



RESOURCES
FOR THE FUTURE

2015

ANNUAL REPORT



Timber and Forest

Product Markets

Endangered Species Act

FO

Renewable and Clean Energy

Deforestation
Forest Carbon

Energy and Electrici

Energy Efficiency

Invasive Species

Eco-certification

Clean Power Plan

Fisheries and Fishing
Agriculture

Biomass and Plant Biofuels

Natural Gas

Biodiversity

Ecosystem Services and Management Ecosystems

Climate Adaptation

Electricity Markets and Regulation

Carbon

Air Quality

Climate Change

Tree Biotechnology

Development and Envi



Resources for the Future (RFF) is an independent, nonpartisan organization that conducts economic research and analysis to help leaders make better decisions and craft smarter policies about natural resources and the environment. RFF brings together respected economists and leading environmental researchers from around the world to develop solutions that balance the need for both economic growth and environmental stewardship.

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“This critical work continues to be made possible by the dedication of RFF’s exemplary staff and its Board, as well as the visionary donors who have placed their faith in the power of sound ideas to make the world a better place—not just for ourselves but for future generations to come.”

Message from the President

In 2015, RFF’s unique and indispensable role—in finding realistic and cost-effective solutions to some of the world’s most important problems—was more apparent than ever.

It was the warmest year in recorded history, heightening concerns about the growing impact of global climate change. It was also a watershed year for climate policy. In December, countries around the world forged an agreement in Paris to start on the path toward reining in global greenhouse gas emissions. Here in the United States, the Obama administration finalized the Clean Power Plan, the first national effort to reduce carbon emissions from the power sector. RFF research, analysis, and insight have helped to shape the outcomes of these critical efforts. RFF experts have guided states on implementing the Clean Power Plan, explained how jobs might be affected by a national carbon tax, and demonstrated the economic and financial consequences that can accompany climate change.

Our work has also benefited from partners who understand the value of effectively communicating such analysis. The *New York Times* and Stanford University worked closely with RFF to better understand Americans’ attitudes on climate change and clean energy, and EPA Administrator Gina McCarthy visited RFF once again to provide the latest information to the public about the Clean Power Plan.

But climate change has not been the only important issue. In these pages, you will also read about ideas for the future of policies related to reforming the National Flood Insurance Program, protecting endangered species, managing increasing water demand, understanding the impacts of shifting oil prices, and evaluating the effectiveness of regulations, among others.

The expertise and efforts of RFF experts do not stop there. We are working internationally with colleagues in China to improve traffic congestion and encourage sustainable growth, and in Latin America to manage ecosystems more effectively and combat deforestation. These projects not only provide valuable insights, but also help build capacity for economic analysis of natural resource and environmental issues in those regions and others.

This critical work continues to be made possible by the dedication of RFF’s exemplary staff and its Board, as well as the visionary donors who have placed their faith in the power of sound ideas to make the world a better place—not just for ourselves but for future generations to come.

In this Annual Report, my last as RFF’s president, I would like to express my profound pride in the institution and gratitude to its staff and the people who support RFF in so many ways.

A handwritten signature in black ink that reads "Phil Sharp". The signature is fluid and cursive, with the first letters of "Phil" and "Sharp" being larger and more prominent.

Phil Sharp
President
Resources for the Future

Message from the Chairman

In my role as chair of RFF's Board of Directors, I continue to be inspired by the commitment to fact-based analysis aimed at producing smarter policy that drives the work of this institution. Every day, regardless of the partisan climate or unfolding political dramas, RFF experts show up with the intention—and a particular tenacity—to make a difference on issues that matter most to our communities and the wider world: clean air and water, reasoned climate and energy policy, and wise use of the natural resources upon which our well-being ultimately depends.

Since joining the RFF Board some years ago, I have time and time again observed this institution's scholars tackle complex issues of cost and sustainability in a nuanced, objective, and pragmatic manner, providing counsel to policymakers and institutions from local to global levels. Whether informing implementation by federal and state regulators of EPA's Clean Power Plan or engaging with leaders in the auto industry to identify emerging issues around fuel economy standards, RFF experts are addressing issues at the very heart of our economy and environment.

What makes this work possible is the support of a unique and dedicated community that understands how vital a role RFF plays in policy today—a role focused on bringing forth the facts about the costs, outcomes, and effectiveness of policy decisions, standing against the partisan rancor and carefully spun talking points that too often drive the debate. Today, as it has been across nearly seven decades, RFF supporters, like the institution itself, stand for smarter decisionmaking—for policies that get the most “bang for the buck.”

In the year ahead, RFF will pursue development of a new strategic plan to guide our work through RFF's 70th anniversary in 2022. I can assure you that the work of the Board and staff leadership on these critical tasks will reflect our shared commitment to increasing RFF's impact on the vital policy issues and challenges of the day, as well as those that lie over the horizon. RFF has an extraordinary history on which, I am confident, it can build an extraordinary future.

With deep appreciation for your support and partnership in advancing RFF's mission,



“RFF supporters, like the institution itself, stand for smarter decisionmaking—for policies that get the most ‘bang for the buck.’”

A handwritten signature in black ink, appearing to read 'R. Schmalensee', written in a cursive style.

Richard Schmalensee
Chairman of the Board
Resources for the Future

Leading Research Excellence

Highlights of RFF's Critical Research and Analysis

POWER PLANT EMISSIONS

Analyzing EPA's Clean Power Plan

In 2015, the US Environmental Protection Agency finalized its Clean Power Plan, setting individual state goals for reducing carbon pollution from power plants and providing states with the flexibility to craft compliance plans that best suit their needs. In “Complying with EPA’s Clean Power Plan: Policy Options for States,” RFF’s Karen L. Palmer and Anthony Paul reviewed three existing approaches that states might use: a mass-based policy, a rate-based policy, and a clean energy standard. Although each can be cost-effective and administratively simple, the success of individual state policies may ultimately depend on what policies neighboring states choose to employ.



Such regional dependence provides an opportunity for states to learn new strategies and engage in coalition building, much like climate policy planning at the international level. In “A Proximate Mirror: Greenhouse Gas Rules and Strategic Behavior under the US Clean Air Act,” RFF’s Dallas Burtraw and Sophie Pan, with Palmer and Paul, find that jurisdictions that play leading roles in the process can take advantage of opportunities to improve cost-effectiveness and prevent emissions leakage, to their economic benefit.



WATER QUALITY

Preventing Contamination and Exploring Recycling

This year, concerns about water dominated headlines as communities faced two new realities: record-setting droughts in the West and the large amounts of water required for shale gas development. Increasing water demand has resulted in novel approaches, such as water recycling. In “Getting Past the ‘Yuck’ Factor: Recycled Water in Florida and Other States,” RFF’s Yusuke Kuwayama and Hannah Kamen found that a cost-effective approach is to “treat the recycled water for use in a sector with less stringent standards for quality—agricultural irrigation, for example.”



In other parts of the country, concerns related to water quality focused on how shale gas development might be impacting streams and aquifers. In particular, the process requires storing (in open pits or sealed tanks) large amounts of freshwater, fracking fluids, flowback, and produced water—much of which can be harmful to the environment if spilled. In “Pits versus Tanks: Comparing Storage Methods for Fluids Used in Fracking,” RFF’s Yusuke Kuwayama, Alan Krupnick, Skyler Roeshot, and Jan Mares found that tanks are “not necessarily a fail-safe alternative;” they are more vulnerable to vandalism, fire, and lightning strikes.



ECONOMY AND ENVIRONMENT

Examining the Impacts of a Carbon Tax

As numerous countries and regions around the world are taxing carbon dioxide emissions, questions remain about how a carbon tax could be designed to maximize economic growth and emissions reductions, while minimizing negative impacts. In 2015, RFF’s Marc Hafstead and Roberton C. Williams III launched a new model to examine the US economy, focusing on how jobs could be impacted by a carbon tax policy. In “How Do Environmental Policies Affect Employment?” they found that “the job losses in the ‘dirty’ sector are nearly offset by an increase in employment in the non-polluting sector. Because the carbon tax boosts the price of the carbon-intensive goods, demand shifts from those goods to cleaner substitutes, thereby increasing employment.”



Hafstead and RFF’s Raymond J. Kopp also applied the new model to the American Opportunity Carbon Fee Act—legislation proposed by Senators Sheldon Whitehouse (D-RI) and Brian Schatz (D-HI) in June 2015. They found that under the bill, emissions would fall almost 45 percent from 2015 to 2030—resulting in greater emissions reductions that what has been outlined in the US pledge under the UN Framework Convention on Climate Change.



SPECIES

Managing Endangered and Invasive Species

Managing species requires protecting those that are endangered and preventing those that are invasive. In 2015, RFF convened a workshop, along with the Electric Power Research Institute and the National Council for Air and Stream Improvement, where more than 50 experts from the public and private sectors gathered to identify practical strategies to improve species listing decisions under the Endangered Species Act. In a workshop report, “Best Available Science and Imperiled Species Conservation: Challenges, Opportunities, and Partnerships,” RFF’s James Boyd and Rebecca Epanchin-Niell outlined opportunities for collaboration among the business sector, the Fish and Wildlife Service, and state partners.

Epanchin-Niell also led an effort in 2015, along with Andrew Liebhold of the US Forest Service, to better understand the long-term costs of species invasions. In “The Benefits of Preventing Invasive Species: Timing Matters,” they found that “temporal factors are critical to determining the long-term invasion costs and evaluating the benefits of quarantine and prevention policies.” They explained that damages can accrue quickly, or over a larger area (and are more costly), when invading species demonstrate specific characteristics, such as a short lag time between the introduction of the species and the initiation of damages. This research was also published in *Ecological Economics*.

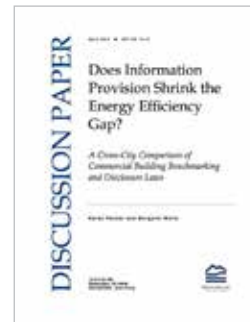


ENERGY EFFICIENCY

Using Information to Close the Energy Efficiency Gap

Using energy more efficiently not only reduces pollution but also can significantly reduce electricity bills. However, consumers often choose not to make energy efficiency improvements that seem to pay for themselves. Home energy audits are one way to help homeowners understand where to make improvements. RFF’s Karen L. Palmer and Margaret A. Walls surveyed homeowners to learn more about how these audits affect their decisionmaking. In “What Homeowners Say about Home Energy Audits,” they found that only a small percentage of homeowners had undergone an energy audit, and many did not follow through with the recommended changes. The quality of the audits and how the information is conveyed play a critical role in homeowner follow-up.

These “information failures” are also an important factor in explaining the energy efficiency gap seen in commercial buildings. In “Does Information Provision Shrink the Energy Efficiency Gap? A Cross-City Comparison of Commercial Building Benchmarking and Disclosure Laws,” Palmer and Walls found that requiring communication about building energy performance can make a difference. Four cities that were early adopters of such laws reduced their utility expenditures by about 3 percent.



FLOOD INSURANCE

Improving Flood Insurance Policy

The nation saw a number of natural disasters once again in 2015, with extreme flooding resulting from Tropical Storm Bill along the Gulf of Mexico and record rainfall in South Carolina and other places. Still, the purchase of flood insurance remains low. In “A Look at 35 Years of Flood Insurance Claims,” RFF’s Carolyn Kousky and Erwann Michel-Kerjan of the Wharton School’s Risk Management and Decision Processes Center at the University of Pennsylvania analyzed more than a million flood claims to identify strategies to encourage the purchase of flood insurance policies. They recommended providing two types of policies—one for small losses and another for catastrophic coverage—to provide flexibility for homeowners. This research also appeared in the *Journal of Risk and Insurance*.

Kousky and RFF’s Leonard Shabman also proposed a design for community flood insurance, which could “secure more coverage for those at risk [through a single policy that] covers a group of designated properties.” In “A Proposed Design for Community Flood Insurance,” they outline options for communities to raise revenue to purchase the insurance as well as options for opting out to reduce local political opposition, ultimately designing a policy that is attractive for both communities and insurers.

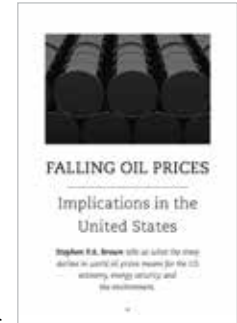


FOSSIL FUELS

Exploring Price Changes for Oil and Coal

In 2015, oil prices in the United States continued to fall, reducing revenues for US energy producers and harming states that rely on oil production. However, in “Falling Oil Prices: Implications for the United States,” RFF’s Stephen P.A. Brown found that “the economies of 42 states and the District of Columbia are helped by lower oil prices.” He also noted that cheaper oil could lead to more pollution if consumers purchase less fuel-efficient vehicles, increasing fuel consumption and emissions.

Incorporating the full cost of pollution in the price of fuels is one strategy for reducing emissions. In “Should We Price Carbon from Federal Coal?”, RFF’s Alan Krupnick, Nathan Richardson, Joel Darmstadter, and Katrina McLaughlin proposed that “targeting fossil fuels as they come out of the ground” could be an efficient approach. Specifically, they find that the Bureau of Land Management could impose a carbon charge on coal produced on federal lands, which could “set the precedent for a future, more substantive upstream charge on emissions, broadly applied to all coal and fossil fuels.”



Determining the Actual Costs and Benefits of Regulations

In 2015, RFF completed its Regulatory Performance Initiative, a multi-year effort focused on retrospective analysis of environmental regulations—identifying how the rules actually performed, if the goals of the regulations were achieved, and at what cost. The research team, which included more than 20 experts, examined regulations from the US Environmental Protection Agency, Department of Energy, Department of the Interior, and Food and Drug Administration, for a total of 34 cost-benefit comparisons.

In general, the studies found “a tendency to overestimate both costs and benefits/effectiveness of regulation.” However, retrospective analysis is not commonly undertaken due to its complexity and expense. RFF’s Richard Morgenstern, who led the initiative, explained in an interview for *Resources* magazine: “A major barrier to this work is the difficulty of obtaining useful data for evaluation purposes. One thing that the agencies could do for new regulations is to build a plan of retrospective analysis into the regulation at the time it’s promulgated rather than having researchers piece it together after the fact.”



Assessing the Effects of New Fuel Economy Standards

The US Environmental Protection Agency and the National Highway Traffic Safety Administration created joint regulations to reduce greenhouse gas emissions and fuel consumption for cars and trucks. For the first time, automakers can meet the new Corporate Average Fuel Economy standards through a credit trading program, buying and selling emissions and fuel consumption credits.

In “New Markets under US Vehicle Fuel Efficiency and Greenhouse Gas Standards: Credit Trading,” RFF’s Benjamin Leard and Virginia D. McConnell explained that although automakers could experience significant savings under the program, “certain features of the rules pose a challenge to the development of a well-functioning market.” They suggested that “a single market—and a single credit price—would be simpler and more cost-effective at reducing carbon-based fuel use and the related carbon dioxide emissions.”

The new joint standards for heavy-duty trucks also face challenges. Leard and McConnell, along with RFF’s Joshua Linn and William Raich, described a potential “rebound effect” in “Fuel Costs, Economic Activity, and the Rebound Effect for Heavy-Duty Trucks.” They cautioned that higher fuel economy can lead to increased driving and increased vehicle emissions, and suggest that “complementary policies should be considered—including increased taxes on diesel fuel.”

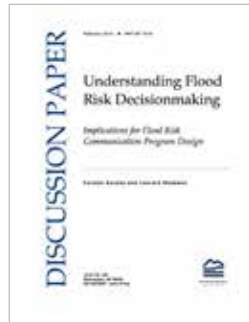


RISK

Mitigating the Risks of a Changing Climate

2015 was the hottest year on record, and with the extreme heat came extreme weather patterns. The changing climate poses physical risks, but it also could result in severe economic and financial consequences. RFF and the American Association for the Advancement of Science held an expert workshop to examine these risks and the uncertainty of potential damages. As a result, 18 of the world's leading physical and social scientists and risk experts contributed to "The Economic and Financial Risks of a Changing Climate: Insights from Leading Experts," describing some of the most critical aspects of the economic and financial risks from climate change faced by society today.

The uncertainty that surrounds climate risks can lead to a lack of understanding about the risks, but, better communication—among governments, businesses, and households—can help mitigate risks. In "Understanding Flood Risk Decisionmaking: Implications for Flood Risk Communication Program Design," RFF's Carolyn Kousky and Leonard A. Shabman explored how individuals process and evaluate risk information. They noted that "the decisions made are the outcome of multiple interacting influences" that must all be considered in designing programs for risk communication.



Surveying American Attitudes toward Climate Change and Clean Energy

In 2015, RFF and Stanford University released new polling data, in partnership with the *New York Times*, showing widespread support among the public for climate change action and policies such as cap-and-trade systems and carbon taxes. Led by RFF University Fellow Jon Krosnick of Stanford, the survey followed up on a 2014 poll conducted in partnership with RFF, Stanford, and *USA Today*.

Some of the major findings included the following:

83% OF RESPONDENTS, including 61 percent of Republicans and 86 percent of independents, say that if nothing is done to reduce emissions, global warming will be a very or somewhat serious problem in the future.

74% OF RESPONDENTS said that the federal government should be doing a substantial amount to combat climate change.

91% OF DEMOCRATS, 78 percent of independents, and 51 percent of Republicans said that the government should be fighting climate change.

67% OF RESPONDENTS, including 48 percent of Republicans and 72 percent of independents, said they were less likely to vote for a candidate who said that human-caused climate change is a hoax.

48% OF REPUBLICANS said they are more likely to vote for a candidate who supports fighting climate change.



Convening Our Community

Highlights from Some of RFF's Most Thought-Provoking Events

1 Looking Ahead toward Paris: International Perspectives on National Commitments

This dialogue highlighted the national climate change policies of the European Union, United States, and China, featuring expertise from Lars-Erik Liljelund of the Stockholm Environment Institute, RFF's Joseph Aldy of Harvard University, Artur Runge-Metzger of the European Commission, Anna Lindstedt of the Government of Sweden, Inge Horkeby of Volvo AB, Nigel Purvis of Climate Advisers, and RFF's Phil Sharp.

2 How Pricing Carbon Impacts Low-Income Households

Aparna Mathur of the American Enterprise Institute and other experts assessed how climate policies may impact low-income households and policy options to protect those most vulnerable.

3 Reforming Offshore Energy Leasing in the US Arctic

Willie Goodwin of the Arctic Waterways Safety Committee and the NANA Regional Elders Council and other experts emphasized the need for integrated Arctic management and balancing resource development, environmental protection, and community livelihoods.

4 How Do Environmental Policies Affect Jobs?

Terry Dinan of the Congressional Budget Office and others discussed new RFF research on how environmental regulation affects employment and unemployment and the implications for future environmental regulations.



5 Making Nature Useless? Global Resource Trends, Innovation, and Implications for Conservation

Iddo Wernick of the Rockefeller University and other experts explored humanity's ability to produce more goods and services using fewer resources. They also discussed a new report from



6 Assessing State Goals and Challenges under EPA's Clean Power Plan

RFF's Phil Sharp and David Cash of the Commonwealth of Massachusetts, along with other experts and state regulators, discussed the challenges of implementing EPA's Clean Power Plan at this seminar co-hosted with the Electric Power Research Institute.

7 Creative Conservation: How Humanity Innovates to Protect Nature

MacArthur Fellowship recipient Ruth DeFries of Columbia University discussed key themes in her new book, *The Big Ratchet: How Humanity Thrives in the Face of Natural Crisis*.

8 How Will Climate Change Affect Our Global Food Supply?

RFF's John M. Antle of Oregon State University, Holger A. Kray of the World Bank Group, Elizabeth Marshall of the US Department of Agriculture, and other experts examined how countries are addressing the challenge of global food supply and presented new methods to quantify the climate vulnerability of farm households.

9 The Promise of the Clean Power Plan

Administrator of the US Environmental Protection Agency Gina McCarthy, pictured with RFF's Ray Kopp, Anthony Paul, and Dallas Burtraw, spoke at RFF about the Clean Power Plan—the nation's first carbon reduction standards for power plants.



10 A Call to Action—Understanding Climate Risk

Alan Leshner of the American Association for the Advancement of Science, Nobel Laureate Mario Molina of the Mario Molina Center for Energy and Environment in Mexico City, and RFF's Phil Sharp considered how the nation should prepare for the risks posed by a changing climate.

11 What's Next for Climate Engineering?

Following the release of two major reports on climate engineering from the National Academy of Sciences, RFF convened experts, including Jane Long of Environmental Defense Fund and Admiral David Titley of the Pennsylvania State University Center for Solutions to Weather and Climate Risk, to review the findings and discuss their political and economic implications.





Engaging in Global Issues

Highlights of RFF's Focus on Policy Solutions around the World

China

TRAFFIC CONGESTION

Pricing policies to reduce traffic congestion can deliver significant benefits, but they have been adopted by only a few cities around the world due to concerns about regressivity. However, RFF's Joshua Linn, Zhongmin Wang, and Lunyu Xie of Renmin University found Beijing's current policy proposal to be progressive. They noted in "Who Will Be Affected by a Congestion Pricing Scheme in Beijing?" that only the city's wealthier commuters would have to pay the full price.

GREEN GROWTH

For the past 10 years, China has prioritized economic growth over environmental protection, resulting in extreme air and water pollution and new calls to focus on "green growth." RFF's Mun S. Ho and Zhongmin Wang traced China's rapid economic development and the associated environmental problems to its fundamental institutions in "Green Growth for China?", and discussed the implications for reform.

Latin America

TRAFFIC CONGESTION

In response to heavy traffic congestion and air pollution, Mexico City adopted the “Day Without Driving” program in 1989, banning some vehicles from driving one day per week. In “A Contingent Valuation Approach to Estimating Regulatory Costs: Mexico’s Day Without Driving Program,” RFF’s Allen Blackman, Francisco Alpízar of the Environment for Development Center for Central America, Fredrik Carlsson of the University of Gothenburg, and Marisol Rivera Planter of Instituto Nacional de Ecología y Cambio Climático (INECC) estimated that roughly 3 percent of the country’s gross domestic product is spent on the program—and that the costs are disproportionately burdensome for lower-income drivers.

ECO-CERTIFICATION

Forest certification has proliferated rapidly in developing countries, yet little is known about whether and under what conditions it affects deforestation. RFF’s Allen Blackman, Leonard Goff, and Marisol Rivera Planter of INECC used rich forest management data to identify the effect of Forest Stewardship Council certification on deforestation in Mexico, writing in “Does Eco-certification Stem Tropical Deforestation? Forest Stewardship Council Certification in Mexico,” that its impact may be limited.

ECOSYSTEMS

Latin America and the Caribbean face enormous opportunities and challenges to ensure that ecosystems are managed sustainably. Whereas traditional conservation focuses on biodiversity, RFF’s Juha Siikamäki, Peter Vail, Rebecca Epanchin-Niell, and Francisco Santiago-Ávila considered the value of ecosystem services alongside losses triggered by habitat destruction, finding that the focus on species does not necessarily account for the full range of services ecosystems have to offer, in “Mapping the Value of Ecosystem Services in Latin America and the Caribbean.”

Global

CLIMATE ADAPTATION

Advocates for climate change action often fail to recognize the equally pressing need for climate adaptation. In “Adaptation: An Essential, but Lagging, Part of Global Warming Policy,” RFF’s Joel Darmstadter explored vulnerable countries such as the Republic of Vanuatu, Kiribati, and Bangladesh to demonstrate that adaptation is as essential as abating emissions and is imperative for addressing climatic threats.

CLIMATE MITIGATION

As countries announced pledges to reduce greenhouse gas emissions in advance of the UN climate change conference in Paris, RFF’s Joseph E. Aldy of Harvard and William A. Pizer of Duke University identified three basic principles for helping to compare nations’ mitigation efforts. In “The Road to Paris and Beyond: Comparing Emissions Mitigation Efforts,” they recommend a portfolio of metrics that fall into three categories: emissions, prices, and costs.

INTERNATIONAL DAMS

For years, economists have been concerned that the local benefits of dams may have been overstated and the local costs understated. In “Dam Construction on International Rivers,” which features research that was also published in the *Journal of the Association of Environmental and Resource Economists*, RFF’s Sheila M. Olmstead of the University of Texas at Austin and Hilary Sigman of Rutgers University found that being able to pass some of the costs of dam construction to neighboring countries downstream encourages the construction of dams on international rivers.



Enriching Policy Dialogues

Highlights of Commentary by RFF Experts on Some of the Most Pressing Issues of 2015

The Papal Encyclical

“The long encyclical ignores the causes of global climate change: it is an externality, an unintended negative consequence of otherwise meritorious activity by producers producing the goods and services people want, and consumers using those goods and services. ... There may well be ethical dimensions of the problem, but it is much more than a simple consequence of some immoral actions by corrupt capitalists.”

Robert N. Stavins, *The Papal Encyclical and Climate Change Policy*

US–China Cooperation

“As policies are implemented here, in China, and elsewhere, market signals are strengthened for inventors, entrepreneurs, investors, and others to capitalize on the drive to cut greenhouse gas emissions—all of which is critical for real progress.”

Phil Sharp, *Obama and Xi Take Climate Action to the Next Level*

EPA’s Ozone Standard

“The rule may even be less expensive if policy options such as a trading program [for nitrogen oxides, NO_x], a fuel tax, or a NO_x -targeted vehicle retirement program are explored. ... And if China follows through in implementing its air quality policies, including the cap-and-trade program, ... some decline in ozone levels will occur at no cost to the United States at all.”

Alan J. Krupnick and Kristen McCormack, *Five Takeaways from EPA’s New Ozone Standard*

The VW Scandal

“On many of its clean diesel vehicles, VW was not actually reducing emissions of nitrogen oxides, except when sensors detected that the vehicles were being tested for emissions levels. But why put on costly pollution control technologies and then override them? It has to be that resolving those trade-offs is still difficult and costly.”

Joshua Linn and Virginia D. McConnell, *The VW Scandal and Competing Environmental Goals*

Water Use

“Quantifying consumption may be as, if not more, important than quantifying withdrawals because consumption actually precludes the subsequent or downstream withdrawal of water for another use. Unfortunately, estimates of consumptive use were discontinued by the US Geological Survey after 1995 due to resource and data constraints.”

Yusuke Kuwayama, Peak Water, or Peak Water Withdrawals?

The Clean Power Plan

“We suggested that EPA might make adjustments in some states’ goals, and EPA has done so, reducing disparities among states and, in a major change for Georgia and South Carolina, excluding under-construction nuclear plants from state targets.”

Nathan Richardson, 10 Things We Looked for in the Clean Power Plan and What We Found

The Highway Trust Fund

“The government policies of raising fuel economy and funding the HTF [Highway Trust Fund] through fuel taxes work against one another. Raising money for the HTF with a constant fuel tax requires constant or rising fuel sales over time, yet CAFE standards aim to reduce fuel consumption to promote energy security and protect the environment. As it stands now, these policies cannot both succeed.”

Virginia D. McConnell, Alan J. Krupnick, and William Raich, Alternative Policies for Financing the Highway Trust Fund

The Crude Oil Export Ban

“This light oil is a mismatch to refinery configurations in the Midwest and Gulf Coast areas, forcing sellers of light oil to accept dramatic price discounts. These discounts are unlikely to be arbitrated away until this oil can be exported.”

Charles Mason, Projected Reductions in Drilling Activity Do Not Undermine the Argument for Lifting the Crude Oil Export Ban

Federal Fracking Rules

“Since operators on federal land are subject to whichever rule (state or federal) is more stringent, costs are incurred only where the [Bureau of Land Management’s] rules are more stringent. Our rapid assessment is that, other than for the requirement of frac tanks (and, even here, best practice in the industry favors this option), no new ground is being broken vis-à-vis the states as a whole.”

Alan J. Krupnick, BLM’s New Fracking Rules

The Land and Water Conservation Fund

“Offshore oil and gas lease revenues bankroll the LWCF [Land and Water Conservation Fund]; since 1977, by law, \$900 million of these revenues have gone into the fund each year. This doesn’t mean, however, that \$900 million are actually spent. The fact that LWCF spending is subject to the annual appropriations process remains a sore point for conservation and recreation advocates.”

Margaret A. Walls, Reauthorizing the Land and Water Conservation Fund: Three Key Issues

COP 21

“Perhaps the greatest challenge facing COP 21 is that the national actions already submitted as [Intended Nationally Determined Contributions] will not be adequate to realize the long-established goal: to place the world on track to limit warming to less than 2°C. This is a challenge for national political leaders, not negotiators.”

Brian Flannery, Raymond J. Kopp, and Clayton Munnings, Questions for COP 21: Before Paris and After

Read more at *Common Resources*: www.rff.org/blog.

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Marianne Ratledge
Gunter Schramm
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FOUNDATIONS

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The Energy Foundation
Fuel Freedom Foundation
The New York Community Trust
Pisces Foundation
Rockefeller Family Fund
The Walton Family Foundation
US Endowment for Forestry and Communities

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*Matching gift donor

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Plum Creek Timber Company

Chairman's Circle

\$100,000 and above

Duke Energy*
Weyerhaeuser Company

President's Circle

\$50,000 and above

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Green Diamond Resource Company
Southern Company
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CF Industries, Inc.
Cheniere Energy, Inc.
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Electric Power Research Institute
EQT Corporation
NRG Energy
PG&E Corporation
Pioneer Natural Resources
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Salt River Project
Schlumberger Limited
Sempra Energy
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Southern California Edison Company
Toyota Motor North America, Inc.

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Less than \$25,000

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CropLife America
Dentons
Edison Electric Institute
Mitsubishi International Corporation
National Alliance of Forest Owners
Stout & Teague Management Corporation
Venable, LLP

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RFF appreciates those individuals who have generously remembered RFF in their estate plans.

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Paul F. Balsler
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Inter-American Development Bank
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The Nature Conservancy
National Governors Association
Pure Earth
The Research Institute of Innovative Technology for the Earth
University of Gothenburg
Waseda University
The World Bank
World Resources Institute

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Federal Emergency Management Agency
National Aeronautics and Space Administration
National Oceanic and Atmospheric Administration
National Renewable Energy Laboratory
National Science Foundation
US Department of Agriculture
US Department of Energy
US Environmental Protection Agency
US Geological Survey

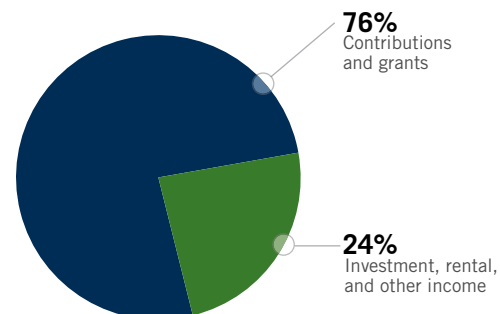
Financial Statements

Year ending September 30th

ASSETS	2015	2014
CURRENT ASSETS		
Cash and equivalents	\$374,424	\$205,653
Grants and contract revenue receivable	1,274,639	1,133,062
Contributions receivable, current portion	3,024,553	1,526,222
Other receivables	3,859	600
Other assets	99,371	224,747
Total current assets	4,776,846	3,090,284
Contributions receivable, net of current portion	515,977	485,854
INVESTMENTS		
Investments at fair value	54,321,271	62,358,875
Fixed assets - net of accumulated depreciation	6,551,211	6,532,143
Assets held under charitable trust agreements	330,253	377,197
Total Assets	\$66,495,558	\$72,844,353
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Tax-exempt bond financing, current portion	285,000	270,000
Grants and awards payable	61,501	77,483
Accounts payable and accrued liabilities	1,860,407	1,722,902
Post-retirement benefits, current	51,005	51,005
Deferred revenue	274,189	677,079
Total current liabilities	2,532,102	2,798,469
Tax exempt bond financing, net of current portion	4,605,000	4,890,000
Post-retirement benefits, net of current	561,811	548,609
Liabilities under split-interest agreements	200,076	239,544
Funds held for others	62,726	238,925
Total long-term liabilities	5,429,613	5,917,078
Total liabilities	\$7,961,715	\$8,715,547
NET ASSETS		
Unrestricted	48,089,173	54,765,593
Temporarily restricted	3,955,313	2,879,306
Permanently restricted	6,489,357	6,483,907
Total net assets	58,533,843	64,128,806
Total liabilities and net assets	\$66,495,558	\$72,844,353

Revenue

In fiscal year 2015, RFF's operating revenue was \$12.9 million, 76 percent of which came from individual contributions, foundation grants, corporate contributions, and government grants and contracts. RFF augments its income by an annual withdrawal from its reserve fund to support operations. At the end of fiscal year 2015 the reserve fund was valued at \$54 million.



CHANGES IN UNRESTRICTED NET ASSETS**REVENUE**

	2015	2014
Individual contributions	\$4,136,096	\$1,879,229
Foundation grants	940,235	640,787
Corporate contributions	1,013,400	1,188,627
Government grants and contracts	2,263,113	2,288,735
Other institution grants	1,409,767	1,062,788
Rental income	1,622,203	1,808,727
Investment income net of fees	1,526,288	1,267,477
Other revenue	10,618	8,563
Total operating revenue	\$12,921,720	\$10,144,933

EXPENSES

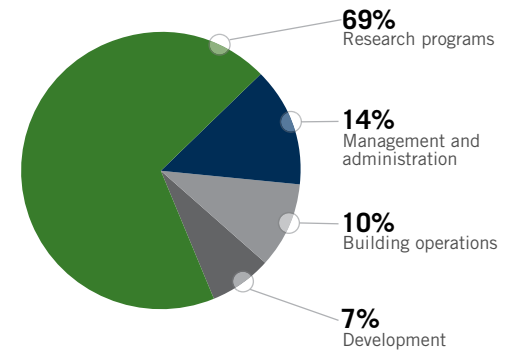
Programs		
Research	7,978,323	7,923,039
Academic relations	130,596	135,543
Communications	1,498,777	1,340,984
Other direct	40,065	69,729
Total program expenses	9,647,761	9,469,295
Fundraising	1,022,858	1,088,990
Management and administration	1,952,724	1,833,008
Building operations and maintenance	1,327,802	1,283,367
Total functional expenses	\$13,951,145	\$13,674,660
Change in unrestricted net assets from operations	(1,029,425)	(3,529,727)

NON-OPERATING REVENUES (EXPENSES)

Realized and unrealized gains (losses) on investment transactions	(4,565,538)	4,051,294
Realized gain on sale of investment in Land, LLC	-	4,179,289
Increase (decrease) in unrestricted net assets	(\$5,594,963)	\$4,700,856
Net assets at beginning of year	\$64,128,806	\$59,427,950
Net assets at end of year	\$58,533,843	\$64,128,806

Expenses

RFF research and educational programs continued to be vital in 2015, representing 69 percent of total expenses. Management and administration, combined with development expenses, were 21 percent of the total. Building operations expenses related to space leased to other nonprofit organizations were 10 percent.



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As of October 2015

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Nauman Memon
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John Valdez
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2015

RFF BY THE NUMBERS

A YEAR IN REVIEW

Subscribers

12,000

People received RFF's monthly newsletter, *RFF Connection*

15,200

People received *Resources* magazine

Community

151

Individuals, corporations, foundations, and other institutions supported RFF

78

Researchers and staff made up the RFF team

Social Media

4,973

Facebook and Twitter users followed RFF

Research

62

RFF publications were produced by RFF experts

Events

1,130

People attended RFF's public seminars and events

23

Academic seminars were hosted by RFF experts

4,261

Viewers tuned in for RFF's live event webcasts

How You Can Help

The generous investments of visionary donors help drive experts at RFF forward—to explore new questions, to take calculated risks, and to bring together people and ideas in new ways. If you believe that current environmental challenges deserve independent investigation and innovative solutions, become an RFF supporter today.

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