suite of resources to drive emissions reductions on farmland, for example, through more targeted use of fertilizers. We're also working with lenders to develop products that offer incentives to farmers who adopt sustainability practices.

Climate-smart land management doesn't just help slow climate change. No-till, cover cropping and other conservation practices also reduce drought impacts and erosion, improve soil health, reduce the need for pesticides and fertilizers, protect clean water and provide habitat for millions of migrating birds.

On the windswept gradients of Wittman Farms, the payoff is undeniable. "We've lived through some pretty wet storms, but I can't even recall the last time we had an erosion event," says Stitt, who recently testified at a Senate hearing on how farmers can be part of the climate solution.

"There is so much room for collaboration," she adds. "As farmers, we care about protecting resources and our best resource is the land. We're just looking after it for the next generation."

COMMON GROUND This piece is the first in a series exploring how America's farms, forests and coasts have become the new frontier in the battle against climate change.

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Lift every voice

By Shanti Menon

Across the political spectrum, religious leaders and people of faith are taking action on the environment as never before. Political and business leaders are listening.

DELIVERING THE INAUGURAL benediction for President Biden, Rev. Silvester Beaman, pastor of the Bethel African Methodist Episcopal Church in Delaware, called for healing and asked God’s help to “become greater stewards of your environment.”

For many people of faith — nearly a third of American adults attend religious services weekly, and more than half report praying daily — the concept of environmental stewardship is not new. But today, a growing number of religious Americans from a multitude of faiths want action on climate and environmental justice. With support from EDF, they are reaching out to their congregations — and to the secular world — to achieve the change they seek.

“Faith can penetrate politics,” says Steve Murchie of EDF’s political affairs team, which partners with many faith groups to advocate climate action. “There is a broad spectrum of groups out there, especially young people, who are really delivering on climate advocacy. Lawmakers are listening.”

Building the connection

Sally Bingham joined the EDF board in 1985. She was a regular churchgoer who felt a deep connection to nature. “Every week I would sit in the pew and hear

about loving our neighbors,” she says. “And then I would sit at an EDF board meeting and hear about how we were polluting our neighbors’ air. But no one in church was talking about it.”

Troubled by that disconnect, Bingham embarked on a 10-year journey to become a priest. In 1998, with support from EDF, Rev. Bingham (*top*) launched a climate movement of Episcopalian churches in California that grew into Interfaith Power & Light, an influential coalition that today reaches some 22,000 congregations, including Christian, Jewish, Hindu, Muslim and others — 6 million people in 40 states.

IPL helps houses of worship become more energy efficient and adopt clean energy. The group was also instrumental in winning support for California’s landmark clean car law and has consistently championed federal clean car standards alongside EDF.

While EDF made the business, legal and scientific case for clean cars, IPL and other faith groups visited dealerships and even delivered a petition to Ford Motor Company’s headquarters in Dearborn, Michigan,

to urge support for clean car laws. Today, Ford is a leader on clean cars and has set a goal of carbon neutrality by 2050.

In 2020, IPL took a big step and launched its first national voter mobilization campaign. “We felt if we did not get climate champions elected, we were dooming ourselves and the planet,” says IPL President Rev. Susan Hendershot. The group created a voter guide to help people of faith evaluate candidates on



Tina Spencer-Smith, right, is greening her church.

climate, racial justice and more, reaching 1.1 million voters in six states.

A community focus

When EDF affiliate Moms Clean Air Force launched its Community Rx program, dedicated to clean air and climate advocacy in Black communities, Tina Spencer-Smith was one of the first to join. Spencer-Smith, a certified green buildings expert and administration minister for Zion Hill Baptist Church in Atlanta, invited Moms to participate in Zion Hill's annual health fair and spoke alongside environmental justice leaders at a Moms' Juneteenth webinar on clean air justice.

Spencer-Smith works across Zion Hill's 70 ministries to reduce their environmental footprint and helped launch the church's first environment ministry, Planet Preservers, to raise awareness of environmental issues.

When a landfill in nearby South Fulton caught fire and burned for months, Zion Hill offered space for community meetings, where some church members learned for the first time that their communities were disproportionately exposed to landfill pollution. One congregation member was shocked to discover five landfills in his quiet, green neighborhood.

"Historically our communities have been excluded from environmental dialogue," says Spencer-Smith. "By getting involved in these issues we are carrying out our mission. We are enhancing our ability to protect God's creation."

A new path for evangelicals

One-quarter of American adults identify as evangelical or born-again Christian, and calls for environmental action are

growing among this largely conservative group.

Reverend Kyle Meyaard-Schaap, now VP of the Evangelical Environmental Network, is the former spokesperson for Young Evangelicals for Climate Action, a national organization that has engaged some 30,000 young people since its founding in 2012.

"Our whole generation feels like our future is at stake," says Meyaard-Schaap. "YECA gives evangelicals a space to take action because of our faith, not in spite of it. I was taught to love Jesus and love my neighbor. When I look at how climate change is affecting people, I see climate action as a deeply faithful response."

The group works with Defend Our Future, an EDF affiliate that trains young climate leaders. YECA advocates reach out not only to their peers but to elders in their community who have ignored or even doubted climate change. The group convinced the National Association of Evangelicals, which represents more than 45,000 churches, to affirm climate change as a gospel priority and call upon its members to act on climate.

The young evangelicals also urge federal and state lawmakers to embrace climate policy. Such a message, coming from an unexpected source, packs a punch. Last year, Elysia Moy, a pastoral intern at Boston Chinese Evangelical Church, testified before the Massachusetts legislature in support of carbon pricing.



Testifying: Evangelical climate activist Elysia Moy

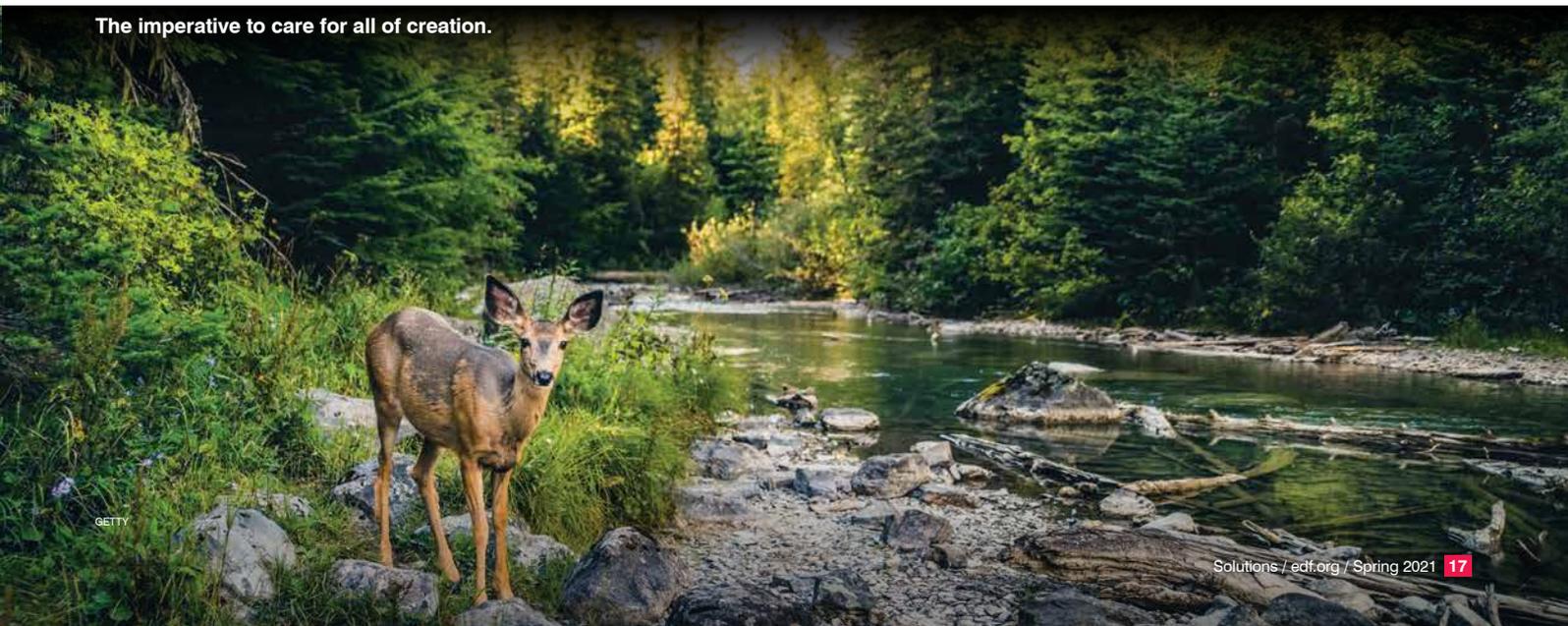
"When I say I am here because I am Christian, that's a unique perspective for legislators," says Moy. "For me to represent my faith while speaking to environmental action, I just feel so empowered."

Meyaard-Schaap says that many young evangelicals are reconsidering the traditional connection between their faith and conservative politics.

"Let's not beat around the bush," says Meyaard-Schaap. "I'm not sure the community as a whole is moving forward on climate. But the younger people I interact with are repulsed by this marriage of faith and party politics. Our faith doesn't fit neatly on one side of the aisle or another."

"We may not be traditional environmental allies," he adds, "but many of us get it, and we're in this work with you. We want to get to the same place."

The imperative to care for all of creation.



Build your nest egg while building a better world

NOT LONG AGO, IF YOU TOLD YOUR financial adviser that you wanted your investments to have a positive impact, she might have replied that your principles were admirable — but they would cost you. Today, you'd likely get a more enthusiastic response. Sustainable (also called ethical or socially responsible) portfolios outperformed their traditional counterparts in 2020, and they now represent a third of the professionally managed assets in the United States.

As economies move toward a low-carbon future, the smart money is betting on companies that are prepared to respond to climate change and other urgent issues.

So, what's the best way to build your retirement funds while building a better world? Though we can't recommend specific investments, and nothing in this article should be construed as investment advice, we can offer ideas to help you align your investments with your values.

■ There are plenty of ways to green your portfolio

You don't have to choose individual companies to get into the arena. Mutual funds, exchange-traded funds, bonds and even money market funds that focus on your sustainability interests are all available.

■ Real sustainability

It's easy to talk about sustainability. To see through greenwashing and exaggerated claims, you can consult a variety of free tools that compare investments in terms of ESG, which refers to the three central criteria — environmental, social and governance — that measure a company's sustainability and societal impacts. Keep in mind that standards and metrics are still evolving, and ratings can overlook important nuances.



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■ The companies you keep

To start, take a look at your current portfolio. You may discover that the funds you've chosen, often from your retirement plan's limited offerings, include companies and industries whose values are at odds with your own. Use the online tools on the *Invest Your Values* site to screen funds against your most important issues. *Fossil Free Funds* provides a letter grade and carbon footprint metric for each fund. MSCI *ESG Fund Ratings* goes even deeper, with assessments of carbon intensity, diversity of boards of directors, green vs. brown revenue and more.

■ Catalyze change through your financial adviser

Your financial adviser can guide you through the range of options using tools, such as *Your Stake*, that help advisers fine-tune holdings to client priorities. Also, consider your adviser's power to press for change. One shareholder may not sway a company to accelerate its move to a lower-carbon model, but your adviser may have 100 or more clients. By starting a conversation, you may be able to mobilize action.

■ Company-sponsored retirement accounts

Many 401(k) or 403(b) plans have limited socially responsible choices. But there are other options. Consider switching to a brokerage platform to access ESG investments. If that's not a possibility within your plan, use a tool such as US SIF's *Sustainable*

Investment Mutual Funds and ETFs Chart to search for 401(k) funds that get high sustainability marks, even though they haven't publicly signaled an ESG focus.

Finally, organize co-workers to insist that you have access to ethical choices. Employers are often unaware that their plans are not in alignment with the company's stated values. When they find out, they may take action to encourage a future world for company retirees that's more sustainable and equitable — not to mention prosperous.

Tom Clynes

INVEST SMARTER

Invest Your Values
bit.ly/InvestYourValues

MSCI ESG Fund Ratings
bit.ly/ESGFundRate

Fossil Free Funds
fossilfreefunds.org

Your Stake
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US SIF's Sustainable Investment Mutual Funds and ETFs Chart
charts.ussif.org/mfpc

If you're wondering how you can couple sustainable investing with your charitable giving, contact EDF's gift planning team at 1-877-677-7397 or legacy@edf.org.

ASK AN EXPERT

How do I launch my environmental career?

Alexandra Grayson, Howard University student and climate activist, asks:

Many young people would like to dedicate our careers to helping address the world's urgent environmental challenges. Where are the biggest opportunities and how do we begin?

Yesh Pavlik Slenk, host of EDF's planet-saving careers podcast, *Degrees*, replies:

Lately, we've seen notable growth in environmental commitments in tech, food, finance and other industries — and there's a rising demand for talent to realize those goals.

There are multiple ways you can get involved. My recent podcast guest, Trish Kenlon, of Sustainable Career Pathways, advises starting by identifying the sector, industry, role and issue you'd like to focus on.

That will help you decide where to start gaining experience. This could be through volunteering, taking classes, networking and gaining professional certifications or internships, such as with EDF's Climate Corps fellowship program.

If you don't see your dream job advertised, don't despair. The skills required to drive sustainability from within, like navigating corporate politics or pitching for big budgets, are best learned on the job. That's why joining a team you want to influence and learning the corporate culture is as important as getting the perfect job right away.

And while you wait for that critical opportunity, you can still make a difference. It's often employee activism that shifts a company toward more sustainable practices. Consider lobbying your company to support climate policy advocacy. Check out EDF's guide to employee action at bit.ly/3c92Bd for tips on how to start.

Good luck!

TIPS AND TRICKS

Your college careers office is a great resource. Here are a few others:

- Find hundreds of tips and resources at sustainablecareerpathways.com
- Get the inside track on career trends at greenbiz.com/tag/state-profession
- Listen to experts on EDF's *Degrees* podcast, available on Apple, Google and Spotify
- Check out EDF's Climate Corps program at business.edf.org/categories/climate-corps



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WE ARE EDF

A community speaks for itself

In Ronald L. Jones' documentary, *Again, Together*, Delores McGruder talks about her childhood in Houston's Fifth Ward. "I was shown nothing but love," she says, reminiscing on her front porch. Her neighborhood, she says, "was a village."

You won't hear that perspective in stories that outsiders tell about this historically Black neighborhood, where residents confront a legacy of racism and deadly pollution.

"It's easy to reduce these communities and their struggles to numbers and sound bites," says Jones, a Houston resident and interdisciplinary artist. "I wanted the people to speak for themselves."

Jones' 13-minute film, made in collaboration with Houston's One Breath Partnership (of which EDF is a co-founder), gives voice to residents of Houston communities unjustly burdened by pollution. Their stories, from cancer clusters to Hurricane Harvey to COVID-19, reveal hard truths about environmental racism.

"You think you know but you don't," says Jones. "I cried a bunch."

There is hope, too, in the vision of community leaders who never stop fighting for a better future. "I hope when folks watch it they feel motivated, as I have been," says Jones. "Because this is everyone's fight."

WATCH >>
bit.ly/3BpX7



Filmmaker Ronald L. Jones

RONALD.JONES.COM

THANK YOU, EDF MEMBERS!



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Power in numbers

102,000 of you signed Power Up, America! The People's Climate Petition. Thanks to you, we've delivered a forceful call to the Biden-Harris administration to speed the transition to 100% clean power and transportation.

**“ All of us bring light to exciting solutions never tried before
For it is our hope that implores us, at our uncompromising core,
To keep rising up for an earth more than worth fighting for. ”**

— Excerpt from “Earthrise” by Amanda Gorman

