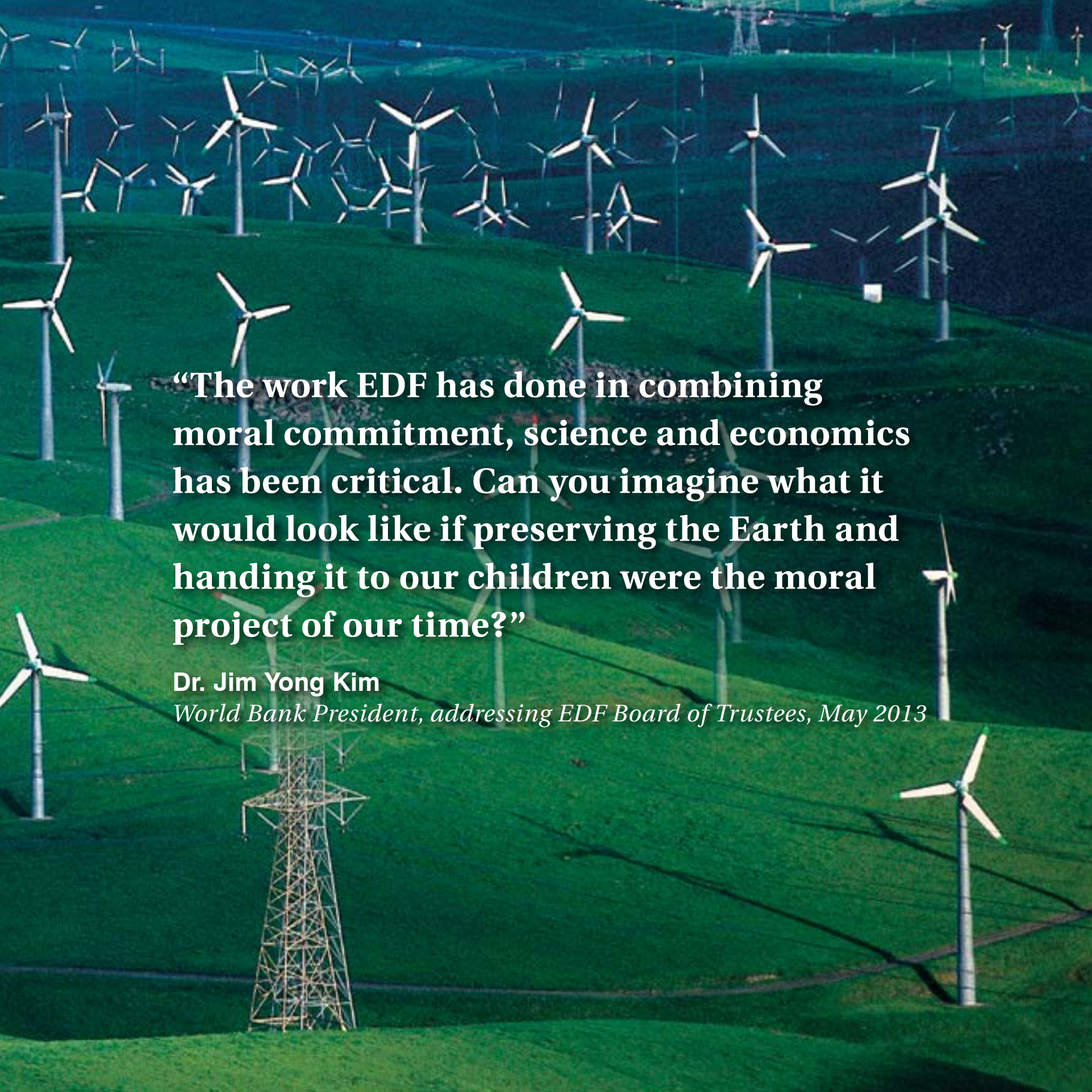




**We can cut carbon
and chart a clean
energy future**

A photograph of a vast wind farm. Numerous white wind turbines with three blades are scattered across rolling green hills. The perspective is from a slightly elevated position, looking down at the turbines. The sky is not visible, and the focus is on the landscape and the turbines. The text is overlaid on the middle of the image.

“The work EDF has done in combining moral commitment, science and economics has been critical. Can you imagine what it would look like if preserving the Earth and handing it to our children were the moral project of our time?”

Dr. Jim Yong Kim

World Bank President, addressing EDF Board of Trustees, May 2013

TAKING ON THE BIGGEST CARBON EMITTERS

Historians may look back to June 2, 2014, as the day the United States finally started getting serious about global climate change. That morning the Environmental Protection Agency, in an action long advocated by EDF, proposed the Clean Power Plan, the first-ever national standards to cut carbon dioxide pollution from existing power plants. Fossil fuel plants cause about a third of U.S. greenhouse gas emissions, more than any other source.

“These rules are absolutely necessary,” says EDF general counsel Vickie Patton. “They’ll help protect our children from smog, curb respiratory problems and cut the pollution that is threatening our

communities with extreme weather.” As expected, major coal interests and their supporters in Congress have vowed to scuttle the plan. Anticipating the barrage, EDF joined with allies like the American Lung Association to launch a campaign—in the courts, on Capitol Hill and with the public—to ensure the final rules are strong. EDF Action, our political lobbying partner, has already been instrumental in beating back legislation that would have defunded EPA. But future attacks are expected.

EPA’s authority to act was established in a series of court cases in which EDF played a role, including at the Supreme Court, which ruled in 2007 that the Clean

Air Act applies to greenhouse gas emissions. Since then, EDF has worked with, and sometimes sued, EPA to secure carbon pollution protections. The Clean Power Plan would cut emissions from the power sector by 30% from 2005 levels by 2030. It gives states flexibility in meeting their targets, whether by deploying renewable energy, ramping up energy efficiency or creating regional carbon markets to achieve reductions at the lowest cost. EPA estimates that for every \$1 invested in complying with the plan, Americans will gain \$7 in health benefits.

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“We’ll need to be in the trenches to make sure the final power plant rule is strong and defended in court.”

Vickie Patton
EDF general counsel





In 2013, global carbon
emissions jumped **2.3%**
to record levels.



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Throughout the process, EDF and allies have been pushing for deep reductions. We are showing how our clean energy work in key states already achieved steep cuts. Colorado, for example, passed bipartisan legislation, backed by EDF, that will improve air quality while ensuring a reliable supply of electricity. Going forward, we'll work with states to help implement the final rules. "The new plan will drive innovation, allowing America to lead in clean technologies," says EDF attorney Megan Ceronsky. "And it will make our air safer to breathe."



Moms Clean Air Force has held "mama summits" across the nation to build support for the Clean Power Plan. The EDF-backed group, now more than 365,000 strong, has shown that an important constituency feels strongly about children's health—and will hold elected officials accountable.

PARTNERS IN CONTROLLING METHANE

Mark Heising and Liz Simons / EDF donors

Stewardship of the planet has always resonated with Mark Heising and Liz Simons, and they found that their views align with EDF's approach of using science and economics and engaging corporations. "To move the needle on climate today, we need to reduce short-term forcers like methane, in addition to carbon dioxide," says Heising, an EDF trustee who co-chairs

our climate committee. "We learned EDF was looking at the methane problem, and we got in early." Both were impressed by peer-reviewed studies that EDF launched with dozens of university researchers to analyze methane leaks. As Simons, president of their family foundation and a funder of early childhood initiatives, says: "We want a safe, habitable planet for our children and all the world's children."



"EDF has the breadth and depth to come up with integrated, scalable solutions to complex problems." Mark Heising

CALIFORNIA: A CLIMATE LAUNCH PAD

When California's Global Warming Solutions Act (AB 32) was signed into law in 2006, naysayers said it would hurt the economy. But the legislation, which EDF and NRDC co-sponsored, has helped California cut greenhouse gas emissions even as the state's economy has grown. AB 32 sets an economy-wide cap on emissions, requiring a reduction to 1990 levels by 2020. Its centerpiece is a carbon market targeting 350 of California's largest polluters. The declining cap creates a market for innovations.

California has also set rigorous standards for cleaner cars, renewable energy and low-carbon fuels, spurring changes in the way automakers design cars, utilities generate electricity and refineries make fuel. Among the innovations: EDF partnered with rice growers in the Sacramento Valley to develop a first-of-its-kind project to reward farmers in the carbon market when they reduce methane emissions.

A flourishing clean-tech economy

- ♦ Clean-tech jobs have grown **ten times** faster than jobs in other sectors
- ♦ **\$21 billion** in clean-tech venture capital has been invested since 2006, more than in all other states combined



California's economy-wide cap on climate pollution will improve conditions in disadvantaged communities like Wilmington, an industrialized area in Los Angeles.

- ♦ **15%** of California's electricity comes from renewable energy, compared to 5% nationwide

A boom in innovation

- ♦ **15%** of new cars sold must be zero- or near-zero emission vehicles by 2025
- ♦ California represents **40%** of all U.S. plug-in electric vehicle sales
- ♦ In 2013, as much rooftop solar was installed as in the previous 30 years

Helping people reduce their footprint

- ♦ **9% reduction** in greenhouse gas emissions per person since 2006
- ♦ **45% less** electricity use per capita than the national average

Health benefits for all

By 2025:

- ♦ **\$8.3 billion** cumulative savings in health costs statewide
- ♦ **900 fewer** premature deaths annually

EDF'S DETECTIVES TARGET ENERGY WASTE



This year, EDF Climate Corps expanded to China, where six fellows found energy savings at companies that included Apple, McDonald's and Cummins.

EDF Climate Corps pairs MBA and other graduate students—the green business leaders of tomorrow—with businesses, cities and universities, where they hunt for energy savings. In 2014, they found \$130 million in potential savings—equal to avoiding the annual

climate pollution of 115,000 cars—and some were featured on Showtime's award-winning series *Years of Living Dangerously*. In Chicago, they worked in 25 buildings to help the city address its goal of cutting energy use in large commercial buildings by 20%.

“Most people get an MBA to get into banking. I went the other way—I left banking and got an MBA to promote sustainability.”

Gina Melekh, 2014 EDF Climate Corps fellow

A VOICE FOR A NEW GENERATION

One key to climate progress is to engage growing constituencies, including young people, who care deeply about climate but often don't vote. In Colorado, we enlisted climate-action supporters, targeting Millennials (roughly 18 to 33 years of age), asking them to pledge to vote on climate issues. We secured over 125,000 pledges. Many previously voted only in presidential elections. “I haven't been involved in politics before,” says Bianca Buium, a student at the University of Colorado in Boulder, “but we can't just ignore this problem or the politicians will, too.”

The campaign, called Defend Our Future, deployed a mix of digital and social media strategies, along with traditional grassroots organizing. Our goal is to expand it to a larger, national effort in future election cycles. “Millennials are among those who must live with the most serious consequences of climate change,” says Dr. Alicia Kolar Prevost, who is running our nonpartisan initiative.

We're also focusing on Latino audiences. National polling data shows that Latino voters overwhelmingly support action to fight climate change.



Hundreds of thousands, including EDF members, joined the People's Climate March in New York.

THE NEW WORLD OF CLEAN ELECTRICITY

Today's smartphones are light years ahead of the computers that took us to the moon in 1969—yet our electric power system is on a par with antiquated rotary phones. A big challenge is the U.S. energy system's built-in disincentives to conserve: utilities profit by selling more electricity and building power plants. A tangle of rules impedes innovation. EDF's clean energy program envisions a low-carbon world where homes generate and sell renewable energy and utilities profit by saving customers energy and money. We're putting incentives in place to make this happen.

EDF works in nine states that make up half the U.S. electricity market. In New York, we're helping Governor Andrew Cuomo make the Empire State a model for a resilient energy system. In California, Governor Jerry Brown signed into law an EDF-sponsored bill for demand response, which gives people a financial reward for using less power during times of peak demand. In Texas, we're part of Pecan Street, a living lab for clean energy solutions. As utilities prepare to invest \$2 trillion to replace aging infrastructure in the next two decades, EDF is ensuring the money goes to a clean energy future.



EDF co-founded Pecan Street Inc., in Austin, TX. Participating homeowners save money, and their homes use 38% less electricity on average for cooling, per square foot, than conventional houses.

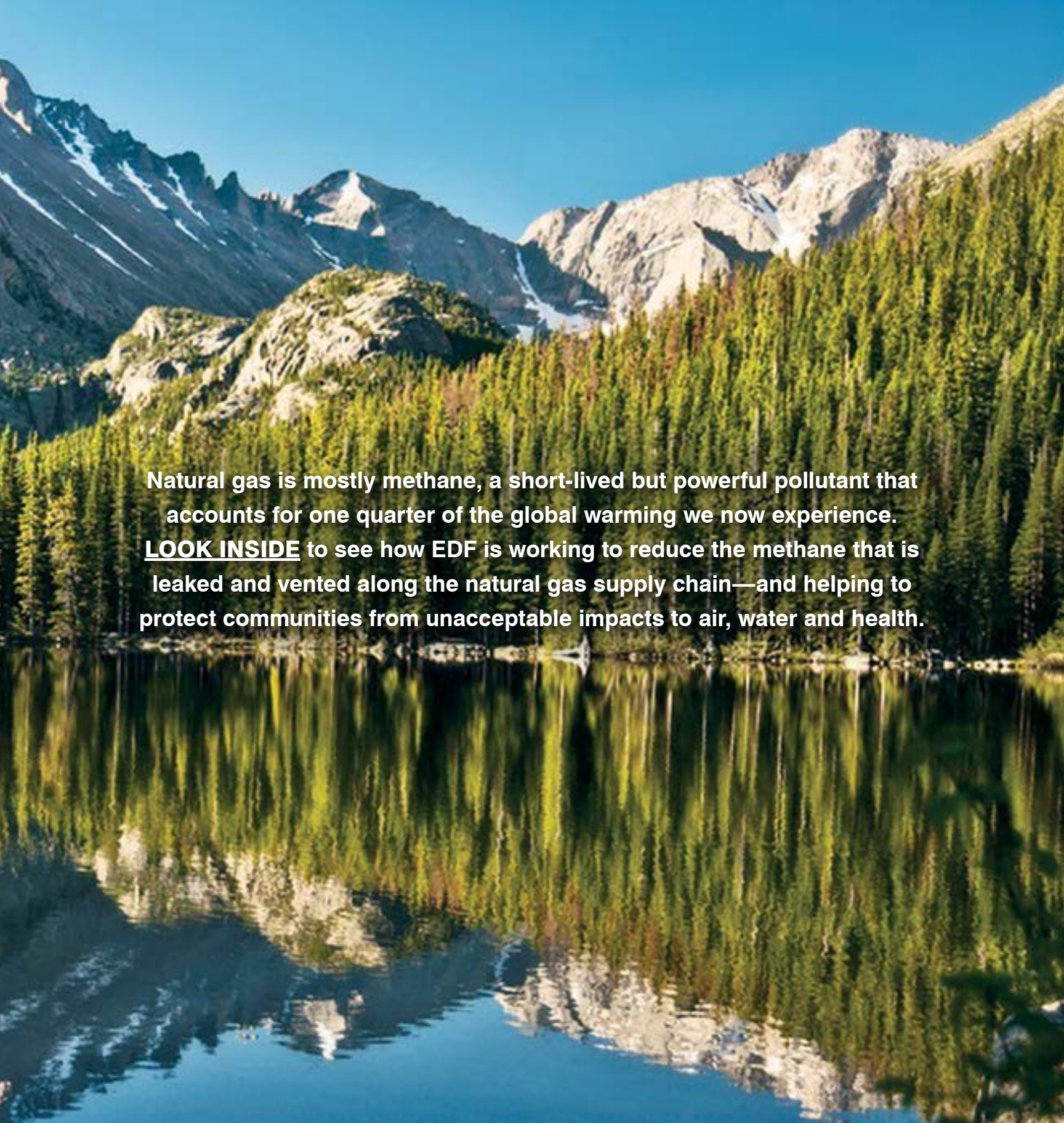
WHY METHANE MATTERS



Production



Processing



Natural gas is mostly methane, a short-lived but powerful pollutant that accounts for one quarter of the global warming we now experience. **LOOK INSIDE** to see how EDF is working to reduce the methane that is leaked and vented along the natural gas supply chain—and helping to protect communities from unacceptable impacts to air, water and health.

PROGRESS IN COLORADO

Few were talking about the climate impact of methane in 2012 when EDF chief scientist Dr. Steven Hamburg and scientist Dr. Ramon Alvarez co-authored a paper on the subject. We then launched our largest-ever science effort to understand how much methane is emitted along the natural gas supply chain. We've learned there is a huge opportunity to reduce emissions of methane—a greenhouse gas 84 times more potent than CO₂ during its first 20 years in the atmosphere—and slow the rate of climate change in our lifetimes.

With allies like Conservation Colorado, we set our sights on a state where a drilling boom had stirred conflict between industry and communities. EDF president

Fred Krupp and our team began meeting with Colorado Gov. John Hickenlooper, who asked EDF to join industry and other groups to craft a solution. Today, the state has the nation's strongest air pollution rules for oil and gas operations and the first direct regulation of methane. How did this happen? Three of the state's biggest producers—Anadarko, Encana and Noble—saw that their social license to operate was at risk. They stepped up.

The rules slash methane emissions by more than 30% and cut air pollution as much as getting all the cars and trucks off the road in Colorado. We're using the rules as a template for federal action and in other states where EDF is fighting to reduce air pollution.

OUR METHANE REDUCTION STRATEGY

1 GET THE FACTS

EDF gathered the needed science to fill the data gaps with 16 peer-reviewed field studies involving nearly 100 partners from academia and industry.

“Fred Krupp represents an organization that is fact-based and willing to build alliances.”

John Hickenlooper
Colorado governor

→ OUR GOAL: **REDUCE METHANE EMISSIONS** across the entire natural gas supply chain to **1% OR LESS** of total gas produced **by 2020**



Transmission



Storage



Distribution to Communities

STRATEGY

2 ADVANCE NEXT-GENERATION TECHNOLOGY

EDF has partnered with leading energy and tech companies to develop and apply cutting-edge technologies to detect and monitor methane emissions in real time.

3 WIN STATE RULES TO CONTROL METHANE AND AIR POLLUTION

Our strategy is to secure strong regulations in states where oil and gas production is most active.

4 PUSH FOR STRONG FEDERAL REGULATIONS

EDF is leading the fight for urgently needed federal standards that would use Colorado's tough, sensible rules as a model.

Cutting methane emissions in **HALF** would achieve as much climate benefit in the next 20 years as **CLOSING 90 U.S. COAL PLANTS**



INNOVATING WITH GOOGLE EARTH OUTREACH

Two years ago, EDF teamed up with Google Earth Outreach to find, quantify and map natural gas leaks under city streets, using Street View cars. With researchers at Colorado State University, we developed an innovative way to analyze the data we collected, and to validate our findings, we worked with utilities like National Grid. This year, we

published interactive maps on edf.org of Boston, Indianapolis and New York City's Staten Island. The resulting national media coverage raised awareness of the climate impacts of leaking methane. We are now mapping our next three cities. Our approach makes pollution visible to the public and provides utilities with a new tool to cut these emissions.



“This project puts information in the hands of people who can make a difference and change the world.”

Karin Tuxen-Bettman
Program manager for Google Earth Outreach

CHINA DEPLOYS EMISSIONS TRADING TO TACKLE CARBON

China burns roughly half the world's coal. This has helped lift the country out of poverty, but at a steep price in terms of air pollution and climate change. EDF is helping the country address those twin dangers by taking important steps toward cleaner energy.

To drive prosperity while reining in emissions, China is harnessing the power of the marketplace. With EDF's involvement, the country has launched emissions trading programs in five cities and two provinces, home to 250 million people. EDF trained more than 1,000 government officials and others on key

elements of emissions trading, including verification. China now hopes to launch national emissions trading by 2016 and is aiming for a 17% reduction in carbon intensity from 2010 levels by 2015. The country is on track to meet that goal.

Also in 2014:

- ♦ China tightened penalties on polluters, a reform that EDF has advocated for more than a decade. The ceiling on penalties will be scrapped, officials will be held more accountable and citizens will have more power to sue. The reforms, which Reuters called "the most sweeping revisions to the law in

25 years," are modeled on an EDF pilot enforcement project in Chongqing.

- ♦ EDF and Shenzhen launched a research project aimed at reducing carbon pollution from the city's vehicles, which have soared from 200,000 to 2.7 million in ten years. The project will incorporate mobile sources into Shenzhen's existing carbon emissions trading program, which was created with help from EDF. The Shenzhen vehicle project was picked as a U.S.-China EcoPartnership by both governments, one of six such projects selected this year.



CUTTING EMISSIONS AROUND THE WORLD

Global warming affects everyone and demands an international response. EDF, seeking to reduce emissions and help lay the foundation for future carbon markets, helped launch several initiatives at the 2014 UN Climate Summit.

Halt deforestation

More than 35 national and state governments and 34 corporations pledged to cut deforestation in half by 2020—and end it completely by 2030. With other nonprofits, EDF was a key partner in the coalition that put together this landmark agreement. Deforestation today accounts for 15% of global carbon emissions.

Promote carbon pricing

We helped assemble a coalition of 73 countries and 1,000 companies and nonprofit groups calling for a price on carbon—an approach that EDF supports to cut climate pollution as efficiently and effectively as possible.

Cut methane

EDF, along with six major oil and gas companies and several governments—including France, the UK and the United States—launched an international partnership to reduce methane emissions from oil and gas production.



Reduce pollution and poverty

Elsewhere, EDF helped broker an important agreement between India's largest airline and Indian grassroots groups, making it possible for IndiGo passengers to help offset the carbon footprint of their flights. So far, the program has raised more than \$2 million for low-carbon rural development projects, such as purchasing biogas cookstoves to replace highly polluting wood stoves.



(Top) With EDF's help, Brazil's Kayapo people orchestrated a government operation to stop logging and mining on their land, a territory the size of Pennsylvania. (Bottom) In India, climate-friendly agriculture is helping to alleviate poverty.