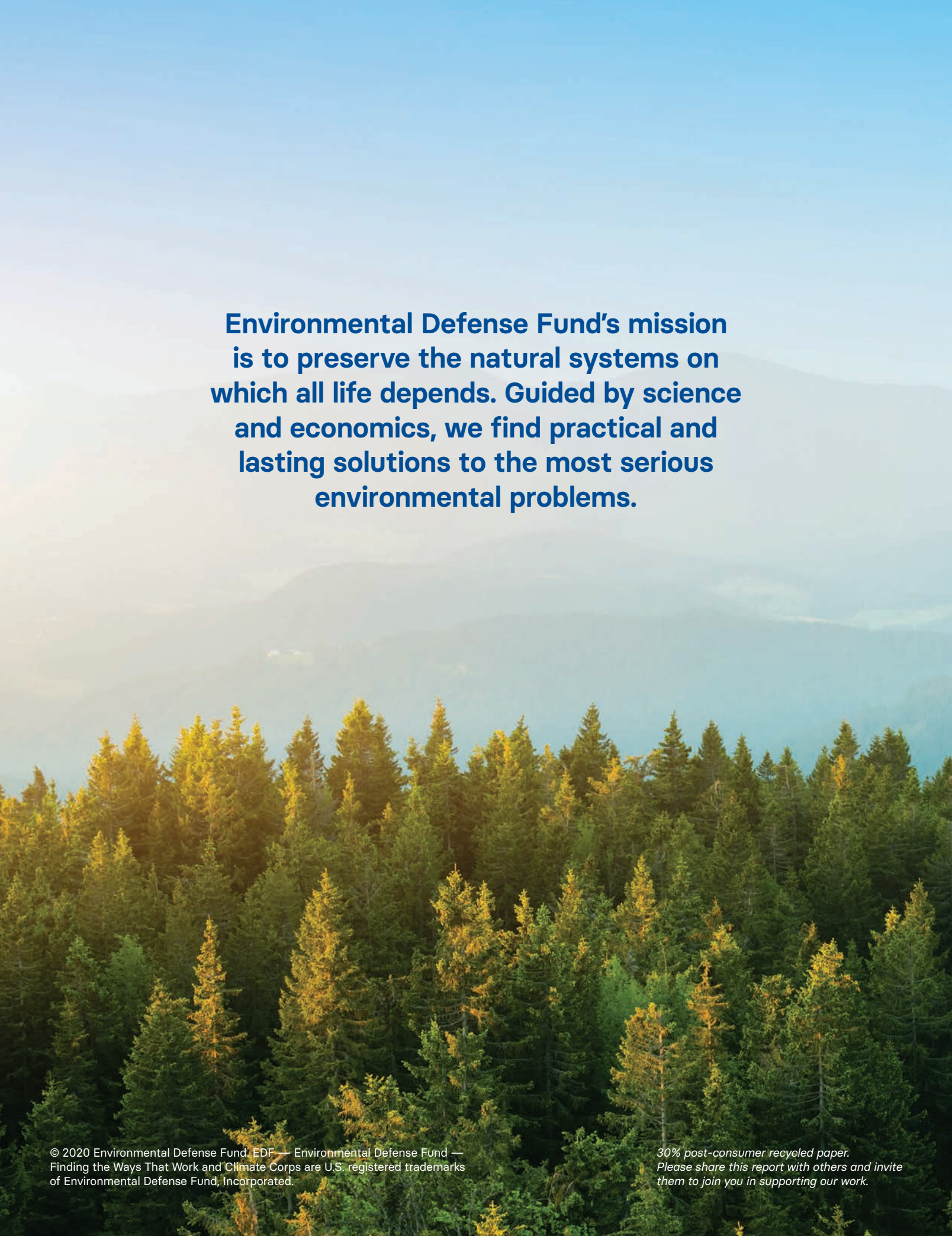


# Rebuild Better

2020 EDF IMPACT REPORT







**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.**

# Rising to the challenges

**Environmental Defense Fund is grounded in its longtime** commitment to finding the ways that work — and in its efforts to overcome obstacles to the actions and policies needed for a more sustainable environment. Through EDF's 53 years, there have been successes and there have been challenges, but never a loss of focus on the greater goal of a cleaner, more livable world for all.

The past four years have brought unprecedented challenges as environmental policy came under constant assault in Washington, D.C., and as we witnessed the increasing and, too frequently, unaddressed consequences attributable to the warming of the global climate. The devastating COVID-19 pandemic, with its sharply unequal impacts, raised the urgency for environmental advocates to confront long-underemphasized issues of equity and disproportionate exposure to pollution.

EDF's extraordinary staff members — now working in dozens of countries, given our increasingly global focus — have risen to the challenges, as they always have. In this difficult and complex period, our supporters have been exceptional in engaging with the organization and supporting its growing needs. All of us affiliated with EDF and its work are humbled by, and grateful for, your support.

Commencing in January 2021, Mark Heising will assume the role of Board Chair. Mark is a longtime trustee, a thoughtful advocate and a wonderful supporter in innumerable ways. We are delighted that he will be taking on this role. And from me, a very big thank you to all who do so much to make EDF's efforts successful.



**Carl Ferenbach**  
Chair, Board of Trustees





**The environment is not only a majestic mountaintop or flourishing wildlife refuge. It's the world we live in: clean air, clean water, healthy people and thriving communities.**



# A time like no other

In a year of extraordinary challenges, Environmental Defense Fund has helped spur remarkable progress thanks to your support. Together, we advanced environmental protection around the world — even when the world was locked down by the COVID-19 pandemic.

EDF's collaborative approach demonstrates the power of understanding diverse perspectives, whether times are good or bad. In 2020, it helped us move forward despite strong political headwinds in the United States. The stories collected in this report tell a tale of perseverance and success.

A new window of opportunity is opening in 2021 with an American president who understands the need for aggressive climate action — and equity. Healing starts with listening, something EDF will be working on harder than ever in the months and years to come. Now is the time for the voices of those most harmed by pollution, natural disasters and climate change to be heard. We pledge not only to listen but also to lift those voices up.

America's return to the Paris climate accord is happening just in time, as people face worsening wildfires, air pollution, hurricanes, droughts and heat waves, and as countries from the EU to China and South Korea step up their own climate ambitions. We will help turn awareness into action as we continue our work around the world.

But forging lasting solutions is never easy, no matter who's in charge. Such solutions only happen when broad, durable coalitions come together to support them. We call it finding the ways that work — and it begins by finding common purpose with a broad range of stakeholders who often see the world very differently from one another. At a time of fierce political division, there may be no skill that counts for more.

Thank you for the support that allows us to move forward to meet this moment of urgency and opportunity. ■

## In this report

With environmental progress temporarily blocked in Washington, D.C., EDF found many other ways to help people and nature prosper.

Prevailing in the vast majority of court cases against the Trump administration to defend environmental laws. **4**

Mapping air pollution with local groups in hard-hit neighborhoods to show how communities of color are unfairly affected. **6**

Pursuing the fastest way to slow global warming with our first-of-its-kind methane-detecting satellite, poised for takeoff in 2022. **8**

Paving the way to a clean electric grid and securing commitments for zero-emission trucks and buses in 15 states. **10**

Playing a key role in China as the country prepares to launch the world's largest carbon market. **12**

Providing farmers with new technology to make the most of precious freshwater supplies. **14**

Reviving imperiled fisheries while improving food supplies and boosting livelihoods around the world. **16**



### Meet the leadership team

(clockwise from top left)  
EDF President Fred Krupp,  
Chief Administrative  
Officer Jay Knott, Executive  
Vice President Amanda  
Leland, Chief Development  
Officer Catherine "Rinnie"  
Nardone and Executive  
Vice President Gwen Ruta.

→ [Hear from the team at edf.org/video1](https://www.edf.org/video1)



# Defending bedrock environmental safeguards



EDF attorney Rosalie Winn has spent four years countering attempts to weaken environmental safeguards.

[→ edf.org/video2](https://edf.org/video2)

**EDF and its allies held the line in court against repeated Trump administration attempts to roll back health and environmental protections. Now we're in a strong position to rebuild.**

**"For four years, the president made it sound like he was winning his battle to roll back dozens of health and environmental safeguards,"** says EDF attorney Rosalie Winn. "But the administration has actually failed to complete and successfully defend in court its major climate and clean air rollbacks."

During one week this summer, we won four major victories in three courts on climate change, air pollution and clean energy.

When EDF expanded its legal staff in 2016, Winn became part of a large national team battling an all-out assault on environmental science and the law. Over the past four years, she helped EDF and its allies fight the Trump administration's dangerous deregulatory agenda.

In March, Winn argued her first case against the administration and won a

major victory when the court blocked the rollback of a rule designed to reduce the waste of methane from oil and gas operations on public and tribal lands. Methane is a potent greenhouse gas.

Thanks to the relentless efforts of EDF and others, including health and environmental organizations and states, the Trump administration has lost more than 80% of the court challenges to its environmental deregulation, with 82 out of 100 cases ending either in rulings against the policies or in their withdrawal.

Overall, EDF and allies prevented the administration from permanently damaging our nation's bedrock environmental safeguards. We also laid the legal groundwork enabling the incoming administration to undo the damage that has been done and restore strong protections.

"It's time to reclaim America's leadership with a new generation of durable and bold environmental protections for climate safety, public health and communities that bear an unjust burden of pollution," says EDF General Counsel Vickie Patton. ■

“  
**EDF builds coalitions to secure victories in the courtroom. It's about rulings, it's about changing policy, it's about changing minds. And time and time again, EDF succeeds in getting all three.**

**Richard J. Lazarus**

Howard and Katherine Aibel  
Professor of Law at Harvard  
Law School; EDF Trustee



**82**

wins for the  
environment

**18**

Trump wins

## Putting climate back on the agenda

EDF played a major role in developing bipartisan bills on issues like declining limits on greenhouse gases, sustainable agriculture and clean energy innovation. We were a lead partner in legislation that provides a framework for farmers to contribute to, and benefit from, comprehensive climate solutions. In addition, the Moving Forward Act that passed the U.S. House incorporates 18 of our policy recommendations. It is a blueprint for progress. To ensure broad-based support for a clean energy future, EDF stepped up engagement with diverse groups such as Poder Latinx, Mi Familia Vota and BlueGreen Alliance.



### Diverse voices

Mi Familia Vota is a national civic engagement organization.





## A global strategy for cleaner air and healthier communities



Dr. Denae King has vivid childhood memories of visiting her grandparents in Houston's historically Black Fifth Ward.

→ [edf.org/video3](https://edf.org/video3)

We harness new technologies to make pollution and its health impacts visible, and we work with partners to clean the air in communities most harmed by pollution.

**Dr. Denae King started her career studying** cells and genes. "I kept thinking, 'I should be helping people with all of this knowledge,'" she says. Twenty years later, as a research program manager at Texas Southern University, King has become a force for environmental justice in her native Houston and throughout

the region. Most recently, she teamed with EDF's Dr. Grace Tee Lewis, an epidemiologist who also grew up in Houston. The two have been sharing data about environmental and health risks with leaders in some of the region's most vulnerable communities and facilitating plans to address the risks. For example, Pleasantville, a community that sits near the highly industrialized Houston Ship Channel, has created its own network of air monitors to identify spikes in pollution in order to demand change.

The Houston effort follows an EDF project in West Oakland, California, that



used Google Street View cars equipped with sensors to map air pollution on a block-by-block basis. “It made clear that air pollution and its health impacts are not distributed equally,” said EDF’s VP for Health Sarah Vogel. “In the U.S., communities of color are often hit the hardest.” Armed with data and local knowledge, our project partner West Oakland Environmental Indicators Project created a plan to address pollution under a new California law designed to focus on pollution hot spots across the state.

EDF expanded our work globally in the U.K. and China. Now, with World Resources Institute, we are co-leading Clean Air Catalyst, a global consortium launched by the U.S. Agency for International Development to develop local knowledge and solutions that cut air pollution and improve human health in cities in low- and middle-income countries. “New technologies are enabling communities to tailor solutions that better protect health,” says Vogel. “We are just at the beginning — there is so much promise.” ■

“**Breathe London shows how and especially why the air is so polluted. Change will only be demanded when policymakers and many of us understand the pollution sources that are making us sick.**”

**Jemima Hartshorn**  
 Founder of Mums for Lungs



**The Breathe London project**

EDF and partners used Google Street View cars equipped with mobile sensors to map air pollution on London streets.

**6.5M**  
 deaths each year are estimated to be caused by air pollution worldwide.

**Protecting children’s health**

“We demand ‘Justice in Every Breath’ for every policy impacting the health and well-being of children,” Heather Toney said in testimony before members of the U.S. House of Representatives. Toney is senior director for EDF affiliate Moms Clean Air Force, a community of more than 1 million parents across the nation fighting for clean air and climate safety.

**Beauty cleans up**

We all deserve to live in a world free of harmful chemicals — and that applies to the products we put on our bodies. Together with leading beauty retailer Sephora and partners, EDF is working with companies to identify and introduce safer ingredients. Thanks to Sephora’s chemicals policy, 94% of products the company sells are now free from the chemicals of greatest concern.



# The fastest way to slow global warming



**A burning issue**  
Methane pollution from the oil and gas industry is heating the planet.



Dr. Shareen Yawanarajah's industry expertise makes her a convincing advocate for methane reductions.

→ [edf.org/video4](https://edf.org/video4)

Human-caused methane emissions are responsible for at least 25% of the warming we are experiencing. The oil and gas industry is a major source. EDF is leading the charge to reduce methane emissions worldwide.

**Across North America, climate-polluting** methane and other dangerous pollutants are leaking from millions of inactive oil and gas wells whose owners are insolvent or unidentifiable. Early in 2020, EDF's Dr. Shareen Yawanarajah, a petroleum geologist, met with Canadian officials and suggested a solution: Use federal funds to plug those wells, creating jobs and cutting dangerous pollution.

Since Canada's powerful oil and gas industry was lobbying at the very same time against methane protections, "I expected the worst," Yawanarajah confesses. To her delight, Prime Minister Justin Trudeau announced a \$1.7 billion plan to clean up wells and create thousands of jobs. EDF is now helping shape a similar stimulus program in the United States.

Cutting methane emissions is the fastest and most effective way to slow the rate of global warming. EDF is at the forefront of this effort. Our groundbreaking work has exposed how pervasive oil and gas methane emissions are. A new satellite from our subsidiary MethaneSAT LLC will locate and quantify these emissions around the world with unrivaled



precision — making them impossible for companies to ignore.

In Europe, the European Commission's new methane strategy aligns with many of EDF's recommendations, and it includes a monitoring and verification system designed by EDF scientists. The commission is considering a methane standard for imported gas — the EU is the world's largest market — which would cut emissions internationally.

In the United States, EDF's research in the Permian Basin, the world's largest oil field,

revealed that companies are emitting nearly three times more methane than previously thought. Our science-based advocacy, including our work with affected communities such as the Navajo Nation, helped spur New Mexico, New York and Pennsylvania to propose rules to cut this pollution. California, Colorado and Wyoming already limit methane emissions, laying the groundwork for the Biden EPA to reinstate and expand methane regulations nationwide. ■

→ See what's really happening in the world's largest oil field at [permianmap.org](https://permianmap.org)

“  
**Very soon nobody is going to be able to hide from methane leakage.**

—  
**Mike Wirth**  
CEO, Chevron



#### Methane sleuths

EDF's Dr. David Lyon and Dr. Mackenzie Smith of Scientific Aviation plan a flight over the oil fields of the Permian Basin.

**84x**

more powerful than carbon dioxide for 20 years after it's emitted, methane is a serious climate threat.

**MethaneSAT will be ready for launch in late 2022, holding companies and countries accountable for oil and gas methane pollution.**

→ Meet the team making MethaneSAT fly at [methanesat.org](https://methanesat.org)





#### Driving momentum

EDF prompted 15 states to advance toward zero-emission trucks.

## Moving the U.S. toward 100% clean



EDF ally Christine Weydig is leading the Port Authority of New York and New Jersey to a cleaner future.

→ [edf.org/videos5](https://edf.org/videos5)

If the world is to avert the worst climate impacts, the U.S. must achieve a 100% clean economy by 2050, adding no more climate pollution to the atmosphere than we remove. EDF is working to make net zero a reality.

**Reaching 100% clean has been likened** to the Apollo moon shot. To get there, we need to transform how we generate power and decarbonize every sector of the economy.

A key focus is transportation, the country's largest source of greenhouse gas emissions. Cleaning up this sector also provides immediate health benefits to neighborhoods near transportation hubs that suffer from high levels of pollution.

In 2020, EDF prompted 15 states, including California and New York, that together represent about one-third of the truck market, to commit that 30% of medium- and heavy-duty trucks and buses sold in their jurisdictions will be zero emission by 2030. We also helped convene a coalition of manufacturers,



including market leaders Cummins and Daimler, to call for federal funding to develop truck charging infrastructure.

Christine Weydig, director of energy and environment programs at the Port Authority of New York and New Jersey, is one of many EDF allies taking action. Weydig is helping her agency electrify bus and car fleets and ground-service equipment across three major airports.

As cars, trucks and buses switch to electricity, America must also clean up its electric grid. EDF is working with electric utilities to decarbonize their operations, winning commitments from Arizona

Public Service and Xcel Energy to help realize the goal of a carbon-free power sector by 2035.

EDF also secured progress with partners in the states. We helped advance carbon limits in Oregon and were instrumental in Pennsylvania's move to join the Regional Greenhouse Gas Initiative, a coalition of states setting limits on carbon emissions. We also helped California defend its authority to coordinate with Quebec on reducing climate pollution, a key part of the state's climate plan. EDF and its allies will build on these actions to accelerate the nation's shift toward 100% clean. ■

“  
**EDF has been a leading voice in support of bringing the benefits of the Regional Greenhouse Gas Initiative to Pennsylvania — a centerpiece of our climate leadership agenda.**

—  
**Tom Wolf**  
Governor of Pennsylvania



**28%**  
of U.S. climate pollution is from transportation, the largest source, followed by electricity generation.

## Challenging business to slash emissions

Worldwide, more than 1,500 companies with over \$11 trillion in revenue have committed to a net zero future. We're working with companies and investors to turn goals into action. Together with Microsoft, EDF convened a group of companies including Nike and Unilever that are building a road map for slashing emissions. We're also a founding member of the CEO Climate Dialogue, a group of leading companies and environmental groups committed to advancing federal climate policy.

## Young leaders driving change

Fiona Li spent her summer break helping Colgate-Palmolive slash energy use across its operations in 30 countries. To date, more than 1,100 EDF-trained Climate Corps fellows like Li have worked with over 500 organizations to build a more sustainable future. Today, 80% of our alumni work on energy or sustainability at companies like Con Edison, McDonald's and Tesla.



# Helping China tackle climate change



## A big step

Cleaning up the 1,700 coal-fired power plants that supply China's power sector will slash emissions.



Wang Zhixuan has worked with EDF for 20 years to reduce China's air pollution.

→ [edf.org/video6](https://www.edf.org/video6)

China is the #1 emitter of greenhouse gases. To cut them, EDF has been a key partner in China's planned launch of the world's largest carbon market, starting with the power sector.

**Wang Zhixuan is a prime facilitator in the construction of China's nationwide carbon market.** As vice chairman of the China Electricity Council, the major trade group for China's electricity companies, Wang has spent years, working closely with EDF, to ready the power sector to participate in China's national emissions trading system, expected to become the world's largest. The goal is to reduce China's climate pollution while supporting low-carbon economic growth.

China still relies heavily on coal-burning power plants — a major source of pollution harmful to the climate and human health. The emissions trading system will put a price on carbon, helping companies find the lowest cost way to reduce emissions. It will begin with the power sector's 1,700 coal-fired plants, which produce more than a third of China's emissions, and then expand to other high-emission industries like aluminum and cement production.

"Addressing climate change is a common challenge for all mankind and a key to China's sustainable development," says Wang. "Market approaches have a fundamental and crucial role to play in China's large-scale carbon emission reductions."



A key challenge is accountability. The pollution reductions are being overseen by a new cadre of environmental enforcement officers, more than 55,000 of whom were trained in a program EDF established with leading universities.

EDF has been a trusted presence in China for 30 years, working on problems ranging from acid rain to dangerous air pollution in urban areas. Wang, who has worked with EDF for two decades, credits

us with helping China see the potential of market-based approaches for finding the lowest cost ways to reduce pollution.

Addressing the U.N. General Assembly in September 2020, President Xi Jinping said China will increase its actions under the Paris climate accord and called on all countries to honor that agreement. "We aim to have CO<sub>2</sub> emissions peak before 2030 and achieve carbon neutrality by 2060," Xi said. ■



**EDF is one of our most important partners to promote the establishment of carbon pricing in China, which lays a solid foundation to develop the low carbon transition path for the whole country.**

**He Jiankun**

Vice Chair of China's National Committee of Experts on Climate Change



**40%**

of China's CO<sub>2</sub> emissions (approximately) will be covered by carbon trading in the power sector.

## Protecting rainforests and their peoples

Tropical forests are under siege, and so are the indigenous peoples who inhabit and protect them. EDF helped local partners win a historic victory for indigenous rights in Brazil's highest court. The court held the federal government responsible for removing illegal loggers and miners who have invaded 75,000 square miles of indigenous territories, spreading the coronavirus. The fight to end the deforestation of the Amazon continues.



## Growing climate solutions in India

EDF and partners in India, the world's fourth-largest emitter of greenhouse gases, are designing, testing and expanding low-carbon development solutions to help India's 800 million rural residents. These include clean biogas cookstoves and a digital platform, including a cell phone app, that helps farmers boost their yields and profits and provides climate-smart farming advice. Now we are advising Bihar, a state of 100 million people, on a climate action plan for agriculture that reduces pollution and helps farmers prosper.





# A new approach to protect a vanishing resource

## Fighting drought

In partnership with NASA, EDF has designed ways to promote more efficient water use in places like drought-prone Kern County, CA.



Eric Averett is pioneering sustainable use of water in California.

→ [edf.org/video7](https://edf.org/video7)

The world faces a water crisis that threatens the lives and livelihoods of billions of people. EDF is creating solutions in the American West that are a model for other arid regions.

**“Every part of our lives depends on a reliable water supply,”** explains Eric Averett. “Whether it’s the clothing we wear, the food we eat or the houses we live in — water underpins everything.”

As general manager of the Rosedale–Rio Bravo Water Storage District in

California’s Central Valley, Averett is acutely aware that water is one of the world’s most precious — and imperiled — resources. Approximately 98% of the world’s available freshwater is stored underground, and scientists have found that the world is increasingly using far more than can be replenished. About 1.7 billion people live in places where groundwater is at risk, and climate change further threatens supplies.

In the western United States, where agriculture is the largest consumer of the water supply, EDF teamed up with NASA,



the Desert Research Institute and Google to launch OpenET, a web application that will provide farmers and water managers with accurate, timely, satellite-based data on the amount of water that is actually used to grow food. The data will help foster sustainable water use.

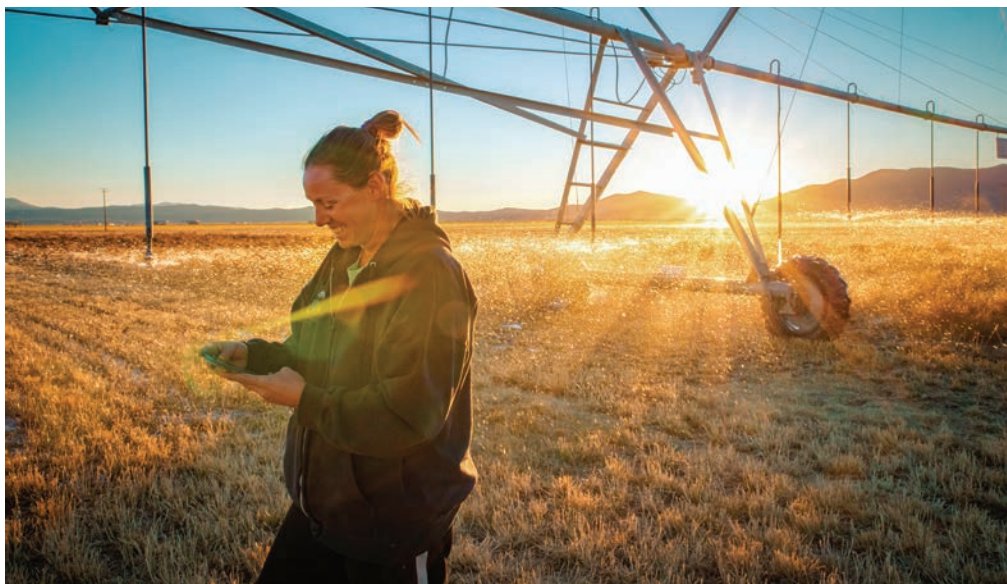
OpenET will initially cover 17 western states and then expand to the entire nation. Leaders in other arid regions, including Africa and South America, are already expressing interest as well. OpenET supports EDF's strategy

to transform how water is managed, benefiting farmers while ensuring that food is grown in a way that conserves a resource critical to ecosystems.

In California, Averett is using OpenET data in a new online platform to help landowners track their water budgets. He is proud of the work he's leading in his community. "There's something satisfying about helping people and being on the cutting edge of something that will last long into the future," he says. ■

“  
**Our water supplies in the West are crucial to providing food for the country, and yet these supplies are under increasing levels of stress. OpenET will provide the data we need to address the challenge of water scarcity.**

Forrest Melton  
NASA Senior Research Scientist



#### A farmer's perspective

"If you give farmers better information on when they should and shouldn't have their water on, you're going to save water," says farmer Denise Moyle. "I think that's the greatest asset of OpenET."

**98%**

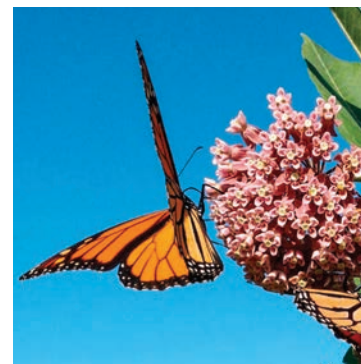
of available freshwater is stored underground.

## Resilient land, resilient people

Even as some areas of the country suffer from recurring drought, others are battered by too much water. Rising seas and more intense storms threaten 20 million U.S. homes and businesses with flooding. Wetlands and floodplains are a critical line of defense. In North Carolina, EDF helped secure bipartisan legislation that unlocks millions of dollars to restore such natural defenses. This success builds off our work in Louisiana and serves as a model for other vulnerable states. We also work with agricultural partners representing 300,000 farmers, to promote farming practices that protect communities from floods.

## Farming for pollinators

In California, our innovative work to help pollinators and their vanishing habitat is winning converts. EDF enlisted pecan farmers to plant native cover crops around their orchards, providing food for monarch butterflies and other imperiled pollinators. Now farmers are expanding the project, which reduces the need for spraying and improves soil health.





# Reviving fisheries around the world



## Following the science

Local communities in Indonesia, the world's third-largest fishing nation, show the way to make fisheries sustainable.



Victor Malau collects fishing data to show how community members can help protect their fisheries.

→ [edf.org/video8](https://edf.org/video8)

**EDF is supporting fishing communities with technology and resources to manage their fisheries sustainably. The result: resilient oceans and thriving local communities.**

**Victor Pandapotan Malau wakes early** each day to get to the docks in Lampung, Indonesia — where local fishers glide in on boats, their nets full of blue swimming crabs. A student at the University of Lampung, Malau inventories the catch using a smartphone reporting app provided by EDF and local partners.

This new tool is one example of our work to introduce innovative technology that helps equip people to participate in

sustainable fisheries management. The community-driven effort will be a model for other small-scale fisheries around the world.

Malau, one of many locals collecting data, knows that the science is critical to managing the crab population, preventing overfishing and sustaining this vital source of local income. The efficiency of the app — which allows him to upload data from the dock to a national fisheries database — is a game changer.

Globally, lack of data, especially for small-scale fisheries, is one factor that hinders adoption of sustainable fishing practices, putting fishers' livelihoods at risk. In Indonesia, we are helping to change that,



working with provincial partners and the Ministry of Marine Affairs and Fisheries.

Indonesia's blue swimming crab industry sustains the livelihoods of 275,000 people. "Blue swimming crab is very important for Lampung province, because many fishers here depend on it for their livelihood," says Malau. "It has been inspiring to get to know more about the fishers and help maintain their economy."

Today, with the help of people like Malau and the fishers he works with, Indonesia is setting aside nearly 20% of a 1,400-square-mile blue swimming crab management area as a marine protected area. Equipped with new tools and knowledge, Lampung is showing the world that local communities can lead the way in making their own fisheries more sustainable. ■



“**EDF is trusted to effectively facilitate and implement a science-based sustainable fisheries management plan.**”

**Trina Yunanda**  
Director of Fish Resources Management, Ministry of Marine Affairs and Fisheries, Indonesia

**35%**  
of fisheries worldwide are overfished.

## Healing the waters of the Caribbean

This year, Cuba and Belize, two countries where EDF scientists have worked for many years, put national fisheries laws into effect. Belize expanded protections for imperiled marine areas, while establishing national fishing rights for small-scale fishing communities. Cuba enacted its first national fisheries law, calling for science-based fishing measures that will benefit many of the Caribbean's most important coral reef systems.

## A vast tract of U.S. ocean habitat protected

More than 135,000 square miles of critical deep-sea habitat off the West Coast have been protected, thanks to a historic plan brokered by EDF, fishermen and others. Simultaneously, around 2,000 square miles reopened to fishing, after new management strategies we helped develop allowed species to rebound. "This agreement shows we can improve habitat protection while creating opportunities for fishermen," says fisherman Paul Kujala. "It's a model for other fisheries globally."





Finding the ways that work

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this report is available online at  
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