

# SOLUTIONS



Vol. 55, No. 3 / Summer 2024



## CLIMATE ACTION DELIVERS

Landmark investments are already  
improving lives across the U.S.



**INSIDE:** Dairy's methane moment | New hope for Cancer Alley | Low-carbon dog food

# Holding on to the rain

India, with a population of more than 1.4 billion people, has only 4% of the world's fresh water resources. Many farmers, such as this cotton grower in Maharashtra state, face increasing water shortages due to climate change. EDF is supporting our partner, the Save Groundwater Foundation, which has dug more than 45,000 pits to collect monsoon rains. Local experts are developing new designs that prevent silt from blocking the pits. Says EDF hydrologist Gopal Penny, "These new approaches can lead to groundwater use that's both more equitable and more sustainable."



# Landmark laws, brighter future



In the face of today's climate challenges, I'm often asked the same question by young people: "Should I have kids?"

This question always hits me hard. It underscores the anxiety many feel about the future of our planet, as disasters made worse by a warming world dominate the headlines.

That's completely understandable.

But my answer is always one of hope.

I have hope because we can do something about climate change. We are already doing something about it. For example, President Biden has signed incredibly ambitious climate legislation into law over the last three years.

Multibillion dollar efforts to fight climate change like the Inflation Reduction Act don't come along often. These bills require years of relentless advocacy, the mobilization of millions of supporters like you, and countless negotiations on Capitol Hill.

But that hard work has paid off. The Inflation Reduction Act is now law and, with the Bipartisan Infrastructure Law, it is already spurring progress in clean vehicle adoption, solar and wind power, battery improvements, modernizing U.S. infrastructure and more — while creating hundreds of thousands of new jobs. (See cover story, p. 8.)

Together, the two laws are projected to cut U.S. greenhouse gas emissions by more than 40% by 2030 — a giant leap forward in the climate fight.


And EDF experts are on the ground, helping to ensure both laws live up to their potential.

For example, \$4.7 billion has been allocated to reduce methane leaks from orphaned oil and gas wells and our staff is shaping how the money is spent.

Methane, the main component of natural gas, has a staggering heat-trapping capability that's 80 times more powerful than carbon dioxide within 20 years of its release, making it a focal point of EDF's work. Aided by our new, globe-circling satellite, MethaneSAT, we are working to measure emissions not just in the U.S., but all over the world, (see p. 4) and cut methane pollution from global oil and gas facilities by 75% by 2030.

I'm also encouraged by the cascade of recent actions by the Environmental Protection Agency — especially the measures to reduce power plant pollution and tailpipe emissions, two major sources of climate pollution. (See p. 13.)

As we reflect on these achievements, I urge you to reject complacency and embrace the belief that you can make a difference. Together, we will confront our environmental challenges and build a brighter future for everyone — most of all, for our kids.

  
EDF President

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## SOLUTIONS

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## An update from space

MethaneSAT, a climate-change-fighting satellite, has successfully completed a series of rigorous operational tests and begun tracking climate pollution around the world. The satellite, created by an EDF subsidiary, was launched into space in March specifically to track methane, which has more than 80 times the climate-warming power of carbon dioxide in the first 20 years after its release. Cutting methane pollution is the fastest way to slow global warming.

“MethaneSAT will have a profound impact on the methane problem,” says EDF Vice President Millie Chu Baird.

EDF’s goal is to cut methane pollution from global oil and gas facilities by 75% in the next six years. The oil and gas industry is a major source of this pollution — methane is the main component of natural gas. Most leaks, once detected, are easy to fix.

MethaneSAT will make its data public so that companies, governments and advocates can track progress and hold polluters accountable. The MethaneSAT team is already starting to look at the satellite’s early measurements. The first public release of data is expected in the fall. By early 2025, MethaneSAT will be observing as many as 25 sites a day. That data will be processed and released in a matter of days, enabling swift action to cut pollution. Says Baird, “I’m looking forward to seeing this amazing technology drive the climate action we need.”



PHOTO COURTESY OF EDF

## Greener shipping sets sail

The International Maritime Organization, the U.N. agency that regulates global shipping, has agreed in principle this spring to impose a fee on every ton of climate pollution that oceangoing cargo vessels emit. This would be the world’s first global price on climate-polluting carbon and is crucial to helping the shipping industry meet its goal, set last year, to cut emissions by 20% by the end of the decade and reach net zero by 2050.

Shipping moves around 90% of world trade. But it burns vast quantities of dirty fuels and is responsible for nearly 3% of the world’s carbon dioxide pollution — even more than aviation.

The pollution fee will reduce emissions and could raise tens of billions of dollars a year that could be reinvested in tackling climate change around the world.

“We’re in a race to climate-proof global trade,” says Panos Spiliotis, EU transport senior manager for global shipping at EDF. EDF is one of only a handful of environmental organizations invited to observe and provide expert input at IMO proceedings.

IMO delegates will meet again in September to continue to hammer out the details, with a final agreement expected next spring. “With growing support for a universal greenhouse gas price,” Spiliotis says, “the devil is now in the details as we work to adopt a policy that is as effective and fair as possible.”



ISTOCK



Rosa Inguanzo

COMMUNITIES FOR A NEW CALIFORNIA

## Empowering rural California water advocates

Amid mounting concerns about water supply and quality in California farming communities, EDF is partnering with the Rural Community Assistance Corporation to train and encourage residents to take part in local water decisions. The Water Leadership Institute equips participants with the skills and knowledge to advocate for groundwater solutions in their communities. “The institute showed me that it’s possible to have access to clean drinking water,” says participant Rosa Inguanzo, “if people get involved.”

# Dairy giants make moo-ves on methane

**L**AST DECEMBER, MUCH OF VERMONT'S idyllic farmland was submerged by flash floods. The torrential winter rains caused extensive damage to farms and made roads impassable for days.

"Fields were flooded, barns were damaged and many of our farmers had to dump all of their milk because the roads were underwater and our trucks couldn't get to them in time," explains Britt Lundgren, senior director of sustainability at Stonyfield Organic, which sources milk directly from about 40 farms in the area.

Just a few days before storms swept through Vermont, halfway around the world at the U.N.'s climate conference in Dubai, Stonyfield's parent company, Lactalis USA, was one of six of the world's largest dairy companies pledging new action to address a major source of climate pollution from dairy operations — methane. As founding members of the EDF-led Dairy Methane Action Alliance, the Bel Group, Danone, General Mills, Kraft Heinz, Lactalis USA and Nestlé committed to annually account and publicly disclose methane emissions within their dairy supply chains. They are each also pledging to create and implement a comprehensive methane action plan.

This spring, Starbucks and the family-run dairy company Clover Sonoma from California also joined the alliance. Together, the eight companies represent over \$230 billion in annual global sales.



Changing cows' diets and better managing manure reduces dairy's climate hoof-print.

"The momentum to tackle dairy methane is growing fast," says Katie Anderson, senior director for business, food and forests at EDF. "Our initial goal was to launch the alliance with three companies and we ended up having six companies sign on. Now that number is up to eight and right after the launch, eight other companies reached out to learn more."

Methane is a potent greenhouse gas with 80 times the warming power of carbon dioxide in the first 20 years after it enters the atmosphere. Agriculture represents nearly 40% of human-caused methane emissions, the majority of which comes from livestock, including dairy cows. For most dairy companies,

methane accounts for a substantial percentage of their total greenhouse gas emissions.

But solutions do exist.

Cows produce methane in two ways: from the decomposition of their manure under certain conditions, and by what is politely known as enteric emissions — cow burps. Methane emissions from manure can be drastically reduced by changing how

manure is stored and treated; changing a cow's diet and supplementing it with feed additives that interrupt the microbial processes in a cow's gut that produce methane can dramatically slash enteric emissions.

## 36%

**The percentage of U.S. methane pollution that comes from livestock**

Source: U.S. Environmental Protection Agency

"These feed additives could be game-changers," explains Ben Thomas, EDF's senior policy director for climate-smart agriculture. "For years, people just shook their heads and asked, 'How do you want us to keep cows from burping?' But now, there's something that could really make a dent in these emissions."

"At Stonyfield, we've been working on methane solutions for many, many years and now thanks to DMAA we have an exciting opportunity to share everything we've learned," says Lundgren.

For Anderson, who expects more companies to sign onto the Alliance by the end of the year, this knowledge exchange is critical.

"We are working together to drive a movement within the dairy sector and these companies have stepped forward on that journey. Just like it is easier to train for a marathon when you have a friend to run with you, DMAA creates that same opportunity to help companies move forward, faster together."

Joanna Foster



Wolfe's Neck Farm, in Maine, is testing new methods to cut methane.

WOLFESNECK.ORG



### THE WILSON LEGACY

This feature honors the memory of Robert W. Wilson, a long-time EDF supporter and champion of harnessing market forces to drive environmental progress. See [edf.org/wilson](https://edf.org/wilson)



# New tool to drive action on toxic chemicals

An interactive EDF map leaves polluters with nowhere to hide.



Children and pregnant women are especially vulnerable to multiple chemical exposures.

**W**HEN YOU THINK ABOUT WAYS to stay healthy, eating right probably makes the list.

Exercising and getting enough sleep are important too.

But what about checking to see if any toxic chemicals are being emitted near your home?

Now, you can do just that, thanks to the Chemical Exposure Action Map that EDF released in March. The map is an interactive tool anyone can use to find out where nearly two dozen toxic chemicals might be lurking in neighborhoods across the U.S., along with the names and addresses of the facilities emitting them.

“The map is meant to help communities advocate for their health,” says Maria Doa, EDF’s senior director of chemicals policy. It includes information on the size of chemical releases as well as their potential health impacts, focusing specifically on chemicals that are harmful to pregnant women, a child’s development and those linked to asthma and cancer.

It’s searchable by community, state or congressional district and includes chemicals designated “high priority” for regulation by the Environmental Protection Agency under the Toxic Substances Control Act — a previously weak law that was revamped in 2016, after years of advocacy by EDF, in an effort to better protect the public from chemicals.

## Multiple exposures add up

Critically, the map highlights potential health risks by looking at what happens when multiple chemicals are released together in any one area. That means it takes into consideration that some chemicals cause the same health issues — cancer, for example — so, when released together, the risk to the community increases.

Surprisingly, that’s not how the EPA looks at it. Traditionally, the agency has evaluated the health risks of chemicals one by one, as if people are exposed to each one individually, with very few exceptions.

Doa, a former leader at the EPA herself, says that methodology is flawed.

“No one is exposed to just one chemical at a time,” Doa says. “Throughout the day, you encounter many different chemicals at the same time.”

A better way to regulate chemicals, she says, is to look at the total risk to an area by tracking which

chemicals are emitted from various facilities simultaneously.

## What can you do?

“What sets this map apart is that it encourages users to write directly to the EPA through a customizable letter that incorporates the chemical data from your local area,” Doa says.

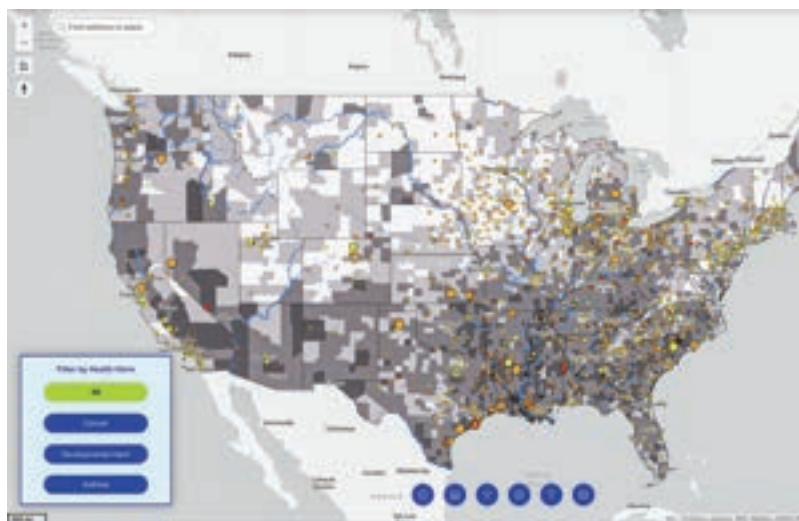
She says that every letter helps to apply pressure on the EPA to change the way the agency measures the risk of these highly toxic chemicals.

By providing congressional district information, the map also equips users with data that can be taken to local officials, galvanizing grassroots efforts against toxic chemicals. “Local officials can help community members pressure the EPA to move toward this better way of assessment,” says EDF scientist Paige Varner, who helped create the map.

“The bottom line is that we need the EPA to take a more holistic look at the risks communities face from chemicals that cause similar harms,” Doa says. “This map is a step toward better-informed chemical regulation, and another way to promote environmental justice in communities that are already overburdened by the health issues, like asthma and cancer, caused by chemical exposure.”

*Vanessa Glavinskas*

**EXPLORE** Visit the Chemical Action Map at [chemicalactionmap.edf.org](https://chemicalactionmap.edf.org) to find out more.



CHEMICALACTIONMAP.EDF.ORG

# Hope for residents of Cancer Alley

A long-awaited EPA rule takes aim at toxic petrochemical pollution.



Petrochemical plants now dominate a once-pristine stretch of the Mississippi River in Louisiana.

OLIS CLARKE/GETTY IMAGES

**R**OBERT TAYLOR GREW UP SURROUNDED by green fields filled with orderly rows of sugar cane.

“This is the land that my ancestors worked on, from slavery until now,” Taylor, 83, says of his connection to St. John the Baptist Parish, Louisiana.

“But as the sugar industry died, the wealthy, white plantation owners sold the land,” he explains.

By the time Taylor was ready to start a family, petrochemical companies had bought many of the former plantations, leading to a proliferation of oil refineries and chemical operations along the Mississippi River.

Pollution from these facilities marred the horizon, and the primarily Black population that remained in the area started getting sick. Today, the region between Baton Rouge and New Orleans has a grim nickname: Cancer Alley.

In 1969, a DuPont plant began making neoprene, a synthetic rubber, less than a mile from Taylor’s home. The process emits chloroprene, a compound linked to heart damage, cancer and a weakened immune system.

Taylor’s mother, who lived around the corner from him, died of bone cancer. His wife is a breast cancer survivor now living with multiple sclerosis. In 2016, federal regulators found that the communities near that plant, now owned by the Japanese chemical giant Denka, have the highest cancer risk in the country.

“Our risk for cancer is 1,500 [per million people],” Taylor says. That’s nearly 50 times higher than the national average. “How can this country tolerate that?” he asks.

## Tackling a health crisis

On April 9, the Environmental Protection Agency strengthened its limits on pollution from petrochemical plants for the first time in decades — a move that EDF experts have long supported.

The EPA aims to reduce emissions of six chemicals, targeting two in particular: chloroprene and ethylene oxide, both of which are linked to cancer and are especially harmful to children. Once fully implemented, the rule could reduce the number of people facing elevated risk of air toxics-related cancer by 96%.

Denka, which emits chloroprene right next to an elementary school filled with hundreds of students, most of them Black, said that it “vehemently opposes” the EPA’s action.

But EDF’s Dionne Delli-Gatti, who works closely with communities overburdened by pollution, says the new rule simply mandates much-needed accountability. Of the 218 chemical plants affected by the new rule, EDF found that 83% have a documented history of violating environmental laws over the past three years.

The rule also closes a loophole that allows facilities to pollute without limits during a malfunction, or start-up and shut-down activities. “Closing that loophole is critically important as worsening storms, due to climate change, disrupt activities at these plants more often,” Delli-Gatti says.

Facilities will also be required to conduct fence-line monitoring to measure just how much pollution is going into nearby communities.

## Battling toxic tactics

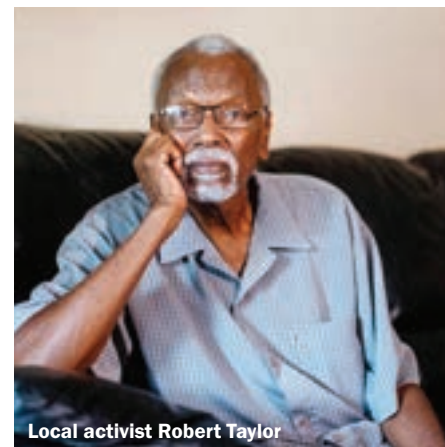
EDF joined several other environmental organizations in submitting comments to the EPA in support of stricter rules for petrochemical polluters last year, and EDF experts intend to stay the course in defending them.

In light of a massive proposed expansion by the petrochemical industry, these rules are more important than ever, says Delli-Gatti.

“From both a public health and a climate change perspective, the more protections we can have, the better,” she says.

For Taylor and his daughter, Tish, who also lives in St. John the Baptist Parish, their fight for health continues.

“The petrochemical industry bombards the community with their point of view,” Tish says. “What we need more than anything is a mass media blitz of facts to educate the community about the health risks of their pollution,” she says, adding that the area’s cancer rates are not due to diet or lifestyle as some community members have been led to believe.



Local activist Robert Taylor

EMILY KASKO/AF/VA GETTY IMAGES

“Our community has been manipulated into thinking that these plants are our friends. They fund our festivals,” she says. “Their names are on everything. They give away school supplies ... and, at the same time, they’re poisoning us.”

Robert adds, “So we have to have hope that this new rule will protect us because, in good conscience, I can’t abandon this place and move. I have to fight for the people who are here.”

Vanessa Glavinskas



# Climate laws deliver

**The Inflation Reduction Act and the Bipartisan Infrastructure Law, both signed by President Biden, are changing lives. Here's how.**

**By Joanna Foster, Liz Galst, Vanessa Glavinskas, Shanti Menon**

**I**N A BACKYARD IN LOUISIANA, AN abandoned oil well no longer leaks planet-warming methane. In Maryland, school kids are riding on new electric buses with no tailpipe pollution. And, in California, a young family's home is fossil fuel-free, thanks to federal tax incentives.

These are just a few of thousands of stories of how America is fighting the climate crisis thanks to the provisions of two landmark bills that President Biden signed into law.

The 2021 Bipartisan Infrastructure Law provides \$1.2 trillion for transportation and infrastructure spending, including upgrades to the power grid and investments in clean energy. And the 2022 Inflation Reduction Act allocates hundreds of billions of dollars in tax credits and investments to tackle climate change.

Since these historic laws passed, money has gone to all 50 states, spurring progress in clean vehicle adoption, solar and

wind power, battery improvements, modernizing U.S. infrastructure, and more. Together, the laws are projected to cut U.S. greenhouse gas emissions by more than 40% by 2030 — a giant leap forward in the climate fight.

“The last three years have yielded more progress on climate than we've seen in the previous 20,” says EDF President Fred Krupp. “The IRA will be remembered along with the Clean Air Act and Clean Water Act as a landmark in the history of environmental protection.”

EDF experts provided extensive input that helped strengthen and pass both laws, and are now helping roll them out across the country.

For example, EDF launched a resource hub that is helping companies take advantage of incentives in the IRA to accelerate their climate action. Our experts are shaping how the \$4.7 billion allocated to reduce methane leaks from orphaned oil and gas wells is spent. And

**“ The last three years have yielded more progress on climate than we've seen in the previous 20. ”**

— Fred Krupp, EDF President

EDF affiliate, Moms Clean Air Force, is helping school districts across the country to take advantage of money available to transition to electric school buses.

“These laws are a down payment on a livable future,” says Nicole Buell, who helped to write both laws as a congressional staffer before joining EDF to help roll them out. “Our experts are influencing how these programs are established and executed — because these laws will only be as successful as we help them to be.”

Here's how both laws are already making a difference in communities across the country.



## Cleaner buses, cleaner air



**W**HEN CARMEN CORTEZ, A school bus driver for the Montgomery County Public Schools in Maryland, heard she'd soon be driving an electric bus, she admits she had some doubts.

"I did not know what to expect," she explains. "But the day I drove the vehicle I could feel how quiet it was, and the most important thing is that I was able to breathe cleaner air. This change was also felt by the students and the neighbors who live on the routes I travel."



Carmen Cortez's new electric school bus protects kids from diesel pollution.

Today, Cortez trains other electric bus drivers in her district. Traditional diesel-powered buses release climate pollution alongside dangerous air pollution that exacerbate childhood asthma and other diseases. Studies show reducing exposure to this pollution significantly improves students' test scores.

With \$5 billion in funding from the Bipartisan Infrastructure Law, the EPA is rolling out a cleaner, safer ride to school for millions of kids across the country. To date, the program has funded

approximately 8,500 school bus replacements at almost 1,300 school districts. This spring, the EPA announced an additional almost \$1 billion in grants under the Inflation Reduction Act to replace heavy-duty vehicles, including school buses, with zero-emission alternatives.

"My community and low-income communities are the ones who face the impact of daily pollution," Cortez says. "I hope all schools in all states can have access to electric buses."

**W**HEN THE OIL DRIED UP IN OIL City, Louisiana, struggling companies abandoned their wells, often without sealing them properly. The area is dotted with rusting wellheads. "It's like a graveyard that's been sucked dry," says Tyler Duhon, an operations manager for Louisiana-based construction company Lemoine.

Left unsealed, these wells can leak oil and toxic chemicals and emit methane, a powerful greenhouse gas. More than 120,000 "orphan" wells, with no responsible owner, have been documented across the U.S. There are likely a million more not on the books. Thanks to \$4.7 billion in funding from the Bipartisan Infrastructure Law — an EDF-backed measure — a nationwide campaign to plug them is underway.

In Louisiana, Duhon and Lemoine have sealed 370 wells in just 9 months, on ranches, in yards, even in the back of an auto parts store. "When you get that equipment out, you reduce the environmental impacts, and you're making people's lives better," says Duhon.

Another benefit — new economic opportunities. In addition to hiring

## Plugging polluting oil & gas wells



experienced contractors, Lemoine and Duhon worked with the Louisiana Chamber of Commerce Foundation to ensure that local, minority-owned businesses, typically at the outskirts of the industry, would receive onsite training. "This is a hard market to get into," Duhon explains. "Seeing those funds go towards smaller businesses, helping them thrive and branch out ... this is a life-changing opportunity."

With the next round of state funds expected in 2024, Duhon's goal is to create the community's first homegrown well-plugging business.



Tyler Duhon: plugging wells, creating jobs.

## Solar powers affordable rents



**U**NIVERSITY NEIGHBORHOOD Housing Program, a nonprofit, affordable housing provider in New York City, was used to operating on tight margins. And then COVID hit. “Our costs skyrocketed,” says Brendan Mitchell, director of real estate and finance.

The nonprofit oversees 25 buildings offering 1,500 apartments to low-income residents in the Bronx. Thanks to the Inflation Reduction Act, solar power is easing the organization’s financial problems.



Brendan Mitchell, center, says IRA funding for solar power helps keep costs down for tenants.

GREGKESLER.COM

“We explored solar back in 2015,” Mitchell says. “But it was prohibitively expensive.”

The IRA enables direct payments to nonprofit, affordable housing providers to underwrite the cost of solar installations. Solar power reduces a building’s reliance on climate-damaging fossil fuels, and saves money on electricity.

UNHP has already installed seven solar arrays. In the buildings covered, Mitchell says, “for the most part, we don’t have electric bills.” UNHP is using the savings to keep rents down and

maintain buildings.

Now, the organization is planning another IRA-assisted solar project, with battery backup, at a property that’s home to more than 100 seniors. “When the power goes out, the battery will allow us to run a cooling center and the elevators and have some lighting in the hallways,” Mitchell says. During a heatwave or other extreme weather event, that kind of system can save lives. “We’ve been talking about a project like this for years,” Mitchell says. “But with the IRA, it’s finally possible.”



SHOOTING SINGER | HD MEDIA FILE PHOTO

Solar business founder Dan Conant

## Clean energy jobs in coal country



**W**EST VIRGINIA SHOULDN’T get left behind. That’s what Shepherdstown’s Dan Conant was thinking. In some areas of the country, residents were working good jobs and breathing cleaner air thanks to the growth of renewable energy. But in central Appalachia, with its historical focus on coal mining, the industry had struggled to gain a foothold. “I wanted to make sure the renewable energy industry wasn’t ignoring this part of the country,” Conant says.

So in 2013, Conant founded Solar Holler. The company brings solar power to nonprofit institutions like libraries, churches and food banks, in addition to homes and businesses. What started as a one-man operation is today a public benefits corporation with more than 100 unionized staff.

Conant credits the Inflation Reduction Act with much of this growth. The legislation has driven a jump in demand in the region by providing direct payments of 30% of the total cost to municipalities, small businesses and nonprofits that install solar. In 2021, the year before the IRA passed, the state installed enough solar to power about 8,500 homes. In 2023, that number leapt by almost 40%.

Last year, aware of the growing need for more workers to serve a flourishing industry, Solar Holler started an internship program for students in their last year of high school. “We’ve had 15 interns come through that program and the majority have stayed with us after graduation,” Conant says. “I’m pretty proud of what we’ve done.”



**R**ANDY GROW HAD A DEADLINE. With a baby on the way, he wanted to get his California home off of fossil fuels by 2024.

“Everything in our home ran on gas,” he says. Bringing a new child into the world amid a climate crisis motivated him to change that.

So he and his wife, Debbie, got to work. They installed solar panels and replaced both their stove and clothes dryer with electric models. They also replaced their gas-powered furnace with an electric heat pump, which both heats

and cools their home, and installed a new water heater. The heat pump made their home more comfortable; they previously did not have air conditioning.

Thanks to the Inflation Reduction Act and other incentives, the couple were able to claim nearly \$13,000 in state and federal tax credits. “It was very easy to use the credits,” Grow says.

In addition to the federal tax credits that the family took advantage of, the IRA is funding rebates worth \$8.5 billion for low- and middle-income families who make energy-efficient home upgrades.

Those are rolling out over the rest of 2024 and into 2025.

Today, the family is happy with the changes. “Everything works just as well,” Grow says. And there’s another benefit: Their utility bills are near zero — a nice savings for the new family of three.

“It feels good to know we’re doing our part as individuals to help fight the climate crisis,” he says.

**DISCOVER** You can save money and help the climate, thanks to the Inflation Reduction Act. Find out more at [bit.ly/save-with-IRA](https://bit.ly/save-with-IRA).

## Saving big by going green



Tax credits saved the Grow family \$13,000 on clean energy upgrades.

KIHE ANIMAL

**O**KLAHOMA CITY CAFE OWNER Corbin Wyatt is just one of hundreds of thousands of drivers benefiting from an electric vehicle boom that’s been spurred on by the Inflation Reduction Act and the Bipartisan Infrastructure Law.

A lifelong car guy — “I love going to the drag strip” — last year Wyatt took advantage of the IRA’s federal electric vehicle tax credit and purchased a Tesla, saving \$7,500 off the sticker price. The car has proven to be the ride of his dreams. “EVs have changed my perception of what a high-performing vehicle could be,” he says.

(He’s not alone in that: “Every single person who’s driven my car has said ‘This is my next car,’” Wyatt says.)

Confidence in EV ownership is growing as access to charging also expands. The BIL includes \$7.5 billion for high-speed electric vehicle chargers located near highways across the U.S. and in rural areas and cities that lack adequate charging infrastructure.

Since the BIL passed, electric vehicle sales in the United States have

## Electric cars speed ahead



ballooned from 460,000 in 2021 to 1.2 million in 2023, an increase of more than 250%. Transportation is the largest source of climate pollution in the U.S. and powering an electric vehicle revolution is a cornerstone of President Biden’s climate agenda.

Wyatt is so happy with his EV that last year he sold the gas-powered muscle car he’d been fantasizing about since he was 16. “I thought I would keep that car forever,” he says. “But I’m super passionate about EVs and what they’re doing for the environment.” ■



Electric vehicle convert Corbin Wyatt

LONDON GROVES PHOTOGRAPHY

# Seeds of change

As the planet warms, innovative farmers cultivate a greener future.

**N**ESTLED AMONG THE ROLLING hills of northern Idaho and interwoven with Nez Perce tribal land, Wittman Farms dates to the 1920s. Five generations of the Wittman family have worked this 20,000-acre stretch of land, persevering through depression and drought. But now, as the family prepares to celebrate their farm's centennial, a new challenge looms.

"We have weather that's totally different than it was 30 years ago," says Dick Wittman. "We have hotter hots, colder colds, wetter wets and drier dries."

Extreme weather and dwindling natural resources, both driven by climate change, are the biggest threats facing farmers and all who depend on them for food. More frequent and intense droughts and floods are damaging crops and livelihoods. Rising temperatures are drying soils as underground aquifers shrink.

Even some of America's most productive farmland is under threat. An EDF report forecasts that staple crops in the U.S. — Kansas wheat, Iowa corn and Minnesota soybeans — may begin to see declines in yields as soon as 2030.

"Food systems need to adapt quickly to build resilience to the intensifying impacts of climate change, and to rein in agriculture's impact on the climate," says Britt Groosman, EDF's vice president of Climate-Smart Agriculture. In the U.S., China, India and European Union, EDF is helping food producers adopt cost-effective ways to protect the climate,



On the Wittmans' farm, climate-smart practices have led to more resilient crops.

preserve natural resources and meet nutritional needs. For example, EDF co-developed an online platform called OpenET that allows farmers in the arid western U.S. to use satellite data to measure water consumed by crops and more precisely control their use of scarce water resources.

## A legacy of innovation

Fortunately, adaptability and innovation have long been agriculture's hallmarks.

In a departure from many U.S. conventional farming practices, the Wittmans now use techniques such as no-till planting, cover cropping and limiting herbicides and synthetic fertilizer to improve soil health. The work is paying off.

"Over the last 30 to 40 years, we've seen that [this approach] has greatly reduced erosion and built soil health and soil organic matter," says Cori Wittman Stitt.

Initially, the Wittmans' farmer neighbors were skeptical. But all that changed as the economic benefits of these innovations became apparent. "A lot of people looked at what we've done and said, 'We need to emulate that,'" Dick Wittman says.

## Harvesting solutions

Farming also has a role to play in slowing the rate of global warming.

Currently, almost every step in food production produces greenhouse gas emissions. In fact, about a third of global human-caused emissions,

**“We’ve been blessed with generations of farmers who were always asking, ‘How do we make this place better than we found it?’”**

— Cori Wittman Stitt

including 40% of global methane emissions, can be attributed to the way food is produced, processed, transported, consumed and discarded.

To improve their climate impact, farmers can modify animals' diets and improve manure management, right-size the amount of fertilizer they use, increase energy efficiency and reduce their use of fossil fuels.

Wittman Stitt, who is taking the family's farm into its fifth generation, says a changing climate is likely to create a rough road ahead. But she is confident in her family's ability to weather the changes — and to be part of the solution to the climate crisis.

"I would like to believe that my kid, who's three now, will be able to take this farm and steward it in a way that's continually improving on our practices," she says. "We've been blessed with generations of farmers who were always asking, 'How do we make this place better than we found it?'"

Tom Clynes



Regenerative agriculture improves soil health and productivity.

MEZIA MEDIA





## Climate action bloomed this spring

**T**HIS SPRING, A FLURRY OF IMPORTANT policies by the Biden administration saw agencies rolling out long-awaited protections governing everything from corporate climate risk to pollution from power plants and transportation.

“The U.S. has been walking toward a safer climate and healthier air. This spring, we broke into a run,” says EDF President Fred Krupp. “EPA is setting a leader’s pace in the global race to build the clean energy future.”

### Cleaner cars and trucks

In March, when it announced new tailpipe emission standards for newly manufactured passenger vehicles, the EPA took “one of the most consequential climate actions ever taken in this country,” says Peter Zalzal, EDF’s associate vice president for clean air strategies. The new rule, which applies to model years 2027 through 2032, is expected to prevent 7 billion tons of climate pollution by 2055. That’s more than all the greenhouse gas emissions emitted by the U.S. last year. Tailpipe pollution is the biggest source of planet-warming pollution in the nation and is also harmful to health. The new standards are projected to prevent millions of asthma attacks and up to 2,500 premature deaths a year from conditions like heart disease and cancer. Automakers can meet the requirements, which apply as an average across fleets, by improving the efficiency of gas-powered vehicles as well as producing more hybrid and electric vehicles.

Soon after this historic move, the EPA unveiled new standards for heavy-duty vehicles, like freight trucks, garbage trucks and school buses, with massive benefits for both climate and clean air. The standards will cut one billion tons of climate pollution and 53,000 tons of smog-forming nitrogen oxides by 2055. The EPA also announced a nearly \$1 billion grant program to help get more zero-emission, heavy-duty vehicles on the roads. While they make up just a small fraction of vehicles on the road, trucks and buses have an outsized impact on the climate and on people’s health. Taking just one semi-truck off the road is the equivalent of getting rid of the climate and air pollution from 50 cars.

### Power plant progress

In April, the EPA announced a suite of measures to address power plant pollution. For the first time in over a decade, the agency strengthened the Mercury and Air Toxics Standards to set tougher limits on cancer-causing pollutants from smokestacks. The new standards require power plants to continuously monitor for key pollutants and close a loophole that allowed power plants burning one of the dirtiest types of coal, known as lignite coal, to emit three times more mercury than other plants. Elsewhere, the EPA announced standards to slash greenhouse gas pollution from new gas-burning power plants and existing coal-burning plants. It also set guidelines restricting the seeping of toxic ash from coal plants into water supplies and reducing the discharge of

toxic metals and other pollutants into bodies of water. The greenhouse gas standards for power plants will prevent up to 1,200 premature deaths and reduce carbon emissions by 1.38 billion tons. That’s like taking 328 million cars off the roads.

### The business case

The Securities and Exchange Commission is charged with ensuring that investors have the information they need to make prudent investment decisions. This spring, the SEC moved to require large, publicly traded companies to disclose any climate-related risks to their business strategy, operations or financial health that a reasonable investor would find relevant.

The rule also calls for publicly traded companies to disclose measures they are taking to mitigate or adapt to risks. “This is a crucial and overdue step to protect the country’s economy and people’s financial security from the destruction caused by climate change,” says Stephanie Jones, EDF senior attorney for climate risk.

“I’ve been fighting for cleaner air and a safer climate for over 30 years,” says EDF General Counsel Vickie Patton. “Progress is sometimes painfully slow. With these vital, new EPA standards and the SEC’s improved protections for investors and our financial system, along with the historic Inflation Reduction Act investments in climate solutions and environmental justice (*see p. 8*), you can see that a better future is within reach.”

Joanna Foster

# Five healthy, climate-friendly ways to feed your dog

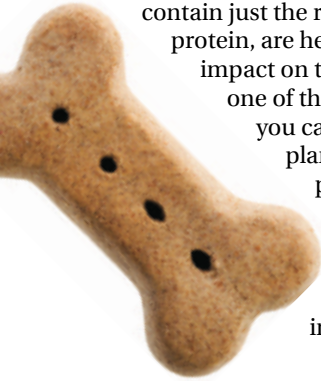
These dog days of summer got the *Solutions* team thinking about our four-legged friends and how what we feed them impacts the climate. We spoke with two experts — Dr. Cailin Heinze, from the Mark Morris Institute, a leading veterinary nutrition group, and Gregory Okin, a professor at UCLA — to find out if we can shrink Fido's climate pawprint with a few dietary tweaks. Here's what they had to say.



## Cut out the premium dog food

Pound for pound, meat — especially red meat — causes a lot of climate pollution. No matter what dog-food marketers tell you, “your dog doesn't need an all-meat diet,” says Dr. Heinze.

In fact, mass market dog foods contain just the right amount of protein, are healthy and have less impact on the climate. “This is one of those cases where you can be easier on the planet and your pocketbook at the same time,” says Okin, author of a 2017 study on the climate impacts of pet food.



## Consider alternative diets

Low-carbon, insect-based foods — such as black soldier fly larvae, meal worms and crickets — are a hot topic in dog nutrition these days.

“The nutritional data on these foods looks pretty good,” Heinze says. Still, she's waiting for more long-term studies before feeding anything more than bug-based treats to her 5-year-old Labrador, Lucy.

Some people have shifted their dogs to vegetarian and vegan diets. “Vets are not a monolith on this,” says Okin, noting that some vets — though not all — will work with dog owners on this kind of a move. Though there's not a lot of data on the long-term health and safety of most vegetarian or vegan diets for dogs, Heinze says that soy has long been used in dog food. “It seems safe and effective and a good-quality protein source.”



## Treats as landfill prevention

Most vets advise against mixing up a dog's diet too much because it can lead to stomach problems. But feeding dogs small amounts of leftovers and other human food that might end up in landfills, where it would produce the potent greenhouse gas methane, is a climate win. For example, if slugs get into the strawberries in Heinze's garden, the fruit doesn't get tossed — instead, Lucy gets a tasty treat.

Liz Galst

**NOTE** This article does not represent any official advice from EDF. Please be sure to consult your vet before making changes to your dog's diet.



## Don't overfeed your pooch

According to the Association for Pet Obesity Prevention, 59% of dogs in the U.S. are obese or overweight, which puts them at risk for a host of illnesses and premature death.

Not overfeeding your dog will keep them healthier and happier, and it's better for the planet, too: Producing less food means producing less climate pollution.



## Choose lower-carbon foods

According to a 2014 study, beef has about five times the climate impact of chicken. Pork and eggs have a significantly lower climate impact, too. So when choosing dog food, opt for something on the lower side of the carbon equation.





★ YOU GOT THIS DONE!



Charm City composting champion Marvin Hayes, in cap.

BALTIMORE COMPOST COLLECTIVE

support, and it employs two young people as part of an entrepreneurship program.

Hayes also works with several community gardens in Baltimore, training community volunteers how to transform food scraps into the dark, rich humus that gardeners call “black gold.” These urban oases supply fruits, vegetables and eggs to neighborhoods where residents have limited access to healthy foods.

Nowadays, Hayes’ team collects more compost than the community gardens need. He takes the excess to a facility about 40 miles outside the city. But a new, EPA-funded, city compost complex currently in the works should help Baltimore meet its 2040 goal of diverting 80% of residential food and organic waste from landfills and the Wheelabrator incinerator, a major source of air pollution.

“They put these toxic institutions in poor communities,” he continues. “But the air pollution from an incinerator is everyone’s problem. The wind does not discriminate.”

In addition to its pickup service, the Baltimore Compost Collective offers home-composting workshops. Each participant goes home with a backyard bin designed to speed decomposition and keep out pests.

Hayes hopes his advocacy will one day allow every Baltimore resident to choose between backyard composting and municipal curbside pickup.

“In the end, our goal is to starve the incinerator, feed the soil and feed the community.”

Tom Clynes

## From scraps to soil

**S**EVERAL MORNINGS A WEEK, EDF member Marvin Hayes can be seen hopping out of an electric van and fetching five-gallon buckets from one Baltimore doorstep after another. At each stop, he dumps the buckets’ contents — a week’s worth of apple cores, banana peels and coffee grounds — into bins in the back of the van, then pilots toward the next of 375 residences that are members of the Baltimore Compost Collective.

Over the past decade, compost has become a life’s work for Hayes, who

directs the collective. “We’re keeping 1,500 pounds of food scraps out of the landfills and trash incinerators every week, and in the process we’re fighting climate change and growing healthier food,” he says. Rotting food in U.S. landfills creates as much climate pollution each year as 13 million cars, according to the Environmental Protection Agency. Composting can reduce that by up to 84%.

The nonprofit is funded by grants, pickup fees and other community



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